

# Conference Proceedings



**BEST EN Think Tank XVII:  
Innovation and Progress in Sustainable Tourism**

**14-17 June 2017**

**International Center for Sustainable Tourism and Hospitality**

**University of Mauritius**

**BEST EN**  
Building Excellence in Sustainable Tourism  
Education Network

---

**Proceedings Editor**

Rachel Hay

rachel.hay@jcu.edu.au

BEST Education Network

James Cook University

1 James Cook Drive

Townsville QLD 4811

These proceedings are published under a Creative Commons License  
(<http://creativecommons.org/licenses/by-nc-nd/3.0/>)



Publisher

James Cook University

Townsville, Australia

ISBN: 978-0-9954470-7-3

*To cite papers from these proceedings, please use this format.*

Lead author surname, initial, second and subsequent author surname, initial.,(2017)“Title of Paper”, in R. Hay (ed.) *Conference Proceedings of BEST EN Think Tank XVII: Innovation and Progress in Sustainable Tourism*. Townsville, Australia: James Cook University, page number(s) of contribution.

---

## Organising Committee Members

### Chair of BEST EN

Gianna Moscardo

### Co-Chair of BEST EN

Pierre Benckendorff

### Chair of TTXVII

Robin Nunkoo

## Think Tank Assistant Coordinator

Paolo Mura

## BEST EN Secretary

Rachel Hay

## Committee Members

Julia Albrecht

Deborah Edwards

Dagmar Lund-Durlacher

Paige Viren

Caroline Scarles

Tina Roenhovde Tiller

Erling Kavita

Kelsey Hejjas

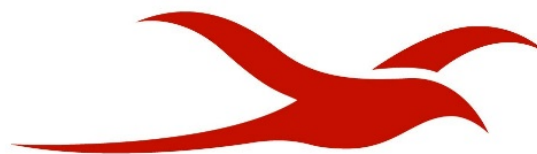
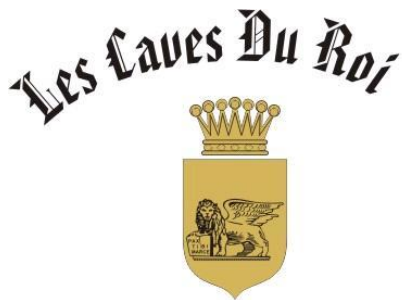
Karen Huges

Alexandra Roberts

Wolfgang Strasdas



**Sponsors**



***AIR MAURITIUS***

---

## Reviewers

Full papers and extended abstracts underwent a double blind peer review and were edited prior to publication. BEST EN would like to thank the following reviewers:

**Monika Bachinger**, University of Applied Forest Sciences

**Christian Baumgartner**, Response & Ability; IMC FH Krems

**Pierre Benckendorff**, Queensland University, Australia

**Alexander Coghlan**, Griffith University, Australia

**Alexander Dingeldey**, DHBW Ravensburg, Germany

**Deborah Edwards**, University of Technology Sydney, Australia

**Sven-Olaf Gerdt**, Wilhelms-Universität Münster, Germany

**Kelsey Hejjas**, University of Surrey, United Kingdom

**Karen Hughes**, University of Queensland, Australia

**Olga Junek**, Victoria University, Australia

**Isabel Junquera**, REPTE Territorial SL, Spain

**Zilmiyah Kamble**, Taylors University, Malaysia

**Dagmar Lund-Durlacher**, Modul University, Vienna

**Kevin Mearns**, University of South Africa, South Africa

**Gianna Moscardo**, James Cook University, Australia

**Paolo Mura**, Taylor's University, Malaysia

**Caroline Scarles**, University of Surrey, United Kingdom

**Moren Stone**, University of Botswana, Botswana

**Wolfgang Strasdas**, Eberswalde University for Sustainable Development, Germany

**Mattias Straub**, SRH University Berlin, Germany

**Sizhong Sun**, James Cook University, Australia

**Peter Varga**, Ecole hôtelière de Lausanne, France

**Paige Viren**, East Carolina University, USA

**Fabian Webber**, Lucerne University, Switzerland

**Tamara Young**, University of Newcastle, Australia

**Johanna Zanon**, University of Innsbruck, Austria

## Preface

BEST EN is an international consortium of educators committed to the development and dissemination of knowledge in the field of sustainable tourism. The organization's annual Think Tank brings together academics and industry representatives from around the world to discuss a particular theme related to sustainable tourism in order to move research and education in this specific field forward.

We are pleased to present the proceedings of the BEST Education Network (BESTEN) Think Tank XVII entitled Innovation and Progress in Sustainable Tourism. The event was held in Mauritius, June 14-17, 2017, in conjunction with the International Center for Sustainable Tourism and Hospitality, University of Mauritius.

The term 'sustainable tourism' emerged in the early 1980s building on earlier concerns about the negative impacts of tourism and linking tourism to the wider sustainability movement. Despite 30 years of discussion of tourism and sustainability in academic and government documents, recent reviews suggest that there is considerable room for improvement in the practice of sustainable tourism.

The proceedings present work by academics and practitioners worldwide, conducted on various aspects of innovation and progress in sustainable tourism. They include abstracts and papers accepted by the scientific committee following a double blind peer review process.

Twenty-eight research papers were presented at the conference. Presentations were held within the following themed sessions:

- Assessing Progress, Contributions & Teaching and Learning
- Innovation – Sustainable, Experiential, Product and Marketing
- Tourism Impacts, Sustainable Tourism Education, Interpretation
- Theoretical and Methodological Approaches for Researching Sustainable Tourism

The contributions were thematically selected for each group and are arranged in order of presentation in the proceedings. The full proceedings as well as the PowerPoint presentations are available on the BEST EN website [www.besteducationnetwork.org/](http://www.besteducationnetwork.org/)

The Editor and the BEST EN Executive Committee anticipate that readers of this volume will find the papers informative, thought provoking and of value to their research.

Best wishes,



Rachel Hay, Editor

## Table of Contents

Organising Committee Members .....	3
Sponsors .....	4
Reviewers.....	5
Preface.....	7
Session 1: Assessing Progress, Contributions & Teaching and Learning .....	11
Australian Indigenous Tourism: Integration of knowledge vs. independent ventures .....	12
Gabrielle McGinnis & Mark Harvey & Ian D. Clark & Tamara Young .....	12
Applying water quality as a management tool for the wildlife lodge industry in South Africa and Botswana. ....	18
JJ Grobler and KF Mearns.....	18
Finding and Fostering Our Future Tourism Leaders: .....	30
Grace K.S. Ho and Rob Law .....	30
Investigating the impact of climate change on the tourism sector of SIDS .....	36
Sheereen Fauzel, Boopen Seetanah, Robin Sannasee & Robin Nunkoo .....	36
Reducing economic leakages from tourism: A value chain assessment of the tourism industry in Kasane, Botswana. ....	48
Andrew Rylance .....	48
Residents' perceptions of sustainable tourism in Mauritius .....	72
Bhavish Jugurnath & Roucheet Bissessur & Youvish Ramjattan & Devendra Bissessur.....	72
Sustainable tourism certification in the hotel sector in Africa: Progress made and opportunities for mainstreaming.....	93
Anna Spenceley.....	93
Session 2: Innovation – Sustainable, Experiential, Product and Marketing .....	111
E-Mobility as an Innovation for a Sustainable Destination Future.....	112
Tatjana Thimm .....	112
The Role of Tour guide for Sustainable Tourism with the Impact of Emerging Information Technologies .....	121
Daisy Suk-fong FUNG.....	121
Innovation riving structural power changes in peripheral, small island destinations: Case study of Le Morne, Mauritius .....	128
Chaya Hurnath .....	128



New Forms of ‘Responsible Tourism’ in Refugee Camps and Contested Regions: the Case of Western Sahara .....	133
Jaume Guia, Sil van de Velde & Lauren Chan .....	133
Transit Tours for Airport Passengers – Issues and Challenges.....	136
Priscilla Chau Min Poon .....	136
Travelers Satisfaction with Dimensions of Tourist Tertiary Support Services and its Effect on Destination Loyalty .....	141
Boopendra Seetanah &Viraiyan Teeroovengadum & Kesseven Padachi.....	141
Enclave tourism: a friend or a foe for small island destinations? A social perspective .....	159
Perunjodi Naidoo .....	159
Session 3: Tourism Impacts, Sustainable Tourism Education, Interpretation .....	163
Managing open rock art sites for tourism, in the central uKhahlamba- Drakensberg Park, KwaZulu-Natal, South Africa.....	164
Claire Louisa Fordred & Kevin Mearns .....	164
A meta-analysis of the tourism and economic growth nexus .....	180
Boopendra Seetanah, Robin Nunkoo, Raja Vinesh Sannassee & Paul Georges Warren Moraghen and Zameelah Rifkha Khan Jaffur’ .....	180
Collaborative knowledge production development and action design between university researchers and local stakeholders in food tourism: a study of the practical value of tacit knowledge sharing .....	207
Yukari Higuchi & Yasuhiro Yamanaka.....	207
Responsible tourism and innovation practices by tourism enterprises in the Western Cape .....	224
Irma Booyens and Christian M. Rogerson .....	224
A Structural Model Predicting Tourists Behavioural Intentions towards Ecotourism .....	239
Robin Nunkoo, Viraiyan Teeroovengadum, Boopen Seetanah and Robin Sannassee ..	239
Making hotel guests voluntarily waive daily room cleaning.....	275
Sara Dolnicar; Ljubica Knezevic Cvelbar and Bettina Grun .....	275
Session 4: Theoretical and Methodological Approaches for Researching Sustainable Tourism .....	279
Investigating the relationship between FDI and Tourism development for the case of Mauritius.....	280
Sheereen Fauzel and Boopen Seetanah .....	280
Product innovation in route-based tourism: Interactive design of hiking routes as a driver	

---

for sustainable tourism .....	281
Anna Scuttari, Isidoro De Bortoli; Harald Pechlaner and Hannes Riegler.....	281
Lack of transparency - a barrier for the diffusion of sustainable tourism.....	286
Sven-Olaf Gerdt*, Elisa Wagner & Gerhard Schewe.....	286
From Sustainability to Resilience: Understanding Different Facets of Organizational Resilience .....	292
Girish Prayag* & Caroline Orchiston^ & Mesbahuddin Chowdhury °.....	292
Providing sustainable innovations in the hospitality industry. An empirical study of the importance of sustainability in a hospitality context: Merging significant theories to determine the motifs of pro-sustainable booking behaviour.....	297
Julia Zimmermann and Matthias Straub.....	297
Overtourism. An analysis of contextual factors contributing to negative developments in overcrowded tourism destinations .....	315
Fabian Weber .....	315
A system thinking approach towards promoting sustainability in the tourism industry .....	321
Toshima Makoondlall-Chadee, Chandradeo Bokhoree and Deepa Sumputh .....	321
Appendices.....	337

---

**Session 1: Assessing Progress, Contributions & Teaching and Learning**

Assessing Progress in Sustainable Tourism – Barriers, Evaluations, Measurement

Contributions of tourism to destination sustainability

Teaching and Learning Approaches in Sustainable Tourism

---

---

## **Australian Indigenous Tourism: Integration of knowledge vs. independent ventures**

**Gabrielle McGinnis & Mark Harvey & Ian D. Clark & Tamara Young**

*University of Newcastle, Australia [gabrielle.mcginnis@uon.edu.au](mailto:gabrielle.mcginnis@uon.edu.au)*

*University of Newcastle, Australia [mark.harvey@newcastle.edu.au](mailto:mark.harvey@newcastle.edu.au)*

*Federation University Australia, Australia [i.clark@federation.edu.au](mailto:i.clark@federation.edu.au)*

*University of Newcastle, Australia [tamara.young@newcastle.edu.au](mailto:tamara.young@newcastle.edu.au)*

\*Acknowledgement: We wish to acknowledge the Indigenous peoples involved in this research as well as the Australian Research Council who funded this study. Project ID: LP120200393.

**Key words:** Indigenous, tourism, management, integration, DAIBK, public-private

### **Introduction**

Many Australian tourism ventures today promote Australian Indigenous Biocultural Knowledge (AIBK) (Pert, Ens, Locke, Clarke, Packer & Turpin, 2015) through bush-tucker tours, interpretive displays in cultural centres, arts and crafts, etc. with the aim of fostering economic growth (Clark, 2002, 2014; Whitford, Bell & Watkins, 2010). However, engagement with AIBK has not proved straightforward, especially regarding Indigenous community involvement (Fuller, Buultjens & Cummings, 2005). This paper examines the factors relevant to success and failure in AIBK product development and promotion in Australia by reviewing materials from 10 sites in Southwest (SW) Victoria and 2 sites in the Northern Territory (NT).

### **Aim**

This paper considers which factors appear to have the greatest role in determining the success or failure of AIBK engagement. The following factors are listed in the current literature (Australian Government Department of the Environment (AGDE), 2013; Aplin, 2004; Commonwealth of Australia, 1994; Clark, 2002, 2014; Foley, 2014; Fuller *et al.*, 2005; Whitford *et al.*, 2010):

- 1) Degree of familiarity of a destination due to product promotion: well-known vs. lesser known sites
- 2) Degree of public-private support
- 3) Degree of AIBK integration and authenticity
- 4) Degree of Indigenous involvement and employment options available

This paper provides evidence that another factor is important: independent ventures vs integration into existing ventures. The paper also argues that Digital AIBK (DAIBK) offers new options for integration, which maintain cultural protection and promotion while creating more opportunities for involvement and economic growth for the communities.

## Method

Two methodologies were used in this study:

- 1) Review of secondary resources and case studies on Indigenous tourism management successes and failures: SW Victoria, Kakadu National Park, Northern Territory.
- 2) Primary fieldwork research: Pine Creek (NT) 2015 & 2016 – (i.) semi-structured interviews with the Indigenous and non-Indigenous communities, (ii.) participant observations volunteered by Wagiman community members during travels across Wagiman country regarding current tourism management structure and product development and promotion, and (iii.) tourist surveys.

## Findings

AGDE (2013), Ali (2009), Aplin (2004) Clark (2002, 2014) and Whitford *et al.* (2010) suggest that independent Indigenous tourism ventures in well-known sites such as Kakadu National Park and Grampians-Gariwerd National Park (SW Victoria) are more likely to succeed than ventures in lesser-known sites such as Pine Creek (NT) and Lal Lal Falls (SW Victoria). Effective marketing and product promotion at a particular site may also cause them to be more successful in receiving visitors and becoming “well-known sites” (Commonwealth of Australia, 1994). In addition to the greater tourist numbers in well-known sites, there may be other factors contributing to success in these sites: (i) greater public-private support and (ii) Indigenous culture being a more significant component of overall tourism potential - leading to greater focus on AIBK integration and availability of involvement opportunities for Indigenous stakeholders in tourism.

Altman & Finlayson (2003) and Fuller *et al.* (2005) claim that the majority of Indigenous microenterprises tend not to succeed, especially in more rural or lesser-known sites due to a lack of opportunities for support, funding and employment. Altman & Finlayson (2003) and Clark (2002, 2014) found that the majority of stand-alone Indigenous tourism ventures failed to bring economic or socio-cultural benefits to the local communities in Victoria. According

to Clark (2017), several Indigenous owned and operated enterprises have opened and closed in Southwest Victoria alone including: Kirrit Bareet Cultural Education Centre in Ballarat, Hamilton Aboriginal Keeping Place, Lake Condah Mission as well as several privately owned and operated Indigenous tour companies. Clark (2002) found that tourism at two rock art-sites in SW Victoria had declined significantly due to on-site, complex management systems that required consistent monitoring and assessment in order to succeed. In fact, many non-Indigenous tourism ventures also fail due to lack of support either financial or moral, or due to a lack of cooperation, which is essential for any business to thrive and survive in a sustainable manner for longer term (Eagles, McCool & Haynes, 2002; Higgins-Desbiolles, 2006;

McCullough & Lund, 2006). According to United Nations World Tourism Organization (UNWTO) and the United Nations Environmental Programme (UNEP) (2012), a sustainable tourism venture needs to have constant communication, transparency, and support including education, awareness and training in tourism management. This will in turn foster a sense of pride among the participants in the management process, thereby empowering them to make decisions in management and policy of the tourism enterprise (UNWTO & UNEP, 2012).

Fuller *et al.*'s (2005) SWOT analysis suggests that tapping into the growing ecotourism market as well as other markets could help amend these issues. Clark (2014) examined eight tourism sites in SW Victoria that originally focused on only natural components of the tourism product. Tourism at each of these eight sites declined before they began to introduce more AIBK into their tourism products, promotion and development. This integration of more cultural components contributed to the revitalization of the tourism industry, however sites such as Bunjils Shelter (Clark, 2014) require improvement in more authentic AIBK tourism products. Notably, Altman & Finlayson (2003) found that:

“Joint ventures between Aboriginal people and non-Aboriginal partners can be successful ... sometimes ideological objections... but there are examples with good professional and social interaction.” (p.84)

Clark (2014) and Mkono (2016) found that DAIBK offers greater integration opportunities in product development and promotion via digital maps, websites, apps and social media: e.g.

Lal Lal Falls, where AIBK was promoted via online visitor information and Internet travel guides. Tourism at other sites in SW Victoria, such as Bunjils Shelter, could also benefit from DAIBK integration options.

The paper more thoroughly considers the potential of DAIBK in relation to Pine Creek, a small NT town of 300 people, of whom 40 per cent identify as Indigenous, principally members of the Wagiman community. The Wagiman community have rich AIBK, and community members expressed interest in integrating DAIBK via videos, websites and apps within Pine Creek's existing infrastructure rather than in independent tourism ventures. This preference for DAIBK integration appeared to relate to the limited tourism education and skill-sets of many community members. The researchers discussed the potential options for

tourism involvement, including DAIBK integration via websites and mobile apps, with Indigenous community members. They expressed their enthusiasm for potential employment opportunities in tourism, especially through the Wagiman Ranger Program. They were also enthusiastic to learn more about digital mapping, website design and mobile app creation. In the semi-structured interviews with Wagiman community members, potential mapping, website and app programs that could be used for sharing AIBK were displayed on laptops and mobile phones.

Pine Creek's current tourism infrastructure focuses on post-colonial heritage such as mining, the railway and cattle droving with little to no AIBK being promoted. In a 2016 survey, undertaken by the researchers, the town's main visitors, "Grey Nomads" (Australians, aged 50+) did not express an active interest in Indigenous culture. This lack of interest could stem from two factors: (i) Pine Creek's lack of AIBK in its tourism product; and (ii) Indigenous cultural tourism fatigue owing to the town's proximity to Kakadu (approx. 60km), which is visited by most Pine Creek tourists (Foley, 2014). Cultural tourism fatigue can occur in areas where similar depictions of Indigenous culture recur at a number of places within a certain area: e.g. dot paintings, rock art, didgeridoo performances, dance performances. These depictions can become commodified culture where Indigenous peoples and their culture are promoted and presented inauthentically by non-Indigenous peoples and non-Indigenous methods (Carson, 2008; Foley, 2014; Richards, 2001). DAIBK has the potential to address both these issues through integrating AIBK into the existing tourism infrastructure. AIBK integration can raise the profile of traditional AIBK and Indigenous culture of the area as well as focus on distinctive and unique aspects of post-colonial, Wagiman culture and experience, thereby lessening the potential for fatigue.

The potential benefits of integrating DAIBK options are not limited to lesser known sites. Foley (2014) and Clark (2014) argue that improvements in engagement with Indigenous communities and more authentic AIBK are also required in well-known tourism sites such as Kakadu and Grampians-Gariwerd.

Indigenous communities' growing interest in DAIBK offers opportunities for more authentic tourism product and promotion integration. This is particularly important in lesser-known sites such as Pine Creek and Lal Lal Falls, where long term maintenance of independent infrastructure for Indigenous tourism is problematic. DAIBK integration into lesser-known sites' existing tourism infrastructures offers more options for authentic AIBK-focused products, public-private support and involvement for Indigenous peoples in tourism management than in independently created Indigenous tourism ventures. Such integration can be done via community-driven digital mapping and website and mobile app creation. These platforms for transmitting DAIBK can be considered more authentic in this particular case as the AIBK is presented in a way that is natural to the elders and other community members, via storytelling, and is the main focus of product development and promotion. In the various semi-structured interviews with Indigenous communities, community members viewed this virtual storytelling as a desirable option for tourism engagement which could benefit them as vital stakeholders in tourism development and management.

## Conclusion

Integrating DAIBK interpretation options for Indigenous involvement into the established tourism infrastructure can promote more authentic and sustainable tourism product for all stakeholders. In the NT and SW Victoria, many of the Indigenous peoples are enthusiastic to promote DAIBK, knowing opportunities for economic growth and heritage protection exist and can be passed down for longer-term in a way that benefits them personally and communally. This can help instil pride while fostering more options for economic growth, environmental protection, cultural authenticity, and social empowerment for all.

## Contribution to research and limitations

This paper contributes to research concerning effective Indigenous tourism management by examining independent ventures vs. DAIBK integration into established infrastructures. Fuller *et al.*, (2005) expresses the need to tap effectively into growing AIBK tourism markets such as “ecotourism” in order to create successful small enterprises. This paper contributes to this concept by integrating AIBK and expanding into already established, “post-colonial” markets and products in culturally significant areas via DAIBK interpretation for longer-term success.

Limitations include a lack of primary research with the communities of SW Victoria and Kakadu National Park.

## References

- Ali, S. (2009). Indigenous cultural tourism at the Grampians. CRC Tourism Pty. Ltd. Australia. 1-60.
- Altman, J.C. & Finlayson, J. (2003) Aborigines, Tourism and Sustainable Development. *Journal of Tourism Studies* 14(1): 78-91.
- Aplin, Graeme. (2004). Kakadu National Park World Heritage Site: Deconstructing the Debate, 1997---2003. *Australian Geographical Studies*. 42: 152---174.
- Australian Government Department of the Environment (AGDE) (2013). Kakadu Tourism Consultative Committee. In K. N. Park (Ed.), (pp. 1): Australian Government Department of Environment.
- Commonwealth of Australia (1994). *A Talent for Tourism: Stories about indigenous people in tourism*. Commonwealth Department of Tourism: Canberra.
- Carson, D. (2008). The 'blogosphere' as a market research tool for tourism destinations: A case study of Australia's Norther Territory. *Journal of Vacation Marketing*, 14(2), 111- 119.



- Clark, I.D. (2002). Rock Art Sites in Victoria, Australia: a management history framework. *Tourism Management*, 23, 455-464.
- Clark, I.D. (ed.) (2014). *An Historical Geography of Tourism in Victoria, Australia, Case Studies*. Warsaw/Berlin: De Gruyter Open Ltd.
- Clark, I.D. (personal communication, 1 May, 2017)
- Eagles, P. F. J., McCool, S.F. & Haynes, C.D. (2002). Sustainable Tourism in Protected Areas: Guidelines for Planning and Management. *Best Practice Protected Area Guidelines Series No. 8*. A. Phillips, World Commission on Protected Areas (WCPA): 1-191.
- Foley, D. (2014). Too Many Didgeridoos. *Journal of Australian Indigenous Issues*, 17(2), 56-71
- Fuller, D., Buultjens, J. & Cummings, E. (2005). Ecotourism and indigenous micro-enterprise formation in northern Australia opportunities and constraints. *Tourism Management*. 26(6): 891-904.
- Higgins-Desbiolles, F. (2006). More than an "industry": The forgotten power of tourism as a social force. *Tourism Management*, 27, 1192-1208.
- McCullough, C. D. & Lund, M.A. (2006). Opportunities for Sustainable Mining Pit Lakes in Australia. *Mine Water and Environment* (25): 220-226.
- Mkono, M. (2016). "Sustainability and Indigenous tourism insights from social media: worldview differences, cultural friction and negotiation." *Journal of Sustainable Tourism*, 24 (8-9). 1315-1330.
- Pert, P. L., Ens, E. J., Locke, J., Clarke, P. A., Packer, J. M., & Turpin, G. (2015). An online spatial database of Australian Indigenous Biocultural Knowledge for contemporary natural and cultural resource management. *Science of the Total Environment*, 534, 110-121.
- Richards, G. (2001). "Chapter 1: The Development of Cultural Tourism in Europe." *Cultural Attractions and European Tourism*. Wallingford: CABI.
- World Tourism Organization (UNWTO) & United Nations Environmental Programme (UNEP). (2012). *Tourism in the Green Economy*. UNWTO & UNEP: Madrid, Spain.
- Whitford, M., Bell, B., & Watkins, M. (2010). Indigenous Tourism Policy in Australia: 25 Years of Rhetoric and Economic Rationalism. *Current Issues in Tourism*, 4, 151-181.

## **Applying water quality as a management tool for the wildlife lodge industry in South Africa and Botswana.**

**JJ Grobler and KF Mearns**

*University of South Africa, South Africa, [hannes8006@gmail.com](mailto:hannes8006@gmail.com)*

*University of South Africa, South Africa, [mearnkf@unisa.ac.za](mailto:mearnkf@unisa.ac.za)*

\*Acknowledgement: the authors thanks are expressed to &Beyond and Wilderness Safaris for making the water quality data available for review.

**Key words:** Water quality, management tool, Root Cause Analyses Technique (RCAT)

### **Introduction**

Growing human populations led to expanding agriculture and industrial activities, and during the last decade raised international concern as fresh water quality has deteriorated on a global scale. In addition, climate change threatens to cause major alterations to weather patterns and hydrological cycles. Eutrophication is the dominant factor for water quality deterioration as nutrient rich (mainly phosphorus and nitrogen) effluents from agricultural runoff, domestic sewage and industrial effluents find their way into natural water courses (UNDESA, 2014). Mismanagement and water pollution are two of the main challenges that developing countries face due to lack of infrastructure, expertise and funding.

The wildlife lodge industry in South Africa and Botswana relies on good quality water for its existence. Many local communities in these countries and other developing countries depend on tourism activities for their survival as the tourism industry generates income, provides employment opportunities and can contribute to social benefits. Many of the lodges in South Africa and Botswana are in remote areas and staff often work and live on the property (Mearns & Grobler, 2016).

Management of water quality therefore plays a major role in the operation of these lodges since the health of visitors and staff depend on lodge management to provide and maintain a healthy, potable water supply.

Due to the remoteness of lodges, logistical challenges and access to laboratories escalate the cost of water quality analyses, and the general standard for lodges is to conduct water quality analyses only once a year. This study will focus on the benefits of more frequent testing and how water quality can be used as a management tool to ensure the safety of their guests and staff. The study will also look at how water quality can be used in a certification scheme to encourage management to invest in more frequent water quality monitoring.

### Study area

The two regions that was selected for this study was Phinda Private Nature Reserve (from hereon only referred to as Phinda) in the northeastern part of KwaZulu-Natal, South Africa where two lodges were selected (see figure 1) and the Okavango Delta in Botswana where two lodges were selected (see figure 2). The two lodges from Phinda were selected as a result of the fact that they each had a different source of water. Forest Lodge sources their water from the Mkuze River on the northern boundary, while Mountain Lodge is supplied by a municipal pipeline from Hluhluwe. The two lodges in Botswana both sourced their water from boreholes on the property.

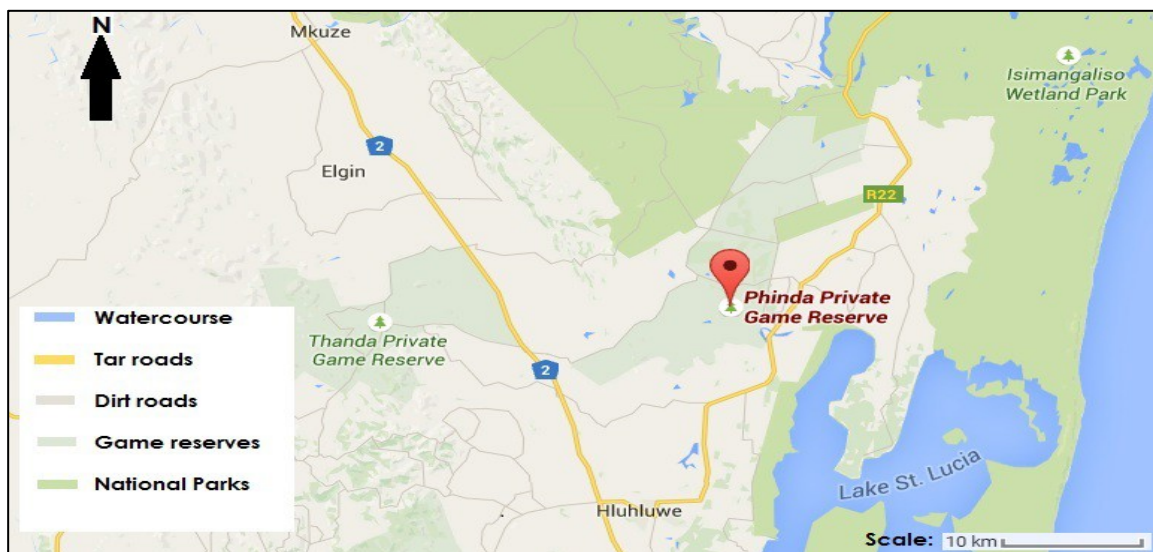
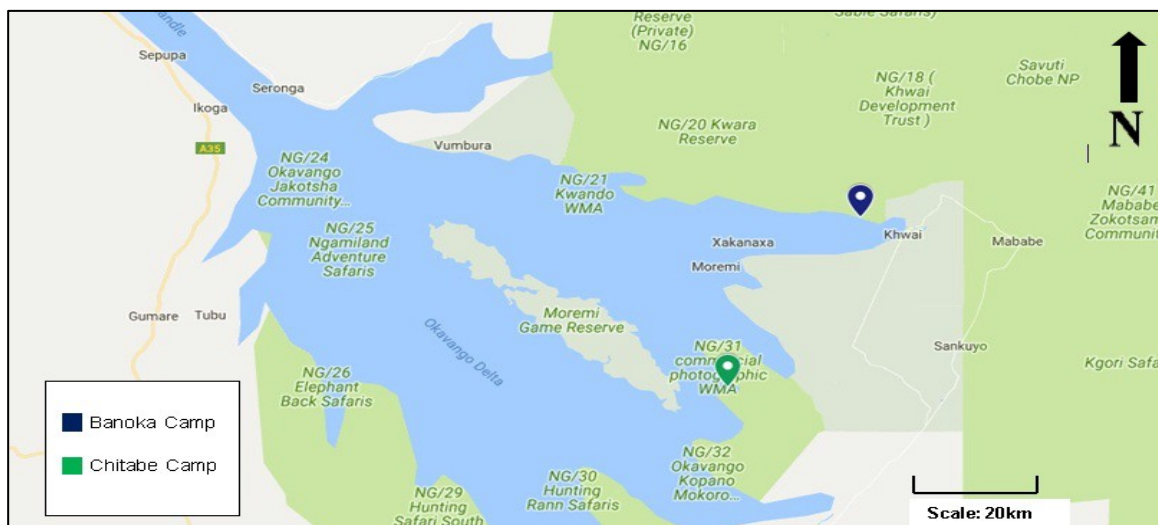


Figure 1: Location of Phinda Private Game Reserve in KwaZulu Natal (Google Maps, 2015)



**Figure 2: Location of camps in the Okavango Delta (Google Maps, 2017)**

### Research problem and questions

Water quality data are mainly used to determine if the water is safe for human consumption. To use water quality results as a management tool, it has to contribute to the four main functions of management: leadership, organizing, planning and monitoring / control. To establish if water quality can be used as a management tool in the wildlife lodge industry, the following questions guided the research:

- Can water quality results aid wildlife lodge management to provide leadership in the area of operations as well as in local communities?
- How would water quality results assist in organizing wildlife lodge managerial responsibilities?
- How can water quality results contribute to wildlife lodge management planning?
- Can water quality results assist in monitoring wildlife lodge management responsibilities more effectively?

### Research objectives

The objectives of the research are to:

- Identify how water quality results can aid wildlife lodge management leadership inside an organization or within local communities
- Determine if water quality results can assist wildlife lodge management in organizing managerial responsibilities
- Establish measures to support wildlife lodge management in planning processes

- Discover methods on how water quality can benefit wildlife lodge management's monitoring processes.

## Literature review

Since water in the tourism industry is used to provide basic human needs, the quality of the water plays an important role as contaminated water can cause severe health problems. Khan *et al.* (2013) conducted a study in the Charsadda district in Pakistan to identify human health risks associated with drinking water. A health survey was conducted to determine the major health problems in the study area. The results showed that that drinking water of the study areas was contaminated with sulphates, nitrates, and heavy metals such as lead, cadmium, iron, nickel and zinc. Drinking water was also contaminated with coliform bacteria. The health survey indicated that 50% of the population suffered from gastroenteritis, 35% from dysentery, 47% from diarrhoea, 32% from hepatitis-A, 16% from hepatitis-B and 7% from hepatitis-C. Other health problems noted in the area were cancer, anaemia, sleeping disorders, poor appetite, constipation, vomiting, kidney problems and abdominal pain (Khan *et al.*, 2013).

Tourism development needs proper planning and consideration as it can negatively impact the water quality of surrounding communities. Baoying and Yuanqing (2007) conducted a study in Lijiang

Ancient Town, China to investigate water pollution associated with tourism development. Tourism in the area increased dramatically from 90 000 tourists arrivals in 1994 to 2 812 000 arrivals in 2000 and increased to 4 600 000 in 2006. The results showed that the water quality from the source dropped from a grade I, which could be consumed directly by humans and animals to a grade V, the worst grade possible (in Chinese terms). A staggering 76.2% of the residents stated that they could observe a decline in the water quality whereas 90.4% of the residents stated that their daily water utilisation has changed. Too many tourists, inefficient management of the number of shops and their activities as well as poorly constructed waste water treatment and disposal facilities resulted in the decline of water quality (Baoying & Yuanqing, 2007).

Water quality can also decline rapidly if a source is overexploited. Gössling (2001) conducted a study on the consequences of tourism for sustainable use on a tropical island namely, Zanzibar, Tanzania. The study focused on how overexploitation can impact on groundwater sources, especially on the east coast of Zanzibar where groundwater consist mainly of freshwater lenses floating on the underlying sea water. The results indicated that tourist numbers were at their highest in the dry season when the absence of seasonal rains reduce the recharge time of groundwater sources. Due to the large demand for freshwater and slower recharge time, water quality was negatively impacted due to saltwater intrusion in the less efficient aquifers.

To conduct water quality analysis at many lodges in the wildlife lodge industry remains a challenge due to the isolated nature of their location, logistical challenges as well as financial constraints. Water quality analyses can be very expensive and many lodges do not want to spent money and invest resources in conducting water quality analyses since there is very little to no return on the investment. A strategy to encourage lodges to invest in water quality monitoring might be to develop a certification body with regards to water management which lodge management can use a marketing tool. Such an example is the global Blue Flag Program (BFP) for coastal marine areas. Blackman *et al.* (2014) conducted a study in Costa Rica to determine the benefits of eco-certification with specific regards to the BFP. The authors stated that BFP certification can be positively and significantly associated with new hotel investment. From the 27 BFP communities that were sampled, the results implied that BFP certification has incited the construction of 19 new hotels and 1628 new hotel rooms per year. The results also stated that BFP certification tends to spur investment in luxury hotels, and in communities with social and economic advantages. The authors concluded that BFP certification gives tourists a credible signal of overall environmental quality of beach communities and therefore increases demand for hotel rooms in certified beach communities.

Another study was done in New Zealand by Fairweather *et al.* (2010) to determine environmental values and the response to ecolabels among international visitors. The results indicated that 61% of international visitors believed that ecolabels are needed in New Zealand, and said they would choose accommodation with an ecolabel. Their reports of their actions were consistent with their expressions of concern for the environment. The results suggested that many visitors will favourably receive ecolabel development in New Zealand and that ecolabel development and use should be supported.

## **Methodology**

Water quality reports from Phinda, Banoka camp and Chitabe camp were obtained and analysed. Water processes and reticulation systems were investigated to illustrate all the structures involved from source to end point. Primarily microbiological data was used where the results did not conform against the drinking water quality standard of the relevant country. All the chemical analyses from the reports conformed against the standards. The Root Cause Analyses Technique (RCAT) was applied to determine the source, cause or origin of the water contamination. The finding from the RCAT or chemical analyses report was then examined to determine if links can be established with one of the four main managerial functions. Links towards the four main managerial functions: leadership, organizing, planning and monitoring / control, were established to determine if water quality results and analyses can be utilized as a management tool. Where a link was established, water quality analyses were considered as management tool due to the fact the contamination could have been prevented.

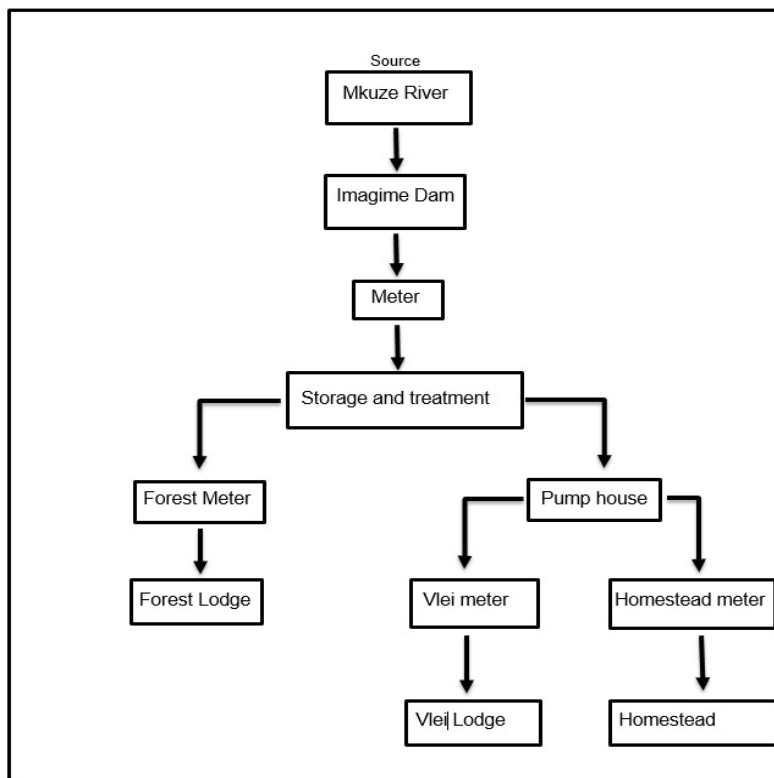
## Results and discussion

### *Forest Lodge – Phinda, South Africa*

Forest Lodge is situated in the northern section of Phinda and source its water from the Mkuze River. Water is pump to a storage dam (Imagine dam) from where water is pumped to a treatment facility at the Lodge. After treatment the water is dispersed to three lodges in the northern section (see figure 3). From the three lodges, only tap water from Forest Lodge was analysed in the water quality reports from Phinda. The *E. coli* and total coliform results are stated in Table 1 below.

**Table 1: *E. coli* and total coliform results from Forest Lodge.**

E. coli					
	May 2009	Jun 2011	Jan 2013	Dec 2013	Mar 2015
Mkuze river	358	200	640	1034	1017
Forest tap	0	0	0	0	0
Total Coliforms					
Mkuze river	>4838	7800	>24190	>4838	14136
Forest tap	6	0	0	0	0



**Figure 3: Water processes and distribution in the northern section of Phinda (Mearns & Grobler, 2016).**

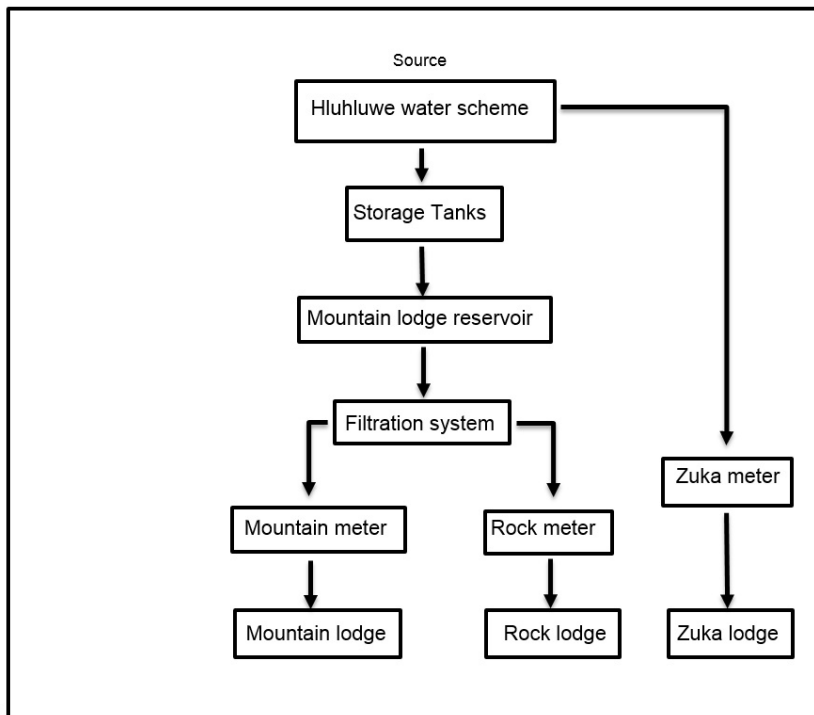
The results indicated that the presence of *E. coli* have increased from 200 in June 2011 to 1017 in 2015 at the source, the Mkuze river. In 2009, although six coli-forming colonies were detected at the end point, the result was still complying with the local standard and the water quality was suitable for human consumption. The total coliform results were not specific enough to determine a decline in the water quality as was the case with the *E. coli* results. The two most important observations from the results are that according to the *E. coli* results the source's water quality is degrading and the water at the end point were within the local limits and suitable for human consumption. After applying the RCAT, the following links was established with regards the four main management functions:

- Leadership – Phinda is surrounded by local communities whose livelihoods depend on water from the Mkuze River. Since these communities are poor and do not have funds to access the water, Forest Lodge can play an enormous leadership role in providing information to these communities about the quality of the river and the consequences of drinking the water untreated. Forest Lodge can also make contributions to supply these communities with good quality water which will enhance their reputation and leadership stance within the community.
- Planning – Knowing that the source is badly contaminated, Forest Lodge can prepare a proper emergency plan should their treatment facility malfunction or cease to work properly. By having a proper and implementable emergency plan, they can ensure that operations can continue without risking the health of staff and guests that live on or visit the lodge during an emergency phase.
- Monitoring / Control – Frequent water quality analyses will assist management in the monitoring and success of the treatment facility and processes. Early detection of insufficient processes can be detected and support management to deal with problems before staff or guests are effected from consuming contaminated water.

### ***Mountain Lodge – Phinda, South Africa***

Mountain Lodge is situated in the southern section of Phinda and source its water from a municipal pipeline from the Hluhluwe water scheme. The pipeline feeds into two storage tanks from the water is pumped into a reservoir at Mountain Lodge. The water goes through a filtration system before it is dispensed to Lodge (see figure 4). Water quality was measured from the source and also at the end point, a tap at Mountain Lodge. (it is however noteworthy to indicate from Figure 4 that the water to Zuka Lodge goes straight from the Hluhluwe Water scheme to Zuka Lodge, while Rock and Mountain Lodge water first passes through a Filtration system before it is reticulated to the lodges). The results for *E coli* and total coliforms from the two sampling points are stated in Table 2.





**Figure 4: Water processes and distribution in the southern section of Phinda (Mearns & Grobler, 2016).**

**Table 2: E coli and total coliform results from Mountain Lodge.**

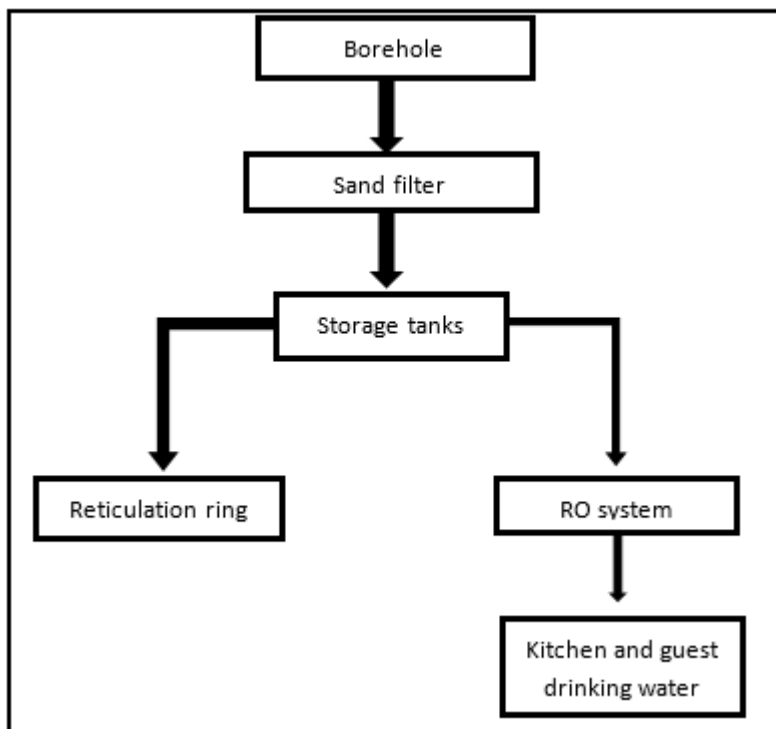
E. coli						
	May 2009	Jun 2011	Jan 2013	Dec 2013	Mar 2015	Nov 2016
Hluhluwe water scheme	0	0	0	0	0	19
Mountain tap	4	0	36	0	0	0
Total coliforms						
Hluhluwe water scheme	4	0	5	1	0	488
Mountain tap	110	0	45	0	99	Not tested

In contrast with the results from Forest Lodge where the water was contaminated at the source and clean at the end point, the results from Mountain Lodge indicate the exact opposite. The water is clean at the source and contaminated at the end point, which indicates that contamination occurs within the internal processes and systems. The latest results from 2016 also indicate that the water from the source, which were within the local standard limits before, are now exceeding the limits. After applying the RCAT, the following management links could be established:

- **Planning** – The results clearly indicate that water quality from the source are declining and that the treatment facility at the Hluthluwe municipality are insufficient and unsuccessful. (This finding is especially concerning for Zuka Lodge which receives its water directly from the Hluthluwe municipality). The results can be used by management to accurately plan and determine the required treatment necessary to provide safe drinking water to staff and guests should the water quality deteriorate further.
- **Monitoring / Control** – The results show that the contamination, up until 2016, occurred within internal systems and thus can be pinpointed to insufficient maintenance or water management. Water quality can be used to determine where the contamination occurs and refer management to which areas and processes to address, saving management time and money to search for the maintenance problems.

### ***Chitabe Camp – Okavango Delta, Botswana***

Chitabe Camp is situated in the south-east of the Okavango Delta in Botswana. The camp sources its water from a borehole on the property. The water passes through a sand filter and is then stored in tanks back of house. From the tanks the water splits into the reticulation ring and a reverse osmosis (RO) system to the kitchen and drinking water for guests. Figure 5 illustrates the processes and system at Chitabe Camp. Only one set of tests on *E. coli* and total coliforms was done at the two lodges in Botswana.



**Figure 5: Water processes and system at Chitabe Camp**

Water quality samples were taken at the RO outlet and the kitchen tap. *E. coli* and total coliform data were used to interpret the results from Chitabe camp. The results are stated in Table 3 below.

**Table 3: E coli and total coliform results from Chitabe Camp**

Sample point	E. coli	Total coliforms
RO outlet	0	0
Kitchen tap	0	6

The results indicate that contamination occurred after water was processed by the RO system. For contamination to occur in a closed system, such as in piping is highly unlikely although not impossible. It is however more likely that the contamination occurred during the collection or analyses of the sampling or that the tap was contaminated by staff prior to the samples being taken. After applying the RCAT, the following management links were established:

- Monitor / Control – Taps can be contaminated by staff or guests simply by using a tap. The results indicate that water quality can thus contribute to continuous improvement by adding duties to housekeeping staff such as disinfecting taps in guest rooms. The same will apply to kitchen staff and to prevent food from getting

contaminated, taps should be disinfected more frequently.

### ***Banoka Camp***

Banoka Camp is situated on the Khwai river in the north-eastern corner of the Okavango Delta in Botswana. The water source and processes are exactly the same as in Chitabe Camp (refer to figure 5). The camp sources its water from a borehole on the property from where it passes through a sand filter and is then stored in tanks back of house. From the tanks the water splits into the reticulation ring and a reverse osmosis (RO) system to the kitchen and drinking water for guests. Water quality samples were taken at the outlet from the storage tanks and the RO outlet. *E. coli* and total coliform data was used to interpret the results from Chitabe camp. The results are stated in Table 4 below.

**Table 4: E coli and total coliform results from Banoka Camp**

Sample point	E. coli	Total coliforms
Storage tanks	82	137
RO outlet	0	58

The results indicate that after the water is filtered and stored in the storage tanks, high bacterial contamination is still present in the water. The quality improves after it passed through the RO system but traces of total coliforms were still present. This indicates that the RO system is not functioning successfully. After the RCAT was applied, the following links towards management were established:

- **Planning** – The results can ensure better planning with regards to the RO system. By adding a disinfectant such as hypochlorite to the storage tanks to reduce the bacterial count in the water entering the RO system, management can reduce the frequency of maintenance and replacements of the membranes and filters of the system.
- **Monitor / Control** – The results clearly indicate that the RO system requires maintenance. It may be that due to the high bacterial count from the water entering the RO system. As a result the filters and membranes in the system may require more frequent servicing than was originally planned for. It may also be that the system is fairly old and that it requires a proper service and replacement of key consumable parts.

### **Conclusion**

From all four lodges that were investigated in this study, management links from water quality results could have been established at every single lodge. The three main links towards the four main management functions that were established from the results after the RCAT was applied were leadership, planning and monitoring / control. More frequent water quality analyses can therefore aid to more efficient lodge management in terms of leadership,

planning and monitor / control. The results also indicate the role water quality would have in water management certification scheme. Definite criteria can be drawn from the results such as the effectiveness of water purification systems, effectiveness of onsite sewage treatment, frequency of testing, community engagement and leadership with regards to water supply as well as scheduled maintenance plans to ensure good quality water. The literature also indicated that ecolabels or certification schemes with regards to water management could be used as a marketing tool and allow lodges to gain a competitive advantage, thus gaining some return on their investment into water quality analysis. The results concluded that water quality analyses and results can thus be utilized as a management tool for managers in the wildlife lodge industry in South Africa and Botswana.

## References

- Baoying, N. and Yuanqing, H. 2007. Tourism Development and Water Pollution: Case Study in Lijiang Ancient Town. *China Population, Resource and Environment*. 17(5). 123 – 127.
- Blackman, A., Naranjo, N.A., Robalino, J., Alpizar, F. and Rivera, A. 2014. Does Tourism Eco- Certification Pay? Costa Rica's Blue Flag Program. *World Development*. 58. 41 – 52.
- Fairweather, J.R., Maslin, C. and Simmons, D.G. 2010. Environmental values and response to ecolabels among international visitors to New Zealand. *Journal of sustainable tourism*. 13. 82– 98.
- Gössling, S. 2001. The consequences of tourism for sustainable water use on a tropical island: Zanzibar, Tanzania. *Journal of Environmental Management*. 61. 179 – 191.
- Khan, S., Shahnaz, M., Jehan, N., Rehman, S., Shah, M.T. and Din, I. 2013. Drinking water quality and human health risk in Charsadda district, Pakistan. *Journal of cleaner production*. 60. 93 – 101.
- Mearns, K.F & Grobler, J.J. 2015. Managing water for tourism at Phinda Private Nature Reserve, KwaZulu Natal, South Africa. *Athens Journal of Tourism*. 3. (3), 193 – 210.
- United Nations Department of Economic and Social Affairs. 2014. *A ten year story: The water for life decade 2005 – 2015 and beyond*. Geneva. Switzerland.

---

## **Finding and Fostering Our Future Tourism Leaders:**

### **Undergraduate Choice in Pursuit of Hospitality and Tourism Higher Education**

**Grace K.S. Ho and Rob Law**

*Hong Kong Polytechnic University, Hong Kong, [grace.ho@connect.polyu.hk](mailto:grace.ho@connect.polyu.hk)*

*Hong Kong Polytechnic University, Hong Kong, [rob.law@polyu.edu.hk](mailto:rob.law@polyu.edu.hk)*

**Key words:** hospitality, tourism, undergraduate, higher education, decision factors, Hong Kong

## **Introduction**

The hospitality and tourism industry is facing a serious skilled manpower shortage globally, and the best way to meet the manpower needs of the industry is through training and education. The shortage of skilled talent is a global issue in the hotel and tourism industry. WTTC (2015) shows that 37 out of 46 countries are facing a talent ‘deficit’ or ‘shortage’; a shortfall of 14 million jobs in the travel and tourism sector is forecast, which stands to reduce its contribution to global GDP by US\$610 billion over the next ten years. Examples of countries reporting such worries are Canada (TWIG, 2017), Australia (AusTrade, 2017), India (Barot, 2012), and Singapore (Singapore Tourism Board, 2014). Apparently, industry, tertiary institutions, and governments, are all trying hard to attract more talent to meet the industry’s needs. However, as consumers, students these days have abundant choice for higher education program and tertiary institution. The decision whether to choose the hospitality and tourism discipline or another discipline in pursuit of higher educational attainment is still up to the individual young adult concerned.

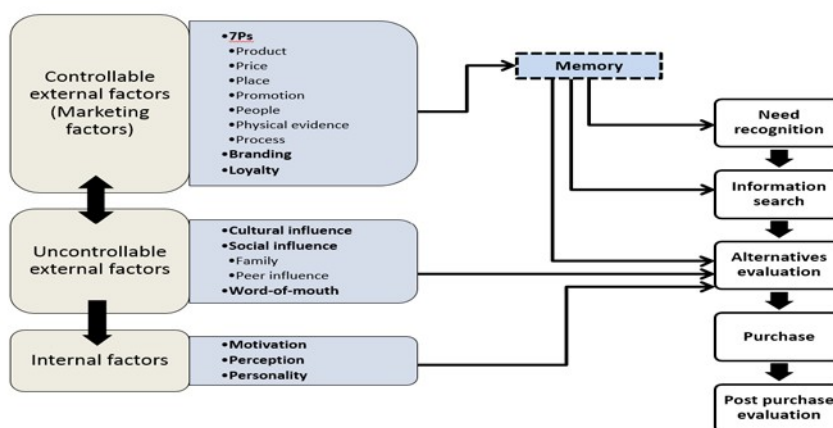
The marketing effort, together with other internal and external factors may contribute to a purchase decision (Schiffman and Wisenblit, 2015; Solomon, 2007). This study looks at the students’ decision-making process model (Engel et al., 1968) from a marketing point of view, especially from the perspective of consumer behaviour. Therefore, marketing factors, as well as internal and external factors that may affect a student in choosing a full-time post-secondary education programme were examined. Internal factors are internal psychological factors among consumers themselves when considering a purchase decision (McGuire, 1976). External factors are the exterior forces beyond the consumers own selves and having influence on the behaviour of the consumers (Schiffman & Wisenblit, 2015). External factors

can be further categorised into controllable and uncontrollable ones. Controllable factors are the variables that can be managed and controlled by a business entity by means of marketing effort to suit the demand of the business (Kotler, 1986). Whereas uncontrollable factors are the external environmental forces over which the marketer has little or no control (Keegan & Green, 2013). Possible internal factors such as perception, attitude, personality, lifestyle, knowledge and motivations were evaluated. Potential external uncontrollable factors include the differences among the institutions such as cultural factors; family influence and word-of-mouth may also affect student choice.

This study focuses on the most controllable external factor i.e. the marketing effort -7Ps of marketing mix which introduced by Booms and Bitner (1981) was examined. All the 7Ps: product (programme content and duration, entry requirements), price (tuition fee), place (campus locations), promotion (advertising, information day, use of website and social media), physical evidence (campus facilities), people (teaching staff) and process (administration) from the tertiary institutions were evaluated. Furthermore, other marketing concepts such as branding and consumer loyalty were also included in the study.

This study proposes a framework (Figure 1) in investigating the higher education choice of Hong Kong hospitality and tourism undergraduate students adapted from the models, namely, EKB Model (Engel et al., 1968), EBM Model (Engel et al., 1990), Buyer Black Box (Kotler, 1965), and Schieffman and Wisenblit's Consumer Decision Making Model (2015).

**Figure 1 Proposed Higher Education Decision Making Framework**



Adapted from Engel et al. (1968, 1990), Kotler (1965), Schieffman & Wisenblit (2015)

---

## **Aim**

This paper aims to investigate the decision making factors for pursuit of hospitality and tourism Bachelor degree in Hong Kong from a consumer behavior perspective, and looks for ways to attract more students to enrol into the hospitality and tourism discipline in order to help solve this manpower problem.

## **Method**

This is an exploratory qualitative primary research study, semi-structured in-depth group interviews with Hong Kong hospitality and tourism undergraduate students by purposive sampling technique. The reason for employing a qualitative inductive approach to the research within a higher education sector is because there is an absence of established theory for testing, and only a little is known, therefore it is the most appropriate to conduct an exploratory research for the study (Hemsley-Brown, 2012).

The research instrument consists of a list of open-ended questions in investigating the decision factors among the students when choosing for their higher education institutions and programs. The nature of semi-structured interview is to allow flexibility for the interviewer to use different wording or question sequence to probe for more answers in an interview, thus the list is used a guideline and for indication when conducting the interviews. The interview consists of open-ended questions with the majority of questions set in inductive manner to investigate the factors in affecting the students' choice in selecting higher education programme and institution.

A total of 13 qualitative in-depth structured group interviews were conducted from March to July in 2016 with 41 full-time students. These students represented 8 higher education institutions and 12 different hospitality and tourism programs in Hong Kong. Content analysis was used to evaluate the relative importance of each decision factor.

## **Findings**

Diverse rationales in choosing the programs and institutions for higher education were found among the 41 interviewed Hong Kong students. One common key attribute among these candidates is the 'word-of-mouth', one of the uncontrollable external factors. Students have high level of influence from acquaintances such as former teachers, senior classmates, parents, relatives and friends. This phenomenon may be due to their own 'trust' and 'perception' (internal factors) of these acquaintances, thus their information and advice highly influence the undergrad candidates more than marketing efforts such as 'advertisement, 'personal selling', and 'sales promotion' (promotion).

'Friends influence' (social influence) is also one of the most important factors affecting students' choice. Over 70% of interviewees want to continue their higher education together with their friends thus follow the decisions made by friends. Students want to have a sense of security and safety when going to a study environment which is new and strange to them.



‘Self-interest’ towards the subject or the industry (personality) is another important factor.

Their interests come from their own personality or previous experiences. About 30% of students expressed their outgoing personality, and like dealing with different people, or have already decided to work in the related industry; more than 80% of them have previous work experience as interns, or part-time staff, or have been to training hotels or restaurants in open days, or as tourists and observed the tourism-related job duties. 15% of these students have no clue of their further career plan yet, but since they do not have any negative feelings towards the discipline, they want to choose a program which is perceived as less boring and more flexible for their future career development. Assurance and the early confirmation of the offer (process) seems to play a very important role for these undergrad candidates. More than 70% of them neglect other interviews or offers when they have received an early confirmation from one of their preselected institutions.

Some factors diverse according to the students’ previous GPA scores, age and work experience. Students who have better scores in examinations have abundant choice for higher education programs and tertiary institutions. They usually can enter into more renowned higher education institutions and government-funded degree programs. They tend to be pickier on things like the campus environment (place and physical evidence), classmates’ and teachers’ quality (people), and the reputation and the ranking of the institutions (branding).

For those who have lower scores, they have only limited choices and these are only from among the available self-funded degree programs, with higher tuition fees and lower entry requirements. These students tend to focus on more practical factors such the duration of the program (product), the tuition fee (price), and whether future employers will recognize the degree. Students who are older, or have finished a higher diploma or have full time work experience are more concerned about the factors such as program content, whether it is useful to them, and in avoiding duplication with their previous higher diploma program content.

Factors such as ‘cultural influence’ and ‘loyalty’ do not strongly prevail, though some students prefer to study locally rather than overseas.

## **Conclusion**

From the findings, it is suggested that social influence, personality, and word-of-mouth are the major factors; whereas marketing efforts do not play a prominent role in influencing the students’ choice. Marketers can still take up a supporting role in facilitating students’ choice in various ways. The higher institutions can organise info days and tours with effective personal selling by alumni and teaching staff. Moreover, assurance is needed to ease these students’ worries; the institutions can achieve this by providing early confirmation of the offer to the applicants; give hyperlink to official website showing government qualification framework structure to ensure the recognition of the degree; and showing alumni testimonials during the info day and on the official website.

In order to attract more students to enrol in hospitality and tourism disciplines for their higher education, and to further pursue their profession in the industry, it is important to let the students envisage a bright future and career. Higher education institutions can try to show the image of graduates in their graduation gowns and hats, and well-groomed alumni in hotel or airline uniforms in their advertisements. These approaches may help to alleviate the skilled manpower shortage problem in the industry.

## References

- AusTrade. (2017). *Tourism Employment in Australia*. Australian Trade Commission.  
Available from: <https://www.austrade.gov.au/Australian/Tourism/Policy-and-Strategy/Labour-and-Skills/tourism-employment-in-australia>
- Barot, K. (2012). Shortage of skilled manpower in hospitality industry. *India Hospitality Review*. Available from: <http://www.indiahospitalityreview.com/article/shortage-skilled-manpower-hospitality-industry>
- Booms, B. H., & Bitner, M. J. (1981). Marketing strategies and organization structures for service firms. *Marketing of Services*, 25(3), 47-52.
- Engel, J. F., Blackwell, R. D., & Miniard, P. W. (1990). *Consumer Behavior*. Oak Brook, Illinois: Dryden Press.
- Engel, J. F., Kollat, D. T., & Roger, D. (1968). *Consumer Behavior*. 1<sup>st</sup> edition. New York: Holt, Rinehart and Winston.
- Hemsley-Brown, J. (2012). The best education in the world: reality, repetition or cliché? International students' reasons for choosing an English university. *Studies in Higher Education*, 37(8), 1005-1022.
- Keegan, W. J., & Green, M. C. (2013). *Global Marketing*. 7<sup>th</sup> edition. Harlow, England: Pearson.
- Kotler, P. (1965). Behavioral models for analyzing buyers. *Journal of Marketing*, 29(4), 37-45.
- Kotler, P. (1986). *Principles of Marketing*. 3<sup>rd</sup> edition. Upper Saddle River, New Jersey: Prentice Hall.
- McGuire, W. J. (1976). Some internal psychological factors influencing consumer choice. *Journal of Consumer Research*, 2(4), 302–319.
- Schiffman L. G., & Wisenblit J. L. (2015). *Consumer Behaviour: Global Edition*, 11<sup>th</sup> edition.

Harlow, England: Pearson.

Singapore Tourism Board. (2014). *Tourism Industry Conference 2014*. Available from: <https://www.stb.gov.sg/news-and-publications/lists/newsroom/dispsform.aspx?ID=496>

Solomon, M. (2007). *Consumer Behavior*, 6<sup>th</sup> edition. Upper Saddle River, New Jersey: Prentice Hall.

TWIG. (2017). *Tourism and Hospitality Employment*. Toronto Workforce Innovation Group.

Available from:

<http://routestoemployment.ca/job-sectors/tourism-and-hospitality>

WTTC. (2015). *Global Talent Trends and Issues for the Travel & Tourism Sector*. World Travel and Tourism Council. Available from:

<http://www.wttc.org/-/media/382bb1e90c374262bc951226a6618201.ashx>

---

## Investigating the impact of climate change on the tourism sector of SIDS

**Sheereen Fauzel, Boopen Seetannah, Robin Sannasee & Robin Nunkoo**

*University of Mauritius, Mauritius, [s.fauzel@uom.ac.mu](mailto:s.fauzel@uom.ac.mu),*

*University of Mauritius, Mauritius, [b.seetannah@uom.ac.mu](mailto:b.seetannah@uom.ac.mu)*

*University of Mauritius, Mauritius, [rvsan@uom.ac.mu](mailto:rvsan@uom.ac.mu)*

*University of Mauritius, Mauritius, [r.nunkoo@uom.ac.mu](mailto:r.nunkoo@uom.ac.mu)*

### Abstract

The tourism sector is vital for the development of small island developing states. However, climate change can negatively impact on tourism demand and affect these economies both on the economic and social level. The purpose of this study is to investigate the relationship between climate change and tourism demand in 20 small island developing states (SIDS) from 1995 to 2015. Using panel autoregressive distributed lag model based on two alternative estimators such as mean group estimator (MG) and pooled mean group (PMG), it was found that there is a significant relationship between climate change and tourism demand in the long-run for the selected SIDS. Further analysis of the results shows a bi directional causality between tourism demand and real GDP.

**Keywords:** Climate change, tourism demand, Panel ARDL, SIDS

### Introduction

The tourism sector is vital for the development of small island developing states. This sector provides a flow of foreign exchange and creates employment both directly and indirectly in the SIDS. Moreover, the tourism sector offers the opportunity for economic diversification. As identified by Ashley et al, 2007, the tourism sector has many linkages with other economic sectors which ultimately can contribute to the growth of all tourism related activities in all of the major economic sectors - agriculture, including fishing, industry and services, including transportation. In some SIDS like Mauritius, the tourism sector has become a major contributor to economic growth.

Thus the significant effect of the tourism sector on economic growth has motivated many researchers to study the main factors that determine the development of the tourism sector. The most important factors that determine the demand for tourism are mainly revenue, price, quality, political relations between countries, economic relations between countries, socio-cultural relations between countries, government regulations, foreign exchange restriction and transportation technology. Apart from these factors climate change is also one factor that affect the tourism demand. Island tourism is a climate-sensitive industry, and being largely concentrated in coastal locations is vulnerable to sea level rise. This would result in inundation of coastal and some inland areas, menacing sanitation systems and freshwater supplies as seawater infiltrates subterranean water tables, with possibly catastrophic consequences for island tourism<sup>1</sup>. Reliable sunshine is one of the major tourism assets for these islands. Potential threats of climate change, which are beginning to appear in greater health risks from direct exposure to sunlight, may undermine this asset<sup>2</sup>.

This paper aims to examine the impact of climate change on the tourism demand in selected SIDS. Since less study have been done in this area, this study is believed to supplement the literature and explores the impact of climate change in the tourism sector for the case of 20<sup>1</sup> small island developing states for the period 1995-2015. This study uses a typical tourism model and expands the model to include two climatic variables namely temperature and precipitation (rainfall). The paper also methodologically departs from most of the previous empirical studies as it uses rigorous dynamic analysis, namely a panel autoregressive dynamic lag model (Panel ARDL), to carry out the analysis. Thus, this paper sought to investigate the short-run and long-run relationship between climate change and tourism demand. Thus, the MG (Mean Group) and PMG (Pooled Mean Group) estimations are applied in this analysis. Lastly, the Hausman Test is conducted to decide between the MG and PMG estimators. The results have provided the dynamic relationships (short-run and the long-run relationships) between the variables tested.

The paper is organized as follows: Section 2 provides a review of the literature followed by an overview of climate change in SIDS. Section 4 presents the model and the data used and in Section 5 the empirical results are provided. Concluding remarks and policy implications are included in section 6.

## Literature Review

In the literature, the concept of climate change and its impact on tourism has been sparsely discussed. Most studies relates to the tourism sector and its impact on the economy of

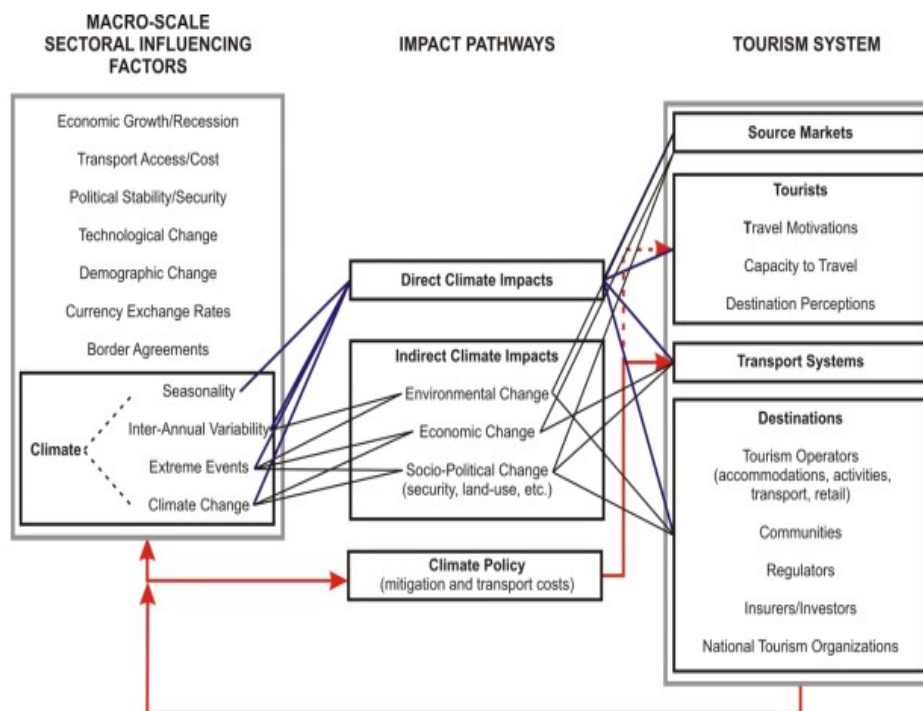
---

<sup>1</sup> Secretariat, U.C.C., 2005. Climate Change: Small Island Developing States.

<sup>2</sup> UNEP Islands website 1996

the countries. Very rarely studies have included the climate change factor in the modeling process. Hence, it was seen that there was a gap in the literature in terms of including climate variables in the regression equation to investigate their impact on the tourism industry. Various climate indicators can be included in the modeling process. For instance as identified by Stern, 2006; Hamilton and Lau, 2004, the climatic factors that have the most impact on tourism are temperature, sunshine, radiation, precipitation, wind, humidity and fog. These climate proxies are crucial and have serious impact on the tourism sector. Hence, it is very important that these elements be investigated as they form an important resource for tourism.

As pointed out by Scott et al, 2010, the link between climate and tourism is multi-layered and highly complex. The figure below shows how climate change can influence different subsectors of tourism directly or indirectly.



Source: Scott et al, 2010

As highlighted by Wall et al, (1994), climate variability also influences various facets of tourism operations such as water supply and quality, heating– cooling costs, snowmaking requirements, irrigation needs, pest management, and evacuations and temporary closures. An international survey of 66 national tourism and meteorological organizations found that a large majority (81 per cent) felt weather and climate were major determinants of tourism in their nation. Burton (1995) and Bonnyface et al, (1994), argued that climate is among the most dominant factors affecting global tourist flows.

Some studies done on this topic include that of Koenig and Abegg, 1997, who investigated the effect of climate change on tourism for the case of Switzerland. In their study, the effect of forecasted changes in temperature on the ski industry was analysed. The analysis revealed that with prevailing temperature and a snow line of 1,200 m, there was an 85 % chance that there would be snow to keep the industry functioning. However, if temperatures were to increase by 2<sup>0</sup>C, then only 65% of all Swiss ski areas would be snow reliable. This would clearly have serious implications for the growth of that sector of the industry.

### Methodology

The main purpose of this investigation is to analyse the impact of climate change on tourist arrival in the short run and long run in 20 small island developing states for the period 1995-2015. Based on the principles of some earlier studies like Johnson and Ashworth (1990), Song and Witt (2000), Bigano et al (2006) and Sookram (2009), a tourism demand model is used to determine the variables that affect tourism demand in the SIDS countries. The tourism demand model is augmented by incorporating two climate variables in the form of temperature and precipitation (rainfall). The following functional form applies to the “Tourism- climate” model used in this research:

$$TOU = f(GDP, CPI, OP, TEM, RAIN)$$

Because of the variance stabilizing properties of log transformation, the log values of the variables are used. In fact, logged variables yield a more clear-cut interpretation of the coefficients in terms of percentage change.

Converting all the variables in logarithmic terms yields:

$$\ln TOU_{it} = \alpha_0 + \beta_1 \ln GDP_{it} + \beta_2 \ln CPI_{it} + \beta_3 \ln OP_t + \beta_4 \ln TEM_{it} + \beta_5 \ln RAIN_{it} + \varepsilon_{it}$$

Where,

$\ln\text{TOU}_{it}$  is the log of total tourist arrivals in country  $i$

$\ln\text{GDP}_{it}$  is the log of Real Gross Domestic Product in country  $i$   $\ln\text{CPI}_{it}$  is the log of consumer price index in country  $i$

$\ln\text{OP}_t$  is the log of the price of oil for transport cost

$\ln\text{TEM}_{it}$  is the log of temperature in country  $i$

$\ln\text{Rain}_{it}$  is the log of rainfall (precipitation) in country  $i$

$\beta_1 \dots \beta_5$  represent the parameter estimates and  $\varepsilon_{it}$  is the random disturbance term. The key data sources are obtained from the World Development database. Data for temperature and rainfall has been obtained from the Mauritius Meteorological office of Mauritius and for the other countries the data is obtained from the world development indicators.

The methodology used is the Panel autoregressive distributed lag (ARDL) approach to cointegration proposed by Pesaran et al. (1999). In fact this methodology is chosen based on several deliberations. First, as shown by Pesaran et al. (2001), the ARDL models yield consistent estimates of the long run coefficients that are asymptotically normal irrespective of whether the underlying regressors are  $I(1)$  or  $I(0)$ . Second, this technique generally provides unbiased estimates of the long run model and valid t-statistics even when some of the regressors are endogenous (Harris and Sollis, 2003). Inder (1993) and Pesaran (1997) have shown that the inclusion of the dynamics may help correct the endogeneity bias.

Thus, this paper sought to investigate the short-run and long-run relationship between climate change and tourism to ascertain consensus on the climate and tourism relationship. Then, the MG (Mean Group) and PMG (Pooled Mean Group) estimations are applied in this analysis. Lastly, the Hausman Test is conducted to decide between the MG and PMG estimators.

### ***Mean group (mg) estimator***<sup>3</sup>

The first technique (MG) introduced by Pesaran and Smith, (1995) calls for estimating separate regressions for each country and calculating the coefficients as unweight means of the estimated coefficients for the individual countries. This does not impose any restrictions. It allows for all coefficients to vary and be heterogeneous in the long-run and short-run. The MG estimator has the least restrictive procedure and it allows for heterogeneity of all the parameters where no cross- country restriction is imposed. The MG estimator derives the long-run parameters from autoregressive distribution lag

<sup>3</sup> Adapted from "Panel ARDL Using E-Views 9 ~ Meo School of Research



(ADRL) models for individual countries. The MG estimator estimates separate regressions for each and every country. Yet, it has computing averages of the country-specific coefficients, which will provide consistent estimates of the long-run coefficients.

The ARDL is as following:

$$Y_{it} = a_i + \gamma_1 Y_{i,t-1} + u_{it}$$

for country  $i$ , where  $i = 1, 2, \dots, N$ .

The long-run parameter  $\theta_i$  for the country  $i$  is:

$$\theta_i = \frac{\beta_i}{1 - \gamma_i}$$

And the MG estimators for the whole panel will be given by:

$$\hat{\theta} = \frac{1}{N} \sum_{i=1}^N \theta_i \quad \hat{a} = \frac{1}{N} \sum_{i=1}^N a_i$$

#### ***Pooled Mean Group (PMG) model<sup>4</sup>***

The main characteristic of PMG is that it allows short-run coefficients, including the intercepts, the speed of adjustment to the long-run equilibrium values, and error variances to be heterogeneous country by country, while the long-run slope coefficients are restricted to be homogeneous across countries. This is particularly useful when there are reasons to expect that the long-run equilibrium relationship between the variables is similar across countries or, at least, a sub-set of them. The short run adjustment is allowed to be country-specific, due to the widely different impact of the vulnerability to financial crises and external shocks, stabilization policies, monetary policy and so on. However, there are several requirements for the validity, consistency and efficiency of this methodology. First, there need to be a long-run relationship among the variables of interest which requires the coefficient on the error-correction term to be negative. Second, an important assumption for the consistency of the ARDL model is that the resulting residual of the error-correction model be serially uncorrelated and the explanatory variables can be treated as exogenous. Such conditions can be fulfilled by including the ARDL (p,q) lags for the dependent (p) and independent variables (q) in error correction form. Lastly, the relative size of T and N is crucial, since when both of them are large this allows us to use the dynamic panel technique, which helps to avoid the bias in the average estimators and resolves the issue of heterogeneity. Eberhardt and Teal (2010) argue that the treatment of heterogeneity is central to understanding the growth process. Therefore, failing to fulfil these conditions will produce inconsistent estimation in PMG.

---

<sup>4</sup> Adapted from “Panel ARDL Using E-Views 9 ~ Meo School of Research

The unrestricted specification for the ARDL system of equations for  $t = 1, 2, \dots, T$ , time periods and  $i = 1, \dots, N$  countries for the dependent variable  $Y$  is:

$$Y_{it} = \sum_{j=1}^p \lambda_{ij} y_{i,t-j} + \sum_{j=1}^q \gamma_{ij} x_{i,t-j} + \mu_i + \varepsilon_{it}$$

Where  $X_{i,t-j}$  the  $(k \times 1)$  is vector of explanatory variables for group  $i$  and  $\mu_i$  represents fixed effect.

The model can be reparametrized as a VECM system:

$$\Delta y_{it} = \theta_i (y_{i,t-1} - \beta' X_{i,t-1}) + \sum_{j=1}^{p-1} \lambda_{ij} \Delta y_{i,t-j} + \sum_{j=1}^{q-1} \gamma'_{ij} \Delta X_{i,t-j} + \mu_i + \varepsilon_{it}$$

Where  $\beta_i$  are the long-run parameters and  $\theta_i$  are the equilibrium or error-correction parameters.

The PMG restriction is that the elements of  $\beta$  are common across countries:

$$\Delta y_{it} = \theta_i (y_{i,t-1} - \beta' X_{i,t-1}) + \sum_{j=1}^{p-1} \lambda_{ij} \Delta y_{i,t-j} + \sum_{j=1}^{q-1} \gamma'_{ij} \Delta X_{i,t-j} + \mu_i + \varepsilon_{it}$$

All the dynamics and the ECM terms are free to vary in PMG. Under some regularity assumptions, the parameter estimates of the PMG model are consistent and asymptotically normal for both stationary and non-stationary regressors. In the selection of lag length, both MG and PMG estimations require selecting the appropriate lag length for the individual country equations. The selection is made using the: (1). Schwarz Bayesian Criterion (SBC) and (2) Akaike Information Criterion (AIC).

### ***Error Correction Term***

According to Banerjee et al (1998), the error correction term indicates the speed adjustment to restore equilibrium in the dynamic model. The error correction coefficient shows how quickly variables converge to equilibrium and it should have a statically significant coefficient with a negative sign. The highly significant Error Correction Term further confirms the existence of a stable long-run relationship.

### *The Hausman Test*

In Hausman (1978), the hypothesis of homogeneity of the long-run policy parameters cannot be assumed a priori. The effect of heterogeneity on the means of the coefficients can be determined by Hausman-type test. If the parameters are in fact homogenous, the PMG estimates are more efficient than MG. In other words, the efficient estimator under the null hypothesis, which is PMG is preferred. However, if the null hypothesis is rejected, then the efficient estimator MG, is preferred.

### **Empirical analysis and results**

**TABLE 2: Empirical Results of MG and PMG (Dependent variable: LnTOU)**

	Variable	PMG	MG
LONG RUN RESULTS	LnGDP	0.094677***	0.476340***
	LnCPI	-0.016691**	-0.129412**
	LnOP	0.247264	0.683242
	LnTEMP	-0.160487*	-0.239502***
	LnRain	-0.886017***	0.839617
SHORT RUN RESULTS	ECT	-0.102974***	-0.080850***
	D(LnGDP)	0.003240*	0.012307
	D(LnCPI)	-0.002286*	-0.034718
	D(LnOP)	-0.042060***	-0.061616
	D(LnTEMP)	-0.272483	-0.056051
	D(LnRain)	-0.529347	0.256717
	Constant	2.785921***	1.001717***
	No. Countries	20	
	No. Observations	420	
	Hausman test Prob> chi 2		

*Note: D is first difference operator; \*\*\*, \*\* and \* indicate 1%, 5% and 10% per cent level of significance; PMG means pooled mean group; MG means mean group; ECT is error correction term. Dependent variable: Tourists arrival (LnTOU) Independent variable: Real GDP (LnGDP), Oil Price (LnOP), temperature (LnTEM) and Rain (LnRAIN)*

The empirical results of MG and PMG are shown in table 2. The best combination of ARDL is chosen based on the smallest values of AIC and SBC. The calculated Hausman Test has a p-value of 0.2153. Here it can be concluded that the null hypothesis is rejected and the PMG estimator is preferred. Hence, the results of the PMG will be analysed. The error correction term is -0.1030, which is significantly negative under 1% significance level. This indicates that the speed of adjustment of PMG model is around -0.1030. This result is in line with (Bannerjee) and confirms the existence of a stable long-run relationship

An examination of the long run results indicates that the coefficient estimates are generally in agreement with expectations and, of importance, the results obtained for the climate variables are significant. Both the climate change proxies show a negative and significant impact on tourism. Hence, rising temperature and more rainfall both have inverse effects on tourist arrivals. Referring to the literature on tourism demand, it can be noted that tourists prefer dry holiday locations rather than wet ones (Lise and Tole, 2002).

This can be explained by the fact that small islands developing states faces particular damage from global warming – storm surges, rising sea levels, beach erosion and coral bleaching which directly and indirectly affect tourism. Also, these small nations are among the most vulnerable to climate change impacts, which will become even more critical if no appropriate action is taken. Another growing concern is the increasing number and severity of extreme weather events—with all they entail in terms of loss of life and damage to property and infrastructure that can easily cripple small economies. SIDS is among the countries least responsible for climate change. Consequently, they strive not only to support the process directly but also to ensure that proper international action is taken to limit emissions of greenhouse gases and to adapt to climate change. Many SIDS, sea-related tourism has become a mainstay of the economy. In most SIDS, narrow coastal plains provide attractive locations for human settlements and a variety of infrastructure – social services, tourism facilities, airports, port facilities, roads and vital utilities – to support economic and social needs. Hence, if no actions are taken, climate change will have devastating effect on the economy of the countries (UNFCCC, 2005).

Now, referring to the long run results, it can be seen that an increase in the country's GDP has a positive effect on tourist arrivals. For instance, a 1% increase in GDP leads to a 0.095% increase in tourists' arrival. This may be explained by the fact that tourists prefer to go to countries with well-established economic environment. Inflation however is seen to discourage tourist arrivals. A 1% increase in price level reduces tourism demand by 0.017%.

In addition to the ARDL results, our next set of findings report the short run estimates. The fact that the variables in the model are cointegrated provides support for the use of an ECM representation in order to investigate the short run dynamics. Estimation results are presented in Table 2 above. In terms of the short run relationships it is observed that the climate variables are negative but not significant. The signs of the short run dynamics are

---

maintained for real GDP and Inflation to the long run. The other variables are as per prior expectations. Hence, it is noted that climate change has a long term impact on tourism demand.

### ***Granger Causality Test***

Some further tests were performed. For instance, the Granger causality test indicates that the real GDP has a positive and significant long run effect on tourism and vice versa. Hence, a bi directional causality is observed between these two variables. This result is in line with Fauzel et al (2016), and confirms the tourism led hypothesis specifying that a direct link between tourism development and economic growth. Tourism is vital to most SIDS, either current or potential, with huge economic impact and importance; for many SIDS it is their largest source of foreign exchange and the driver of their development. Achieving levels of sustainability in tourism development has long-term benefits to investor, hotel chains and local stakeholders (Manning, 2016). Another causality effect is observed between real GDP and Inflation. Here, a uni directional causality flowing from real GDP to inflation is observed in the long run.

### **Conclusions**

Tourism is a crucial element of economic growth for small island developing states. However, climate change can negatively impact on tourism demand and thus leads to various negative effects on the economy of these countries mainly in terms of low growth rates and loss of employment. The purpose of this study was to estimate the impact of climate change on the tourism sector for twenty SIDS. For the investigation a typical tourism demand function was used, with tourist arrival as the dependent variable and augmented with two climate variables namely temperature and precipitation (rainfall). The panel ARDL was used. The results show that there is a negative effect of both the temperature and precipitation variables on tourists' arrival. Further analysis of the results shows that there is a bi directional causality between tourism demand and real GDP. Also, a uni directional causality is obtained flowing from real GDP to inflation. It can further be concluded that the effect of climate change will continue to affect the tourism sector in the coming years. Hence, responses to climate change and sea-level rise should be coordinated and integrated with existing policies of socio-economic development and environmental conservation to facilitate sustainable development. Therefore, based on precautionary and anticipatory approaches, various strategies should to be developed by researchers and policymakers to address the environmental issues as it has important social and economic impacts on SIDS.

---

## References

- Ashley, C., De Brine, P., Lehr, A. and Wilde, H., 2007. *The role of the tourism sector in expanding economic opportunity*. Cambridge: John F. Kennedy School of Government, Harvard University.
- Banerjee, A., Dolado, J. and Mestre, R., 1998. Error-correction mechanism tests for co-integration in a single-equation framework. *Journal of time series analysis*, 19(3), pp.267-283.
- Bigano, A., Bosello, F., Roson, R. and Tol, R.S., 2006. Economy-wide estimates of the implications of climate change: A joint analysis for sea level rise and tourism.
- Boniface B, Cooper C (1994) *The geography of travel and tourism*. Butterworth-Heinemann: London.
- Burton R (1995) *Travel Geography*. Longman, Essex, England.
- De Freitas, C. R. 2003. Tourism climatology: evaluating environmental information for decision making and business planning in the recreation and tourism sector. *International Journal of Biometeorology*, Vol. 48, pp. 45-54.
- Eberhardt, M. and Teal, F., 2011. Econometrics for grumblers: a new look at the literature on cross-country growth empirics. *Journal of Economic Surveys*, 25(1), pp.109-155.
- Fauzel, S., Seetanah, B. and Sannasse, R.V., 2016. Analysing the impact of tourism foreign direct investment on economic growth Evidence from a small island developing state. *Tourism Economics*, p.1354816616664249.
- Harris, R. and Sollis, R., 2003. *Applied time series modelling and forecasting*. Wiley.
- Hamilton, J.M. and M.A. Lau (2004), "The role of climate information in tourism destination choice", Working Paper FNU56, Hamburg University Centre for Marine and Climate Research, Hamburg.
- Hausman, J.A., 1978. Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, pp.1251-1271.
- Inder B. (1993). Estimating long-run relationships in Economics, a comparison of different approaches. *Journal of Econometrics*, 57(1-3), 53-68.
- Johnson, P. and J. Ashworth (1990), "Modelling tourism demand: A summary review", *Leisure Studies*, 9 (2): 145-161.

- 
- Koenig, U. and B. Abegg (1997), “Impacts of climate change on winter tourism in the Swiss Alps”, *Journal of Sustainable Tourism* 5 (1): 46 – 58. The Challenge of Sustainable Tourism in Small Island Developing States (SIDS) Author: Edward W. (Ted) Manning, Ottawa.
- Lise, W., and R. S. J. Tol. 2002. Impact of climate on tourist demand. *Climatic Change*, Vol. 55, pp. 429–449.
- Manning, E. W., Hanna, M., Vereczi, G. & Manning, M. E., (1999) Taller Sobre Indicadores de Turismo Sostenible para el Caribe y Centroamerica (Workshop on Indicators of Sustainable Tourism for the Caribbean and Central America.) Cozumel, Mexico. Madrid, World Tourism Organization.
- Oppenheimer, M. and Petsonk, A., 2005. Article 2 of the UNFCCC: historical origins, recent interpretations. *Climatic change*, 73(3), pp.195-226.
- “Preliminary review of the economic impact of climate change on Caribbean Tourism: what is at risk and adapting for sustainable tourism development”, presentation given by Ms. Marlene Attzs at the Organization of American States Meeting on Adaptation to Climate Change in the Caribbean, Tourism Sector Workshop held in Grenada, in May 2002.
- Rughooputh, S.D., SIDS and Climate Change Indicators.
- Scott, D. and Lemieux, C., 2010. Weather and climate information for tourism. *Procedia Environmental Sciences*, 1, pp.146-183.
- Song, H. and S.F. Witt (2000), “Tourism demand modelling and forecasting”, *Modern Econometric Approaches*, Oxford, Pergamon.
- Secretariat, U.C.C., 2005. Climate Change: Small Island Developing States.
- Sem, G., 2007. Vulnerability and Adaptation to Climate Change in Small Island Developing States, Background paper for the expert meeting on adaptation for Small Island developing States. In *Secretariat of the United Nations Framework Convention on Climate Change*.
- Sookram, S., 2009. The impact of climate change on the tourism sector in selected Caribbean countries. *Caribbean Development Report*, 2(30), pp.204-225.
- Stern, N. (2006), “The economics of climate change”, *The Stern Review*, Cambridge University Press, Cambridge, United Kingdom.
- Wall, G. and Badke, C., 1994. Tourism and climate change: an international perspective. *Journal of Sustainable Tourism*, 2(4) perspective. *Journal of Sustainable Tourism*, 2(4), pp.193- 203.

---

## **Reducing economic leakages from tourism: A value chain assessment of the tourism industry in Kasane, Botswana.**

**Andrew Rylance**

*University of Johannesburg, South Africa, [andrewrylance@gmail.com](mailto:andrewrylance@gmail.com)*

**Acknowledgement:** The research is funded by the Centre for the Development of Enterprise and with the guidance of the International Trade Centre of UNCTAD. The authors would like to thank Pablo LoMoro at the International Trade Centre for his considerable support to the research, and also Sid Boubekeur from the Centre for the Development of Enterprise for making resources available to implement it. The authors thank Botswana Tourism Organisation (BTO) for their logistical support and guidance in the value chain analysis, and in particular Mokganedi Ntana and Jannet Keretese. The fieldwork team comprising Lily Mosheti, Precious Matengu, Georginah, Tidimalo K, Ogomoditse Keitirile, Michael Moithopedi are thanked for their considerable inputs and energy.

**Keywords:** economic assessment, sustainable tourism, value chain analysis, Kasane, Botswana.

### **Abstract**

Retaining revenue generated by tourism within a local economy is an important issue in tourism development, especially in developing countries where tourism is used as a tool for development. The research aims to quantify the value and proportion of tourism expenditure retained in this destination in order to inform national level decision-making. It applies a value chain analysis (VCA) approach through semi-structure questionnaires with 117 stakeholders in Kasane, Botswana. The VCA demonstrates that the total gross revenue generation of the tourism industry within Kasane was USD 39.5 million in 2014. Excursions and transport generated nearly half of this revenue (USD 19.2 m: 49%), followed by accommodation and food and beverages, at around USD 10 m each (26%). Of the gross revenue accrued, USD 14.5 m (37%) remained in the local economy (defined by BTO as 50 km radius surrounding Kasane) in the form of local goods (production) and services (wages).

Recommendations for interventions that could enhance the local retention of revenue from tourism in Kasane are presented.



---

## Introduction

Globally, tourism generated an estimated USD 1245 billion in international tourism receipts in 2014, amounting to 9% of global Gross Domestic Product (UNWTO, 2015). Notably, tourism supported 277 million jobs in 2014, 1 in 11 of the world's total (WTTC 2015). The flow of money from the sector provides opportunities for tourists to act as conduits to re-distribute wealth from the rich to the poor. For example, when travellers visit developing countries they spend money on transport, accommodation, excursions, shopping, and on food and beverages. Much of this money can be captured by local poor people if they are able to supply the products and services that tourists need, or by being employed in tourism companies (Spenceley & Meyer, 2016).

In developing countries, tourism generates substantial foreign exchange. In 2014 emerging and developing countries accounted for 45% of total international tourism arrivals. However, of this sub-Saharan Africa accounts for only 3.2% (UNWTO, 2015). Many developing countries are rich in cultural and natural attractions, and their economies rely on tourism. For example, in 2005, tourism in Samoa accounted for 80% of total goods and services exports (Meyer, 2010). These foreign exchange earnings from tourism are particularly important in developing countries, where government strategies aim to reduce the proportion of their population living in poverty. It is estimated that approximately 20% of the world's population (1.4 billion people) are currently living in 'extreme poverty', on under USD 1.25 per day (Chen & Ravallion, 2008; Wroughton, 2008). Poverty is particularly prevalent in situations where people lack key capabilities, such as inadequate income, lack of access to education, poor health, insecurity, low self-confidence, a sense of powerlessness, and the absence of rights such as freedom of speech (Sen, 1999). Poverty is related to inequality and vulnerability, in that inequality considers the distribution of economic factors across a population, and vulnerability is a risk of falling into poverty in the future (Haughton & Khandker, 2009).

Bennett et al (1999) suggested that the tourism sector had promising potential to contribute to development in low and middle-income countries, for the reasons including:

- the market comes to the producers, thus providing additional sales opportunities in the destination;
- inter-sectoral linkages can be created, especially with agriculture, artisan production, and additional services, which are essential for livelihood diversification;
- tourism is generally labour intensive (although often less so than agriculture);
- tourism takes place in marginal areas; areas where the majority of the poor live; and
- tourism has rather limited barriers to entry when compared to manufacturing or other export activities.

Conversely, in practice local communities can often be excluded from accessing tourism value chains as tour operators keep tourists inside a ‘tourism bubble’ (Adiyia et al, 2015). As an illustration, package tours potentially limit the opportunities for tourists to distribute their spending across a wider range of local businesses, resulting in a limited impact on local communities (Mitchell & Faal, 2008). A survey of 17 marine protected areas (MPAs) in Thailand identified that local communities stated that they received negligible benefits from tourism livelihoods (Bennett & Dearden, 2014). Therefore, whilst the rhetoric advocates of tourism as a tool for development it is important to be able to quantify the impact in order to verify claims.

Research on ‘pro-poor tourism’ (PPT) has influenced a new way of thinking about tourism, with a series of studies that quantified impact of tourism on poverty in a series of destinations (e.g. Ashley et al, 2001; Poultney & Spenceley, 2001; Mahony & Van Zyl, 2001; Saville, 2001; Nicanor, 2001; Williams et al, 2001; Braman & Amazonia, 2001; Renard, 2001; Spenceley & Seif, 2003; Holland et al, 2003; Bah & Goodwin, 2003). Subsequently interventions piloted pro-poor actions, and generated a set of guiding tools (see McNab, 2005), some of which addressed boosting local supply chains by tourism enterprises (e.g. Ashley et al, 2005, Ashley & Haysom, 2008). In one of the pilots, the local spend by the South African tourist resort Spier was evaluated, and opportunities were identified to improve local expenditure and enterprise development. Subsequent interventions created greater local employment and revenue retention from tourism, and also established cost savings and greater profit margins (Ashley & Haysom, 2008). However, the extent to which tourism businesses meet the criteria of ‘ecotourism enterprises’ or ‘pro-poor’ is debatable and tourism businesses may be attracted to PPT because of the rhetoric and implement interventions as ‘window dressing’ (Scheyvens, 2009). As a result, some have argued that PPT has not been transformative for the tourism industry but merely implemented in order for tourism operators to avoid unwanted regulation (Higgins-Desbiolles, 2006).

Increasing the proportion of tourist spend with local enterprises helps to reduce the leakages and potentially improve its pro-poor impact. Economic leakages effectively represent the share of tourism receipts from international tourists that accrue overseas (Mitchell & Ashley, 2010). Leakage is based on the funds that are spent in the destination country, but not expenditure before international tourists arrive (e.g. on booking fees, flights). Furthermore, it does not consider expenditure by domestic tourists. Leakages can be high in situations where a country has considerably high levels of imports to supply the tourism sector (e.g. equipment, building supplies, vehicles, food, drink etc). Where there are higher levels of local production of tourism supplies, and better inter-sectoral linkages, a greater proportion of international tourism receipts are retained in the destination country’s economy. Leakages can be reduced by increasing the direct commercial linkages local producers and tourism operators. For example, farmers neighbouring Bwindi Impenetrable National Park in Uganda received training in bulking and grading their produce, and in marketing it to tourism camps. The Bwindi Advanced Market Gardeners’ Association program now has over 100 member households and supplies vegetables to nearly every tourist camp at Bwindi

---

(Sandbrook, 2008).

### ***Value chain analysis and tourism***

Many development organisations and research institutes have invested in research on how tourism can be used more effectively to reduce poverty in developing countries, and several have used value-chain analysis (VCA) approaches (e.g. the World Bank, Gesellschaft für internationale Zusammenarbeit (GIZ), the US government Overseas Aid Program (USAID)). Value chains are described as ‘a sequence of related business activities from the provision of specific inputs for a particular product to primary production, transformation, marketing and up to the final sale of the particular product to consumers’ (German Technical Cooperation [GTZ], 2007: 6). Value chains include the enterprises and entrepreneurs that undertake these activities, including producers, traders and distributors (GTZ, 2007:6). VCA is used to map the value chain in order to understand how actors interact and who captures the value (Spenceley et al, 2010).

A great deal of previous research has described VCA processes (e.g. Kaplinksy & Morris, 2001; Humphrey, 2005; Freeman, 2005; Joosten et al, 2006; Vermeulen et al, 2006; Hawkins & Mann, 2007; Bolwig et al, 2008). For example, the Overseas Development Institute (ODI) has used VCA in 12 destinations in developing countries (e.g. Cabo Verde, Cambodia, Ethiopia, Ghana, Laos, Namibia, South Africa, Tanzania, Gambia, and Vietnam) and there is a rich database of case studies that can be used to compare the impacts of tourism in different destinations (Mitchell, 2012). Other researchers have used VCA to identify challenges in strengthening local supply chains, such as poor record keeping, limited quality and diversity of products, and difficult access to local enterprises (Spenceley et al, 2010); poor management, capacity and organisational difficulties of community farming projects (Rogerson, 2012), and unreliable supply due to a lack of transport options (Rylance & Spenceley, 2013). The difficulties faced by the private sector that wish to procure more local products have been considerable in some destinations. For example, 61% of safari lodges interviewed in the Sabi Sands Game Reserve in South Africa reported that they had tried to purchase locally in the past, but their attempts had failed, including challenges such as local entrepreneurs not holding the necessary health and safety certificates for food products (Rylance & Spenceley, 2013). Additionally, communities have also faced difficulty gaining access to tourists who are isolated by tour operators and receive limited opportunity to interact and spend with local communities (Adiyia et al, 2015).

The International Trade Centre (ITC) has used VCA approaches to design interventions to strengthen indirect benefits to the poor from enterprises that support tourism. One of their analysis tools, the Opportunity Guidelines, (Ashley et al, 2009) applies a pro-poor VCA approach to design targeted tourism project programs. VCAs are a valuable tool particularly because it is not narrowly focussed on the evaluation of direct economic impacts, but also encompasses indirect impacts on support sectors (e.g. agriculture, transport, maintenance etc). However, although VCAs provide a mechanism to quantify tourism’s financial

impacts in detail, one of their weaknesses is that they do not consider environmental, socio-cultural, and political and governance aspects of sustainable development (Spenceley & Meyer, 2016).

The aim of this research is to describe and quantify the tourism value chain in Kasane, Botswana. This small town near Botswana's international borders of Namibia, Zambia, and Zimbabwe acts as is the administrative center for Chobe District. Kasane was prioritised for research by the Botswana Tourism Organisation (BTO), who envisaged it as an emerging destination for Meetings, Incentives, Conferences and Events (MICE) tourism that could promote local employment and enterprise development. No previous economic assessments of tourism had been conducted in the destination.

This research describes the underlying economic context of tourism in Botswana, followed by a description of the research destination itself. The VCA approach and results are outlined, followed by a discussion of how the VCA of this destination contributes to the literature, and expands the body of knowledge in this field.

### ***Tourism in Botswana and Kasane***

The economic impact of the travel and tourism sector describes its direct, indirect and induced contribution to the economy. The World Travel and Tourism Council (WTTC) estimates that in 2014 leisure travel spending in Botswana generated 77.9% of direct travel and tourism GDP (USD 985,000) compared with 22.1% for business travel spending (USD 280,000) (WTTC, 2015).

In terms of global competitiveness, Botswana ranks 88 out of 141 countries in the World Economic Forum's Travel & Tourism Competitiveness Index. Although pitched as a low volume – high value destination, it ranks 14<sup>th</sup> under price competitiveness. In terms of its natural resource base, and commitment to sustainability the country ranks 41<sup>st</sup> and 37<sup>th</sup> respectfully (World Economic Forum, 2015).

In 2013 there were an estimated 528 accommodation facilities in Botswana, with an estimated 8,362 rooms and 15,697 beds. About 66% of accommodation facilities in the country are small, with between 5 and 19 rooms, and room and bed occupancy rates for 2013 were 47% and 37% respectively (DoT, 2013). The revenue accrued by the accommodation sector in Botswana is estimated at BWP<sup>1</sup> 1.7 billion. An additional BWP 754 million represents further expenditure on food and beverages, communication, and other services. Total wages and salaries from accommodation were estimated at BWP 513 million (or 21% of total revenue) (DoT, 2013: pp12).

Botswana is particularly well known as a wildlife tourism destination, with a history of sustainable tourism practices and activities. These include a domestic certification program

---

<sup>1</sup> USD 1: 10.3 BWP (Botswana Pula)

for accommodation and tours run by BTO (the Botswana Ecotourism Certification System (BTB, undated a&b), development of an ecotourism best practices manual (McHugo, and MacGregor, undated), and benchmarking then sustainability of the Okavango Delta against the Global Sustainable Tourism Council's (GSTC) Destination Criteria (Wilkinson, 2012).

Kasane is a small town near Botswana's northern international borders of Namibia, Zambia, and Zimbabwe, which for tourism purposes acts as a gateway for tourists visiting Chobe National Park and Chobe River. For example, many visitors travel 15 km up the Chobe River from the Victoria Falls in Zambia and Zimbabwe to Kasane, to view the rich wildlife of the destination. The town has an estimated population of 7,000 people (MLH, 2014), and offers 36 accommodation facilities, 10 restaurants and an impressive 84 different excursion options (which are mainly nature-based).

The vision for Kasane to become a "renowned tourism hub" is described within the Kazangulu-Kasane Redevelopment Plan (MLH, 2014:4). Part of this opportunity lies in its central location within the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA). The KAZA TFCA spans approximately 520 000 km<sup>2</sup> where the borders of Angola, Botswana, Namibia, Zambia and Zimbabwe converge. Notably it is the world's largest transfrontier conservation area, and includes 36 protected areas including national parks, game reserves, and community conservancies. The KAZA TFCA has several objectives to the Kasane VCA, which include to: (1) provide opportunities, facilities and infrastructure to transform the area into a premier tourist destination; (2) facilitate a healthy and competitive economic environment; and (3) to build capacity for and within the area (Anon, 2015). Furthermore, the draft KAZA TFCA Master Integrated Development Plan includes a tourism investment facilitation project, which aims to provide mechanisms for investors to explore and catalyze commercially viable opportunities, and in Kasane proposes to address the congestion, unregulated tourism and associated pollution on the Chobe River (Anon, 2015).

## **Methodology**

The main guiding methodological framework for the analysis was the ITC's Opportunity Study Guidelines (Ashley et al, 2009). The Opportunity Study guidelines apply a three-phased approach: Diagnosis, Identification and appraisal of opportunities, and programming. This analysis concentrated on the first two phases, which are illustrated in the table below.

**Table 1: Outline off the ITC's value chain analysis approach**

Step	What to do?	Why?
Phase 1: Diagnosis		
Step 1	Preparation	To define the destination, target group of poor, and the project team
Step 2	Map the big picture: enterprises and other actors in the tourism sector, links between them, demand and supply data, and the pertinent context	To organise a chaotic reality, understand the overall system
Step 3	Map where the poor participate	To avoid erroneous assumptions about poor actors To take account of the less visible suppliers
Step 4	Conduct fieldwork interviews in each node of the chain, with tourists and service providers	To provide data and insights for Steps 5 to 8
Step 5	Track revenue flows and pro-poor income Estimate how expenditure flows through the chain and how much accrues to the poor Consider their returns and factors that enable or inhibit earnings	To follow the dollar through the chain down to the poor, and how assess how returns can be increased
Phase 2: Opportunities		
Step 6	Identify <i>where</i> in the tourism value chain to seek change: which node or nodes?	To use Steps 1 to 5 to select areas ripe for change To focus Steps 6 to 8 down to specific areas
Step 7	Analyse blockages, options, and partners in the nodes selected, to generate a long list of possible interventions	To think laterally and rationally in generating the range of possible projects
Step 8	Prioritise projects on the basis of their impact and feasibility	To generate a project shortlist, comprising projects most likely to deliver impact

Source: Ashley et al (2009:7-8)

Field research in Kasane included semi-structured interviews using a sample size of 117 stakeholders in Kasane comprising of accommodation enterprises, excursion and transport operators, restaurants, suppliers, craft businesses, business support institutions and tourists (see Table 2). Questionnaires were adapted from the ITC Opportunity Study Guidelines, and pilot tested prior to use. An online version of each of the questionnaires also was created

using SurveyMonkey for enumerators to enter their data. Interviews were then undertaken with the samples of tourism enterprises (i.e. accommodation, tour operators, guides, craft outlets), support institutions and suppliers. Tourists were also provided with questionnaires to provide information on their travel experience and their local expenditure at hotels and Kasane airport. Training on interview techniques was provided for a team of six field researchers in Kasane, and one of the authors coordinated questionnaires and verified the quality of completed interview records.

In consultation with personnel at the BTO office in Kasane, populations of different stakeholders were identified, and representative samples of each stakeholder group were established in line with the ITC Opportunity Guidelines approach. The sample sizes in Kasane achieved are outlined in the table below. Overall, the sample represented 42% of the total number of enterprises registered with the BTO in Kasane.

**Table 2: Sample sizes**

Value-chain node	Kasane
Accommodation	N=36 n=19 (53%)
Tour agencies and operators	N=84 n=26 (31%)
Restaurants	N=10 n=8 (80%)
Suppliers	N=17 n=12 (71%)
Craft	N=7 n=6 (86%)
Support Institutions	N=18 n=9 (50%)
Tourists	n=37
Totals	n=117

*Key: N= population; n= sample size*

In Kasane, the VCA was undertaken using information from 71 completed interviews with accommodation enterprises (n=19), tour agency and operators (n=26), restaurants (n=8), suppliers (n=12) and craft retailers (n=6). Financial information was categorized into four nodes and the service providers operating within each node: accommodation, food and beverages (independent restaurants and accommodation restaurants), excursion and transport (tour operators, agencies, car rental companies, tour guides) and shopping (craft retailers).

The value chain analysis then tracked the flow of revenue generated from the tourism industry into the local community in order to understand what proportion of value is retained within and leaks out of the local economy. The gross revenue of each business in 2014 was determined. The revenue generated by accommodation enterprises was sub-divided between (i) revenue from the sale of beds and conferences; and (ii) sale of food and beverages.

Two areas of local spend were categorized as employment and local purchasing of products, such as food and craft. The direct local services were the value of local wages from employed staff. ‘Local’ was defined as staff originating from within 50 km of Kasane, determined by BTO’s working definition in Botswana. The purchase of goods from indirect service providers, which are then sold tourists through direct service providers, was calculated under two broad values: wages of local indirect suppliers and produce produced by the local suppliers from fresh produce and crafts.

At each stage of the process an average from the number of respondents in each node was developed and extrapolated based on a business database of Kasane provided by BTO. The total number of respondents represented 38% of the total number of tourism-linked businesses in Kasane. The final number provided represents the total value retained within the local economy or the proportion of the original total gross revenue generated in the local economy.

For the analysis of qualitative (descriptive) responses from interviewees, survey responses were reviewed regarding categories of challenges, a simple manifest coding system was developed that recognized the types of responses (Neuman, 2006). The frequency of each type of response was established (e.g. the number of times the phrase “training needed” occurred) to establish how important it was to stakeholders.

### **Limitations of the research design**

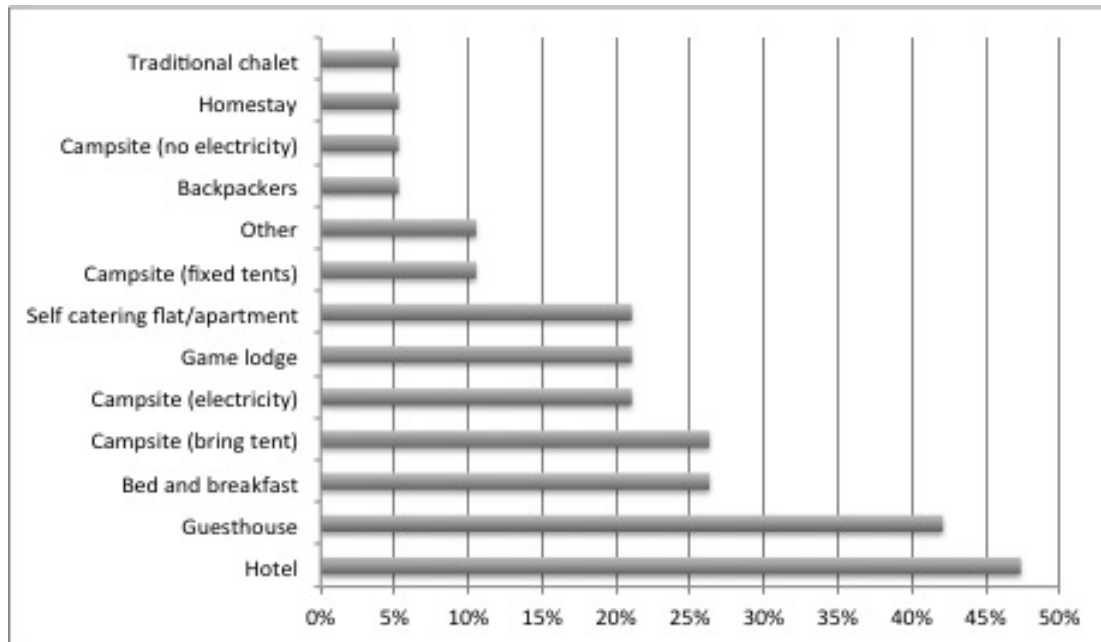
The study identified the following limitations:

- Accessing detailed financial information from tourism businesses was difficult and often involved support from BTO and naturally businesses were anxious about disseminating their financing data and supplier lists to potential competitors. As a result, it was agreed that all data would be aggregated and specific names and examples would not be provided;
- Financial information from tourism business has not been independently verified and therefore treated *prima facie*;
- Business that agreed to participate may have been more willing in order to present their efforts to spend more locally, which may have created a bias; and,
- Botswana tourists are under-represented in the sample size as few agreed to participate in the study. Tourists were generally approached in hotel foyers and asked to participate. Anecdotally, generally Botswana tourists were on business and may have had less time to participate, whereas international tourists may have been waiting for excursions to begin and therefore had more time to spare, increasing their willingness to participate.

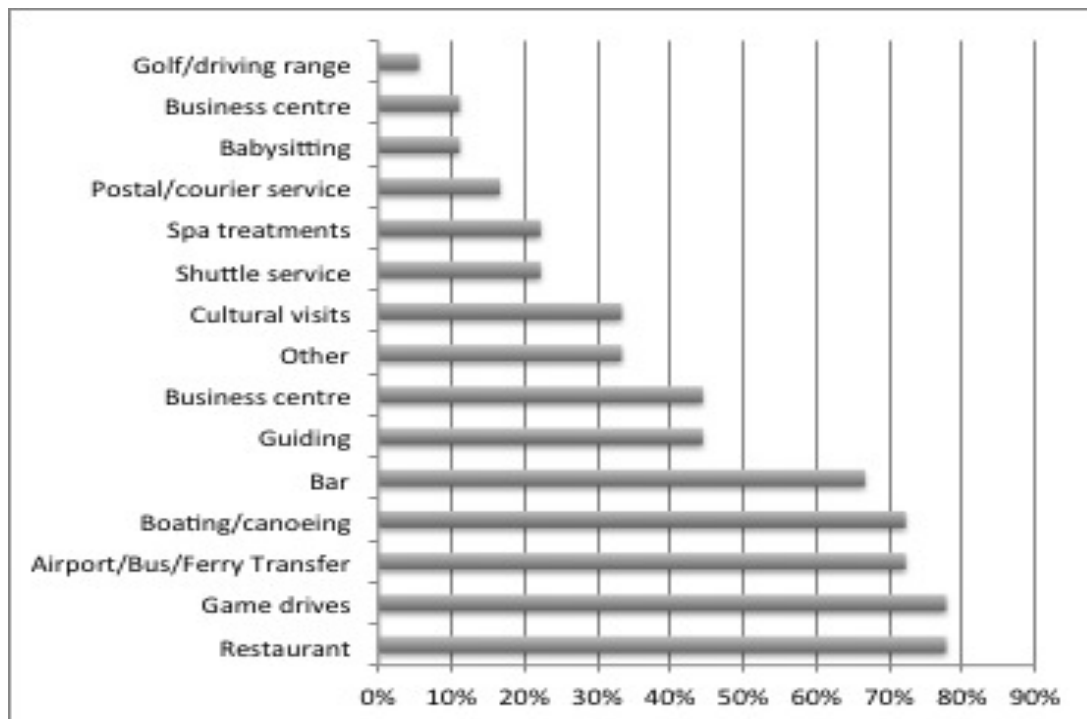


***Tourist expenditure and preferences in Kasane***

The figures below illustrate the profile of the accommodation sector sample interviewed in Kasane (n=19) and the types of services that are offered to guests at an additional charge (n=18).



**Figure 1: Type of accommodation available in Kasane (n=19)**



**Figure 2: Services offered to guests at an extra charge (n=18)**

Comparing the purpose of visit stated by tourists interviewed in Kasane, and also the perceptions of accommodation and tour operators of their client's purpose of visit, indicates that the accommodation and tourists samples are roughly compatible with each other. The majority of tourists within each sample were on holiday (63-76%), followed by business and MICE tourists (18-30%). This is compared with the national average in 2008<sup>2</sup> of a minority who were travelling on business (7%), a fifth on holiday (19%), and the majority of travellers visiting friends or relatives (VFR) (47%) (DoT, 2010). A similar analysis for length of stay, also indicates that the samples are largely compatible, with an average stay of between 2.5 and 3.4 days on average. This is also comparable with national figures, with an overall average length of stay of 5.3 nights for international arrivals in 2010 (DoT, 2010), and an average stay in accommodation of 2.2 nights in 2013 (DoT, 2013). In terms of originating markets, the tourists sampled largely reflected the international market share of South Africans, but there were major discrepancies in the number of Botswanans interviewed. The interviewers reported that when they approached Botswanans for interview, that they declined the opportunity to participate. This is a limitation of the tourist sample.

On average, the tourists interviewed spent the majority of their travel expenditure on accommodation (31%), followed by international airfare (28%), restaurants and meals (10%), shopping (9%) and activities (8%). In 2010, national estimates suggested that international tourists average spend per night was USD 40 (DoT, 2010)<sup>3</sup>

Tourists indicated the types of excursions that they had taken, while tour operators described the excursions on offer in Kasane. In all, 38% of the tourist sample reported taking an excursion (n=14), and 86% of these did both the boat cruise and a game drive (n=12). However, it is interesting that the tour operators offer a far greater range of excursions than those that were taken by the tourists in the sample.

In terms of the additional trips that tourists would have like to have included in their itineraries, those that were rated most frequently as "very important" included natural attractions (68%), guided excursions (40%), adventure activities (39%) and local festivals and events (34%) (See table below). It is notable that other characteristics were rated as "very important" by less than 30% of the sample included visits to local markets (27%), cultural and heritage attractions (27%), visits to places where crafts are produced (27%) and business opportunities (7%). The tourists also clearly indicated other "very important" trip characteristics, including restaurants with local food (35%), the opportunity to purchase 'fair trade' products (37%) and shopping facilities (32%).

---

<sup>2</sup> The most recent official figures available

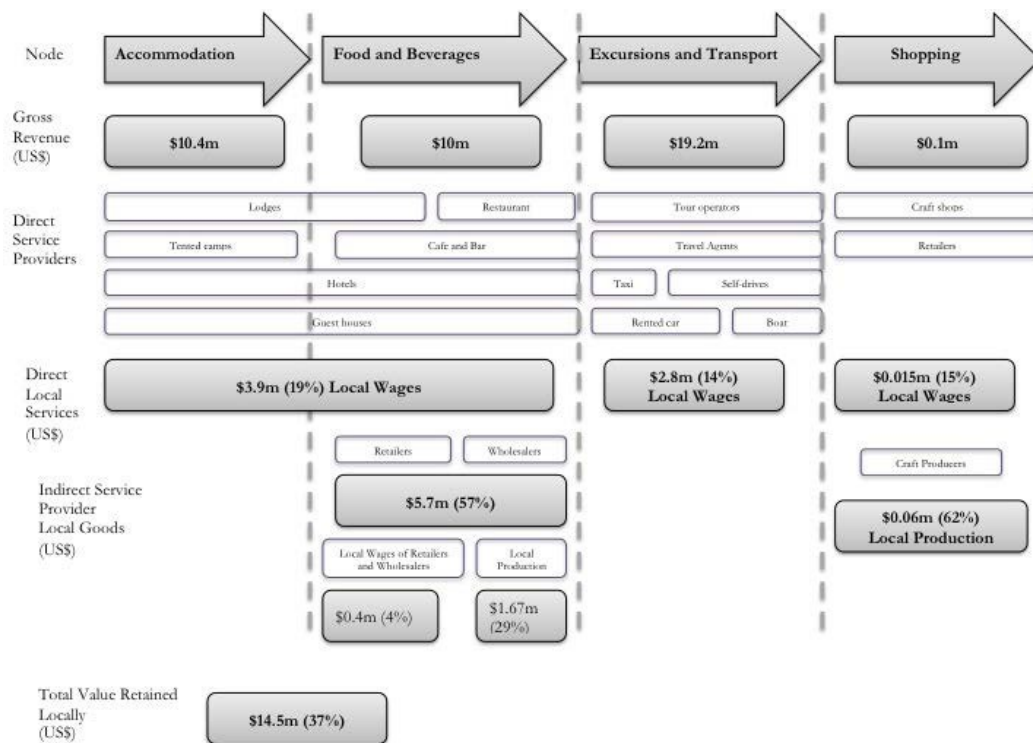
<sup>3</sup> The Kasane tourism sample did not give sufficiently detailed information to provide a comparison

**Table 3: Ideal components of a trip to Kasane (Top 12 rated ‘very important’)**

	Not important at all	Moderately important	Important	Very important	No comment
Natural attractions (e.g. parks, wildlife)	0.00% (0)	2.94% (1)	14.71% (5)	67.65% (23)	14.71% (5)
Clean and hygienic place	0.00% (0)	6.67% (2)	23.33% (7)	66.67% (20)	6.67% (2)
Safety and security	0.00% (0)	3.57% (1)	17.86% (5)	67.86% (19)	10.71% (3)
Good tourist transportation	3.13% (1)	15.63% (5)	18.75% (6)	56.25% (18)	6.25% (2)
Availability of fresh fruit and vegetables	0.00% (0)	12.50% (4)	43.75% (14)	40.63% (13)	6.25% (2)
Tourism information point	3.23% (1)	9.68% (3)	35.48% (11)	38.71% (12)	12.90% (4)
Guided excursions to local attractions	10.00% (3)	20.00% (6)	26.67% (8)	40.00% (12)	6.67% (2)
Restaurants with local food	0.00% (0)	6.45% (2)	51.61% (16)	35.48% (11)	6.45% (2)
Purchasing fair-trade products	10.00% (3)	23.33% (7)	23.33% (7)	36.67% (11)	6.67% (2)
Adventure activities	7.14% (2)	21.43% (6)	21.43% (6)	39.29% (11)	10.71% (3)
Shopping facilities	0.00% (0)	32.26% (10)	29.03% (9)	32.26% (10)	6.45% (2)
Experiencing local festivities or events	3.45% (1)	31.03% (9)	20.69% (6)	34.48% (10)	10.34% (3)

### *Tourism VCA in Kasane*

The results from 71 completed interviews in Kasane were aggregated with financial information was categorized into four nodes, namely accommodation, food and beverages (independent restaurants and accommodation restaurants), excursion and transport (tour operators, agencies, car rental companies, tour guides) and shopping (craft retailers). The responses were not aggregated into the VCA because the sample size (n=37) was not a sufficient sample size of total visitors to draw firm conclusions, as well as to avoid double counting with responses from tourism enterprises. The figure below illustrates the flow of revenue generated from the tourism industry into the local community in order to understand what proportion of value is retained within and leaks out of the local economy.



**Figure 3: Kasane tourism value chain**

The value chain demonstrates that the total gross revenue generation of the tourism industry within Kasane was USD 39.5 million in 2014. Excursions and transport generated nearly half of this revenue (USD19.2 m: 49%), followed by accommodation and food and beverages, at around USD10 m each (26%). Of the gross revenue accrued, USD 14.5 m (37%) remained in the local economy (meaning 50 km radius surrounding Kasane) in the form of local goods (production) and services (wages). However, if the definition of ‘local’ were to be expanded to focus on revenue retained within Botswana, the total direct local services would have increased to 88% spent on Botswanan wages, displaying that a significant level of employment retains either with Kasane residents, or Botswanans from outside Kasane.

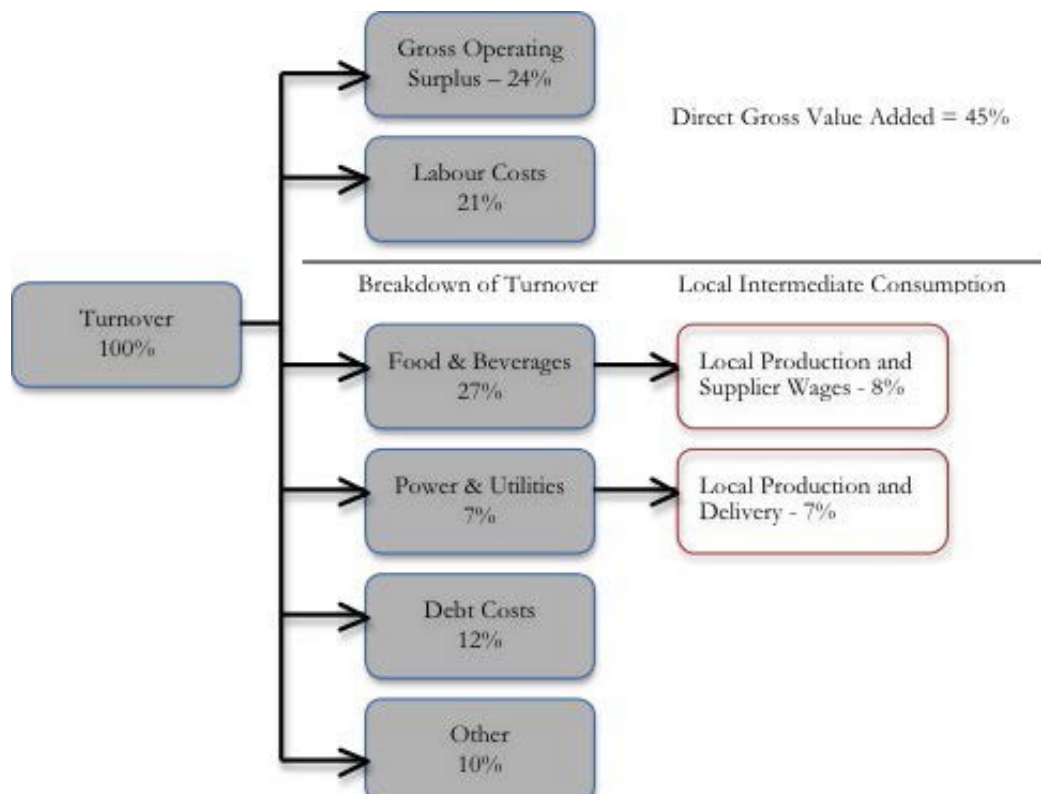
Restaurants and accommodation facilities with restaurants<sup>4</sup> (n=20) purchase virtually all of their food and beverage from local suppliers (n=12). However, only 29% of the stock ordered from local suppliers (n=12) originates from the local area. Furthermore, 62% of the value of all products sold by craft retail enterprises (n=6) comes from local production. However, this result seems to contradict the broad perception that the majority of craft products are imported from Zambia and Zimbabwe. Therefore, it is not clear which position

<sup>4</sup> Direct local services for ‘accommodation’ and ‘food and beverages’ are combined because staff working within hotels was not disaggregated by role. Therefore, they have been combined to avoid creating distorted figures between revenue and costs.

Innovation and Progress in Sustainable Tourism

is correct but would require independent auditing of craft products, which was outside the scope of this study.

Value Addition (VA) is a concept that is associated with a production activity. In this regard  $VA = X - CI$ , where X represents the total value of the output of an activity, and CI the, VA, which represents the value added. Tourism value added is broadly comprised of compensation to employees and gross operating surplus, the value of net primary income (VA). The figure below illustrates the direct gross value added of the accommodation sector (n=19) in Kasane. Based on the total turnover of the accommodation sector in Kasane 45% is retained as direct gross value added. In addition, a further 8% is indirectly retained locally from food and beverage suppliers as well as 7% from the local purchase of power and utilities. This above diagram broadly categorizes the major costs facing accommodation enterprises but does not provide a systematic breakdown of expenditure. However, the sample size represents 53% of the total number of accommodation businesses in Kasane and surrounding areas.



**Figure 4: Accommodation sector value chain in Kasane**

## **Analysis**

### ***Maximising local spend***

The results of the study indicate that retaining tourism expenditure in the local economy is important for the tourism sector generally. Detailed value chain mapping in Kasane established that 88% of tourism wages were paid to nationals. In addition, although virtually all of the food and beverages were purchased from Kasane-based suppliers, only 29% of that amount was produced in the Kasane area. One of the justifications used by accommodation enterprises was the lack of available local products as well as meeting the quality standards required for clients. This corresponds with the findings of Rylance & Spenceley (2013). The objective therefore would be to increase the numbers of locally provided products and experiences from SMMEs offered to tourists and tourism enterprises, and also so increase the proportion and value of expenditure locally.

In order to maximize the retention of expenditure in the local market, travelers need to be made aware of the different entertainment opportunities in the market. The results highlighted that 86% of tourist took a boat cruise or game drive, the two main tourism activities in Kasane. However, the relatively short average stay, between 2.5 and 3.4 days, meant that few tourists conducted any other activities. As the national destination marketing organization, BTO has been working to market Botswana as a destination, however they have limited resources to also market the individual destinations and activities (although they do so through the BTO website). This is also highlighted through the feedback from interviews, where marketing and making tourists aware of activities and businesses was highlighted as a major challenge for the tourism industry and a barrier for entry for SMMEs. This not only applies to the attraction of end consumers to businesses but also the linking of local suppliers to operators in a destination. The importance is marketing and support of national tourism boards was also one of key recommendations from an assessment of six pro-poor tourism case studies in southern Africa (Ashley & Roe, 2002).

### ***Increasing local ownership***

The main aim of the Tourism Policy (1990) is to “obtain, on a sustainable basis, the greatest possible net social and economic benefits for Botswana . . . from their tourism resources” and led to series of policy directives including to (1) substantially increase share of local ownership and management; (2) encourage high growth in entrepreneurship; and (e) encourage community participation and ownership. Several have suggested that the luxury tourism industry in some developing countries (including Botswana) is dominated by foreign multinationals resulting in few local linkages, high tourism leakages and employment of expatriates in high skill positions researchers (Britton, 1982; Kuslivan & Karamustafa, 2001; Mbaiwa, 2004, 2005, 2011). For example, Mbaiwa (2005) highlighted the challenge of poverty reduction from tourism in light of the predominately foreign-owned tourism

facilities in the Okavango Delta, the relatively low wages and presence within management of citizens, and the resultant repatriation of tourism revenue. By contrast, Spenceley and Snyman (2016)'s analysis of Mombo Camp and Okavango Wilderness Safaris in the Okavango Delta demonstrate that the luxury tourism sector in Botswana can, and does, contribute to the promotion of the local and national economy. Therefore, in Kasane, interventions to enhance the prevalence, quality and competitiveness of locally owned and managed producers and suppliers to the tourism sector will undoubtedly lead to lower leakages, and greater retention of tourism revenues in the local economy.

### ***Improving product quality***

Interviews with tourism establishments indicated that one additional challenge for the tourism value chain is the mismatch between product quality and customer expectations. As Botswana is currently attracting many high-end customers, and this misalignment is decreasing the potential spend directly into the local market and thereby decreasing linkages in the value chain. The lack of quality product can be attributed to two key issues: (1) skills development, and (2) product supply. In order for both of these issues to be overcome, there needs to be a sustainable tourism demand to consume these products.

As the demand for tourism increases in Botswana, tourism enterprises will require support to ensure they are able to provide competitive and high quality services, and a diversity of products and services required for leisure tourists and travellers. The needs and characteristics among tourists will be significantly between recreational tourists, those visiting friends and relatives, and people on business or MICE trips.

For example, with less recreational time available MICE tourists will require fast and efficient service, meaning lunchtime meals delivered with shorter waiting times, tourism activities available for pre-and post-working hours for short periods, as well as fast and continuous internet access and business centers with meeting and printing facilities. The objective could be to raise awareness within the tourism sector of the specific needs of different types of tourists and to ensure there is sufficient capacity and coordination to deliver them effectively. Whilst businesses might be interested to strengthen their linkages with local businesses the initial transaction costs could be high (Ashley, 2006). Notably, the range of excursions and entertainment offered currently includes a high proportion of nature-based activities, including in protected areas. There are fewer sport, health, and cultural options available. Furthermore, the range of shopping opportunities for tourists also appears to be limited. This gap in product delivery provides an opportunity for SMMEs.

Additionally, with an increase in competition, providers will need to increase the level of financial and quality management. Along with the development of awareness of customer needs, necessary management up-skilling will need to be looked at to ensure that products and services are delivered at a quality level and pricing that is competitive to external suppliers from neighboring regions.

### *Sustainably managing the impacts of increased tourism*

Ensuring the growth of tourism is managed in a sustainable way is critical for Botswana to continue to offer a pristine tourism product that incorporates world-class attractions. On the positive side, growth in tourism expenditure should lead to increased job creation and business development, but conversely more development will lead to increased land-use pressure from construction, natural resource use, as well as increased waste production (Snyman & Spenceley, 2012). Therefore, it is important to include sustainability at the center of any tourism development strategy.

### **Conclusions and implications**

The aim of this research was to describe and quantify the tourism value chain in Kasane, Botswana. The VCA demonstrated that the total gross revenue generation of the tourism industry within Kasane was USD 39.5 million in 2014. Excursions and transport generated nearly half of this revenue (USD19.2 m: 49%), followed by accommodation and food and beverages, at around USD10 m each (26%). Of the gross revenue accrued, USD 14.5 m (37%) remained in the local economy (meaning 50 km radius surrounding Kasane) in the form of local goods (production) and services (wages).

This research has demonstrated that in local employment in tourism establishments is the single greatest contributor to local beneficiation in Kasane's tourism sector. This is by contrast to similar research conducted in the Gambia in 2007, which identified craft markets and food supply as the greatest contributors (Mitchell and Faal 2007) but supports the results of 194 staff interviewed in six camps across southern Africa which determined that in rural areas, employment especially in high-end tourism businesses, can have a significant impact on local community beneficiation (Snyman, 2012). The findings support its conclusion that to increase the benefits to the poor it is necessary to increase the slice of the proportion of revenue to communities as well as the total size of the tourism economy itself (Mitchell & Faal 2007).

The research has identified several areas where interventions could strengthen the retention of tourism revenue from value chain linkages. These include maximizing local expenditure on out-of-pocket expenses (e.g. crafts, local tours and trips, food and drink), by increasing the number of locally owned and managed enterprises within the value chain, and by improving the quality of products so that higher values can be captured. These actions should be embedded within a strategy framework to manage the environmental and social impacts of increased tourism, in order to grow Kasane as a sustainable tourism destination.

Given its strategic geographical location at the confluence of the Botswanan, Namibian, Zambian and Zimbabwean borders, and in relation to the KAZA TFCA, there is scope for



Kasane to emerge as a key tourism hub – for both nature-based tourism and MICE. Opportunities for local SMMEs to increase their capture and retention of tourist expenditure are likely to be found in expanding the diversity and increasing the quality of local craft (as currently shopping opportunities are limited in relation to the demand), and by diversifying excursions to include more cultural and heritage attractions. However, more market research is needed to establish the supply and demand for local tourism products in the country, and to provide guidance and support on how they can promote their services, including within diversified tourism packages. Ensuring that the destination evolves in line with a sustainable development agenda that is promoted in Botswana, will be key to the longevity of the destination.

## References

- Adiyia, B, Stoffelen, C, Jennes, B, Vanneste, D & Ahebwa, D., 2015. Analysing governance in tourism value chains to reshape the tourist bubble in developing countries: The case of cultural tourism in Uganda. *Journal of Ecotourism*, (December), 1–17.
- Anon, 2015. Kavango Zambezi Transfrontier Conservation Area, Master Integrated Development Plan 2015-2020, Draft Report.
- Ashley, C., 2006. Facilitating pro-poor tourism with the private sector. Lessons learned from ‘Pro-Poor Tourism Pilots in Southern Africa’, Pro-Poor Tourism Partnership, ODI.
- Ashley, C. & Roe, D., 2002. Making tourism work for the poor: Strategies and challenges in southern Africa. *Development Southern Africa* (19) 61–82.
- Ashley, C. & Haysom, G, 2008. The development impacts of tourism supply chains: Increasing impact on poverty and decreasing our ignorance, In Spenceley, A, (Eds.), *Responsible tourism: Critical issues for conservation and development*. London: UK Earthscan.
- Ashley, C. Haysom, G., Poutlney, C., McNab, D & Harris, A, 2005. How To . . . ? Tips and tools for South African tourism companies on local procurement, products and partnerships. Brief 1: Boosting local procurement from local businesses, ODI and Business Linkages in Tourism.
- Ashley, C., Mitchell, J., & Spenceley, A, 2009. Tourism-led poverty reduction program: Opportunity study guidelines, International Trade Centre
- Ashley, C., Roe, D. & Goodwin, H, 2001. Pro-poor tourism strategies: making tourism work for the poor: a review of experience. Pro-Poor Tourism report No. 1, April 2001. ODI/IIED/CRT. London: The Russell Press.
- Bah, A. & Goodwin, H, 2003. Improving access for the informal sector to tourism in The Gambia, Pro-poor tourism working paper No. 15, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas

---

Development Institute.

Bennett, O., Roe, D. & Ashley, C, 1999. Sustainable tourism and poverty elimination: a report for the Department for International Development. London: Deloitte and Touche, IIED and ODI.

Bennett, Nathan James, and Philip Dearden. 2014. “Why Local People Do Not Support Conservation: Community Perceptions of Marine Protected Area Livelihood Impacts, Governance and Management in Thailand.” *Marine Policy* 44: 107–16.

Bolwig, S., Ponte, S., du Toit, A., Riisgaard, L, & Niels, H, 2008. Integrating poverty, gender and environmental concerns into value chain analysis: a conceptual framework and lessons for action research, DIS working paper 16.  
<http://www.econstor.eu/handle/10419/44670>. Accessed 30 December 2015.

Botswana Tourism Board, undated a. Botswana Ecotourism Certification System: Accommodation standards.

Botswana Tourism Board, undated b. Botswana Ecotourism Certification System: Ecotour standards

Braman, S. & Amazonia, F. A, 2001. Practical strategies for pro-poor tourism. *Tropic Ecological Adventures - Ecuador*, Pro-poor tourism working paper No. 5, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute

Britton, S.G. (1982). The political economy of tourism in the third world. *Annals of Tourism Research*, 9 (3), 331-358

Chen, S. & Ravallion, M, 2008. The developing world is poorer than we thought, but no less successful in the fight against poverty. The World Bank Development Research Group. Washington D. C.: World Bank Publications.

Department of Tourism (DoT), 2010. Tourism statistics 2006-2010, DoT, Ministry of Environment, Wildlife and Tourism.

Department of Tourism (DoT), 2013. Accommodation statistics highlights, DoT, Ministry of Environment, Wildlife and Tourism.

Freeman, M, 2005. Value chain approach to poverty reduction: Equitable growth in today's global economy. USAID (United States Agency for International Development)

- 
- German Technical Cooperation [GTZ], 2007. Value links manual: The methodology of value chain promotion. First edition. GTZ, Eschborn, Germany.
- Houghton, J. & Khandker, S., 2009. Handbook on Poverty and Inequality. Washington D. C.: World Bank Publications.
- Hawkins, D. & Mann, S., 2007. The World Bank's role in tourism development, *Annals of Tourism Research*, 34 (2), 348-363.
- Holland, J., Dixey, L. & Burian, M., 2003. Tourism in poor rural areas: Diversifying the product and expanding the benefits in rural Uganda and The Czech Republic, Pro-poor tourism working paper No. 12, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute
- Humphrey, J., 2005. Shaping value chains for development: Global value chains in agribusiness, GTZ (German Technical Cooperation), Eschborn, Germany.
- Joosten, F., Vellema, S., Stallen, M., Boshma, S. & Delnoye, R., 2006. Value chain for pro-poor development (inception report). Agro Keten Kennis, Agriterre, Wageningen, The Netherlands.
- Kaplinsky, R. & Morris, M., 2001. A Handbook for Value Chain Research. Institute of Development Studies, University of Sussex and School of Development Studies, University of Natal.
- Kusluvan, S. and Karamustafa, K. (2001). Multinational hotel development in developing countries: an exploratory analysis of critical policy issues. *International Journal of Tourism Research*, 3, 179-197. DOI: 10.1002/jtr.293.
- Mahony, K. & Van Zyl, J., 2001. Practical strategies for pro-poor tourism. Case studies of Makuleke and Manyeleti tourism initiatives: South Africa, Pro-poor tourism working paper No. 2, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute.
- Mbaiwa, J. (2004). The success and sustainability of community-based natural resource management in the Okavango Delta, Botswana. *South African Geographical Journal*, 86(1), 44-53. doi: 10.1080/03736245.2004.9713807

- Mbaiwa, J. (2011). Hotel companies, poverty and sustainable tourism in the Okavango Delta, Botswana. *World Journal of Entrepreneurship, Management and Sustainable Development*, 7(1), 47-58.
- Mbaiwa, J.E. (2005). Enclave tourism and its socio-economic impacts in the Okavango Delta, Botswana. *Tourism Management*, 26(2), 157-172. doi: [10.1016/j.tourman.2003.11.005](https://doi.org/10.1016/j.tourman.2003.11.005)
- McHugo, C. & MacGregor, J, undated. Botswana Ecotourism Best Practices Manual, Botswana Tourism Board.
- McNab, D, 2005. Impacts of pro-poor tourism facilitation with South African Corporates: Monitoring and evaluation report of the pro-poor tourism pilots project. PPT Working Paper, September 2005.
- Meyer, D, 2010. Pro-Poor Tourism: Can tourism contribute to poverty reduction in Less Economically Developed Countries? In S. Cole & N. Morgan (Eds.). *Tourism and Inequality: Problems and prospects*, London: CABI.
- Ministry of Land and Housing (MLH), 2014. Kasane – Kazungula redevelopment plan, Final, August 2014, MLH, Department of Town and Regional planning
- Mitchell, J, 2012. Value chain approaches to assessing the impact of tourism on low- income households in developing countries, *Journal of Sustainable Tourism*, 20 (3), 457-475.
- Mitchell, J. & Ashley, C, 2010. *Tourism and poverty reduction: Pathways to prosperity*, London: UK, Earthscan.
- Mitchell, J. & Faal, J., 2007. Holiday package tourism and the poor in the Gambia. *Development Southern Africa*, 24(3), 1–30.
- Neuman, W. L, 2006. *Social research methods: Qualitative and quantitative approaches*, Pearson International Edition, 6<sup>th</sup> Edition.
- Nicanor, N, 2001. Practical strategies for pro-poor tourism: NACOBTA the Namibian case study, Pro-poor tourism working paper No. 4, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute.
- Poultney, C. and Spenceley, A, 2001. Practical strategies for pro-poor tourism, Wilderness Safaris South Africa: Rocktail Bay and Ndumu Lodge, Pro-Poor tourism working paper No. 1, ODI/CRT/IIED, April 2001.
- Renard, Y, 2001. Practical strategies for pro-poor tourism: a case study of the St.

- 
- Lucia Heritage Tourism Programme, Pro-poor tourism working paper No. 7, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute.
- Rogerson, C, 2012. Tourism-agriculture linkages in rural South Africa: evidence from the accommodation sector, *Journal of Sustainable Tourism*, 20(3), 477-495.
- Rylance, A., & Spenceley, A, 2013. Living outside the fence: Opportunities for neighbouring communities to supply products and services to the Sabi Sand Game Reserve, South Africa, *African Journal for Physical, Health Educational, Recreation and Dance*, 19 (2), 294-308.
- Sandbrook, C. 2008, Bwindi Advanced market Gardener's Association (AMAGRA): a first year progress report, April, 2008.
- Saville, N, 2001. Practical strategies for pro-poor tourism. Case study of pro-poor tourism and SNV in Humla District, West Nepal, Pro-poor tourism working paper No. 3, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute.
- Scheyvens, Regina. 2009. Pro-Poor Tourism: Is There Value Beyond the Rhetoric? *Tourism Recreation Research* 34(2): 191–96.
- Scheyvens, R, 2011. *Tourism and Poverty*. New York: Routledge.
- Sen, A, 1999. *Development as Freedom*. Oxford: Oxford University Press.
- Snyman, S.L., 2012. The role of tourism employment in poverty reduction and community perceptions of conservation and tourism in southern Africa. *Journal of Sustainable Tourism*, 20(3), 395–416.
- Snyman, S. & Spenceley, A., 2012. Key Sustainable Tourism Mechanisms for Poverty Reduction and Local Socioeconomic Development in Africa. *Africa Insight*, 42(2), 76–93.
- Spenceley, A. & Meyer, D, 2016. *Tourism and Poverty Reduction: Principles and impacts in developing countries*, in Spenceley, A. and Meyer, D, (Eds.), *Tourism and Poverty Reduction: Principles and impacts in developing countries*. London and New York: Routledge.
- Spenceley, A., Habyalimana, S., Tusabe, R., & Mariza, D, 2010. Benefits to the poor from gorilla tourism in Rwanda, *Development Southern Africa*, 27 (5), 647- 678.
- Spenceley, A. & Seif, J, 2003. Strategies, impacts and costs of pro-poor tourism approaches in South Africa, Pro-poor tourism working paper No. 11, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas

---

Development Institute.

Spenceley, A. and Snyman, S. (2016) Can a wildlife tourism company influence conservation and the development of tourism in a specific destination?

Tourism and Hospitality Research, 0 (0), 1-16

United Nations World Tourism Organization (UNWTO), 2015. Tourism Highlights, 2015 Edition, <http://www.e-unwto.org/doi/pdf/10.18111/9789284416899>.

Accessed 13 September 2016.

Venter, L, 2015. Vic Falls – investment is growing, Daily Travel & Meetings

Buyer. <http://www.tam.co.za/Home/Detail?articleId=49655>. Accessed 25 May 2015.

Vermeulen, S., Woodhill, J., Proctor, F. J., and Delnoye, R, 2006. Chain –wide learning for inclusive agrifood market development. A guide to multi- stakeholder processes for linking small-scale producers to modern markets. IIED (International Institute for Environment and Development), London, And Wageningen University and Research Centre, Wageningen, The Netherlands.

Wilkinson, B, 2012. Early-Adopter Spotlight: Botswana’s Okavango Delta Ramsar Site, 30 July 2012. <http://www.gstcouncil.org/blog/896/early-adopter-spotlight-botswanas-okavango-delta-ramsar-site/>. Accessed 30 December 2015.

Williams, E., White, A. & Spenceley, A, 2001. UCOTA - The Uganda Community Tourism Association: a comparison with NACOBTA, Pro-poor tourism working paper No. 5, Centre for Responsible Tourism, International Institute for Environment and Development, and the Overseas Development Institute.

World Economic Forum, 2015. Travel and Tourism Competitiveness Report,

2015, <http://reports.weforum.org/travel-and-tourism-competitiveness-report-2015/economies/#economy=BWA> and [http://www3.weforum.org/docs/TT15/WEF\\_Global\\_Travel&Tourism\\_Report\\_2015.pdf](http://www3.weforum.org/docs/TT15/WEF_Global_Travel&Tourism_Report_2015.pdf) Accessed 29 May 2015.

World Travel and Tourism Council (WTTC), 2015. Travel & Tourism: Economic impact 2015, Botswana. <http://www.wttc.org/->

[/media/files/reports/economic%20impact%20research/countries%202015/botswana2015.pdf](http://media/files/reports/economic%20impact%20research/countries%202015/botswana2015.pdf) Accessed 27 May 2015.

Wroughton, L, 2008. More people living below poverty line – World Bank, Reuters, Tuesday Aug 26,

2008, <http://www.reuters.com/article/2008/08/26/idUSN26384266> Accessed

28 December 2011.

xe.com, 2015. USD/BWP exchange rate,

2015, <http://www.xe.com/currencycharts/?from=USD&to=BWP&view=10Y>

Accessed 01 January 2016.

---

## Residents' perceptions of sustainable tourism in Mauritius

**Bhavish Jugurnath & Roucheet Bissessur & Youvish Ramjattan & Devendra Bissessur**

*University of Mauritius, Mauritius, [b.jugurnath@uom.ac.mu](mailto:b.jugurnath@uom.ac.mu)*

*University of Mauritius, Mauritius, [roucheet@gmail.com](mailto:roucheet@gmail.com)*

*University of Mauritius, Mauritius*

*Human Resource Development Council, Mauritius*

**Key words:** perception, economical aspect, socio-cultural, environmental aspect, chi-square test

### Abstract

This paper examines residents' perception on sustainable tourism in Mauritius. 500 surveys were elaborated and circulated to the respondents. This research examines the connections between the demographic variables gender, age, instruction level and salary and the economic, socio-cultural and environmental impressions of sustainable tourism. Reliability test, and Chi-square tests are carried out by utilizing SPSS 23 to assess the relationship between the factors Gender, Age, Education, Income and Economic, Socio-social and Environmental perceptions of sustainable tourism. Empirical evidence demonstrates that age has a positive association with economic, socio-cultural and environmental perceptions of sustainable tourism, which goes in line with the investigation of Zhao (2014) and contrary to Sharma and Dyer (2009). Gender has a positive and significant association with the socio-cultural perception of sustainable tourism and income shows a positive association with the environmental perception of sustainable tourism, which is in line with Zhao (2014) and Dibra and Oelfke (2013) and contradictory with the study of Sharma and Dyer (2009).

### Introduction

Tourism proves to be one of the key sectors that drives the areas' financial development. The visitors' expenses on settlement, nourishment, shopping and leisure, among others. Consequently, the methods for successfully gathering, sorting out, breaking down and applying measurable information from visitors have been of essential significance to tourism experts, policy makers and specialists. Such tourism-related insights would be of awesome use to all individuals required in arranging future tourism improvements at key, strategic or



operational levels (Law, 2004). Numerous national and local governments utilize tourism as an instrument to help the advancement and recovery of their economies as it gives numerous chances to work, wage and income (Garrod, 2004). Mbaiwa (2011) argued that the tourism sector has turned out to be a standout among the most successful sectors on the planet and one on the ascent in late decades. At first introduced as a local industry, the tourism sector has since developed into a global industry. Tourism can meet individuals' increasing material and social needs. It can enhance individuals' quality of life, expand their possibilities, ameliorate their insight, and cause social improvement.

Objectives of the Study:

- To scrutinize residents' perception towards sustainable tourism
- To evaluate how Mauritians perceive economical aspect of sustainable tourism
- To assess how Mauritians view environmental aspect of sustainable tourism
- To figure out how Mauritians perceive socio-cultural aspect of sustainable tourism
- To recommend for a policy agenda towards sustainable tourism

The remainder of this paper is as follows section two the literature review, section three the methodology. Section four is the findings and results of the study and ultimately providing a conclusion and recommendation in section five.

### **Literature Review Sustainable tourism**

Butler (1993) defined sustainable tourism as “tourism which is developed and maintained in such a manner and scale that it remains viable in the long run and does not degrade the environment in which it exists to such an extent that it prohibits the successful development of other activities”. Further Tao (2005) laid emphasis on three vital components of sustainable which includes quality, continuity and balance. Qualitatively, sustainable tourism provides a pleasurable experience to guests as well as enhancing the personal satisfaction of the host nation and safeguarding the local environment. In terms of continuity, sustainable tourism guarantees the continuum of the natural resources and local culture. Balance refers to adjusting the requirements of the tourism business, supporters of nature, and the locals. As such sustainable tourism promotes shared objectives and participation among guests, the host group, and the destination.

UNEP & UNWTO (2005) stated that in order to ensure the viability of sustainable tourism in the long run, it is essential to maintain an equilibrium between the three indicators of sustainability (economic, socio-cultural and environmental). It is therefore primordial to sustain a high degree of tourist satisfaction, have a strong awareness of sustainability and promote sustainable tourism.

---

### ***Economic aspect of sustainable tourism***

Economic sustainability is often synonymous to the establishment of long-term economic activities, the provision of socio-economic advantages such as employment, new possibilities of earning a proper salary and social assistance to local communities. Sharpley and Naidoo (2010) identified tourism as one of the factors enhancing the economic development of Mauritius.

### ***Socio-cultural aspect of sustainable tourism***

The socio-cultural sustainability of the native country goes hand to hand with respecting the native culture and traditions. Furthermore, socio-cultural sustainability can be another essential facet of sustainable tourism. This factor deals mainly with safeguarding the socio-cultural legitimacy of the welcoming nation, up-keeping the cultural legacy and traditions and promotes social comprehension and resilience between different cultures. Prayag, Dookhony-Ramphul and Maryeven, (2010) cites Wilkinson(1989), Briguglio & Briguglio(1996) and Dyer et al.(2007) by highlighting the positive socio-cultural effects of tourism such as employment, upgraded standard of living, local handicraft promotion and awareness of the environment, without overlooking the socio-cultural degradation which can be observed in the long run such as traffic congestion, noise pollution, crime and loss of cultural identity (Wilkinson(1989), Ryan et al.(1998) and Dyer et al., (2007) cited by Prayag, Dookhony-Ramphul and Maryeven, (2010)).

### ***Environmental aspect of sustainable tourism***

Environmental sustainability is another well thought aspect of sustainable tourism and is synonymous to efficient utilization of existing natural resources, up-keeping the existing and endemic fauna and flora as well as mitigating the effects of economic activities on the existing ecosystem. In case of the environment and tropical islands, tourism has a smaller impact than other forms of development but there are various negative ecological impacts which can be identified, the most recurrent ones being coral change, beach sand loss and contamination of coastal waters (Wilkinson, 1989). Sobhee (2006) identified tourism as being one of the main reasons for coastal degradation. In Mauritius, the Environment Protection Act came into action as from September 2002 to strengthen the overall framework for the safekeeping of our natural resources (Prayag, Dookhony-Ramphul and Maryeven, 2010).

### ***Demographic data***

Mathieson and Wall (1982) argued that tourists views on, motivations for, and outlooks towards a certain place of interest may vary among those having different age, education, income, residence and family situation. As such, it is primordial for us to segment the perceptions of residents' on sustainable tourism in a similar fashion, which is in terms of

---

demographic variables such as age, education, income and gender.

The study conducted by Sharma and Dyer (2009) examined the distinctions in resident's perception of tourism development impacts by grouping them as per their residence, sexual orientation, age, income level, ethnicity, occupation and education level by administering a survey to residents from residents of the Sunshine Coast region. The main findings of the study was that those living in the littoral, where high tourist activity was prominent, shared the opinion that tourism has a high and positive impact as compared to those living inland, who argued that tourism had positive social effects. Those living in the suburbs had a positive outlook of the economic impact of tourism. Significant differences were observed when considering tourism impacts and level of income, ethnicity and occupation. On the other hand, there were no significant divergences while analyzing perception of tourism impacts and age, gender and education level.

Husbands (1989) investigated social status and perception of tourism in Zambia by conducting a survey in Livingstone. The study showed that the main differences in perception of tourism were related to the social status of the respondents. Husbands (1989) also found out that perception of tourism is strongly related with the level of development in a certain area. The author also stated that the focus should not be on individual reactions or on individual sociodemographic factors, without an appreciation of the social structure as it darkens the meaning that locals refer to tourism in their groups.

### ***Perception of sustainable tourism***

Teye, Sönmez and Sirakaya (2002) analysed the local inhabitants' attitudes towards tourism development in Ghana. Seven factors, including social exchange with visitors, cultural well-being, adverse daily life intrusion, economic investments, sexual restrictions and opinions on crowding were derived by performing a factor analysis. The research findings portray that tourism development does not fulfil the hopes of locals and that those implicated in local businesses do not share a positive opinion on tourism. Statistics show that tourist arrival in Ghana has increased from 85000 in 1985 to 325000 in 1997 as well as a subsequent increase in revenue related to tourism from \$19.52 to \$266 million, accounting for more than 16% of profits from foreign exchange (High Street Journal, 1998).

Choi and Murray (2010) investigated on the local inhabitant attitudes towards sustainable community tourism in Texas City and used social exchange theory to investigate the variables associated in analysing the outlook of locals with respect to tourism development and their views with respect to the acceptance of sustainable tourism. 430 questionnaires, which were based upon tourism in Texas were compiled and completed and a structural equation model was used to assess the effects of different sustainability indicators on the behaviour of the respondents with respect to the future of the tourism sector and to check the interactions between the different variables.

---

The results show that the variables long-term planning, full community and environmental sustainability is strongly related with support for tourism and with the effects of tourism.

Cottrell et al. (2013) studied resident satisfaction with sustainable tourism: The case of Franken Wald Nature Park, Germany and investigated the effects of four sustainability indicators (environmental, economic, socio-cultural and institutional) when considering the satisfaction of inhabitants with sustainable tourism. The records were received from those residing near Franken Wald Nature Park (FNP) in Germany and each dimension was assigned between three to eight survey questions which were structured as a five point Likert scale to measure residents' satisfaction. This research demonstrated that the economic aspect had the strongest significance with respect to residents' opinion of sustainable tourism, followed by institutional, social and environmental indicators and recommended that all four indicators should not be excluded when considering sustainable tourism development.

Dibra and Oelfke (2013) scrutinised the student perception and attitudes towards sustainable tourism development in Albania by accessing student's perceptions regarding sustainable tourism and fathom how tourism affects the three main indicators of sustainability and stated that it has become a requirement to carefully regulate development in tourism in a bid to achieve a more foreseeable future and act as an impetus for the county's sustainable enhancement. Likert scale was used to get a measure of students' perception of sustainable tourism and a questionnaire was elaborated and distributed to students of Sustainable tourism Management at the University of Shkodra "Luigi Gurakuqi". The authors conducted a descriptive data analysis to investigate the costs involved as well as the advantages of tourism and welcome new suggestions with respect to promoting sustainable tourism in Albania. Results of the main component analysis demonstrated that tourism has been more beneficial than the costs included in its development and that tourism had numerous economic benefits, including new job and business prospects, improvement in local infrastructure, increase in government income. However the results also showed that tourism also has adverse effects on the environment. The students' recommendations intend to maximize the benefits of tourism as well as reducing the negative effects of tourism such that tourism development is being carried out in a more sustainable manner.

Zhao (2014) studied the perception of tourists on sustainable tourism development of Tianzhu Mountain in Anhui province, China. The research discussed visitors' views on the three main indicators of sustainable tourism (economic, environmental and socio-cultural) by considering their demographic data. The paper showed that education and income had a strong relationship with all the three aspects of sustainable tourism and that age and occupation share a similar relationship with the environmental and socio-cultural aspect of sustainable tourism respectively.

## **Methodology**

Saunders et al. (2003) defined research as something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge and this section mainly analyses the methodology used to probe into the vast subject pertaining to peoples' perception of sustainable tourism in Mauritius. It offers a framework about how the research has been carried out.

### ***Research question***

What are residents' perceptions on sustainable tourism in Mauritius? Other research questions are:

- Does age affect peoples' perception towards sustainable tourism?
- Do people of the same gender share the same perception of sustainable tourism?
- Does education level affect people views on sustainable tourism?
- Do people of different level of income share the same perception of sustainable tourism?

### Hypothesis formulation

H1: Age is positively correlated with the economic perception of sustainable tourism

H2: Age is positively correlated with the socio-cultural perception of sustainable tourism

H3: Age is positively correlated with the environmental perception of sustainable tourism  
H4: Gender is positively correlated with the economic perception of sustainable tourism

H5: Gender is positively correlated with the Socio-cultural perception of sustainable tourism

H6: Gender is positively correlated with the environmental perception of sustainable tourism

H7: Level of education is positively correlated with the economic perception of sustainable tourism

H8: Level of education is positively correlated with the socio-cultural perception of sustainable tourism

H9: Level of education is positively correlated with the environmental perception of sustainable tourism

H10: Income is positively correlated with the economic perception of sustainable

tourism H11: Income is positively correlated with the socio-cultural perception of sustainable tourism H12: Income is positively correlated with the environmental perception of sustainable tourism

## **Research Design**

A research design is the fundamental arrangement that guides data collection and scrutinizes stages for the study and as per Churchill and Iacobacci (2005) it is the “framework or plan for a study used as a guide in collecting and analysing”. For this research the qualitative research has been employed which is also known as phenomenology that is grounded in the interpretive social science, is inductive in nature and is based on textual representations of the phenomenon under study.

### ***Data Sources***

Primary data and secondary data will be used in this study. Primary data are the original findings or first-hand information gathered in the research process. Observations, focus groups, interviews and surveys usually represent the sources that yield primary data. Secondary data are data that are acquired from earlier published materials such as books, magazines, newspapers and academic journals.

### ***Research Instrument***

A questionnaire was designed to collect primary data from local inhabitants and tourists in Mauritius. The questions were constructed in view of answering the research question. The questionnaire consists of 27 questions which have been set to acquire quantitative and qualitative data from the respondents. The questionnaire comprised of four sections that will be as follows:

#### ***Section A***

This section shows the demographics of the respondent and consists of a set of 4 multiple choice questions for instance gender, age, education level and income.

#### ***Section B***

This part comprises of a set of 8 questions related to the peoples’ perception towards the economical aspect of sustainable tourism.

#### ***Section C***

To investigate peoples’ perception towards the socio-cultural aspect of sustainable tourism, a set of 7 questions will be set up.

#### ***Section D***

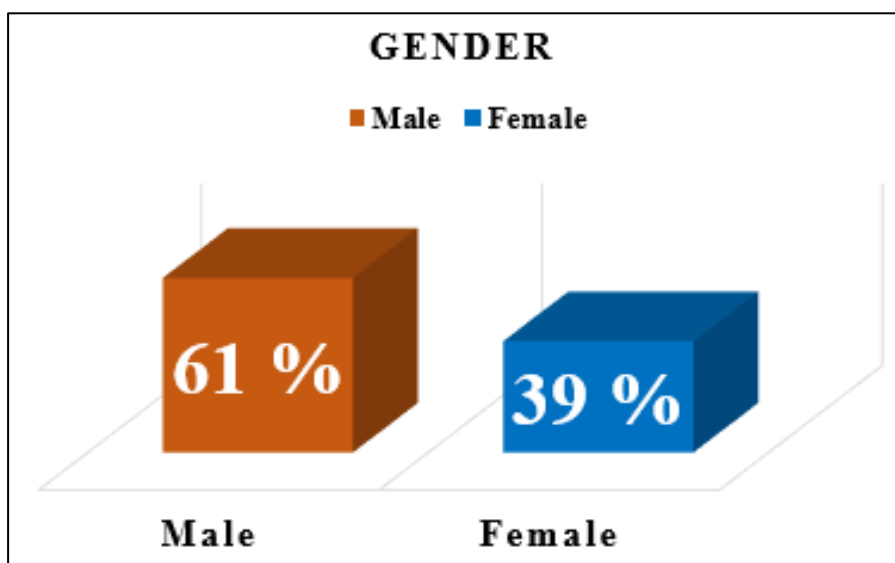
This section is made up of 8 questions which relate to peoples’ perception towards the

environmental aspect of sustainable tourism.

### Analysis

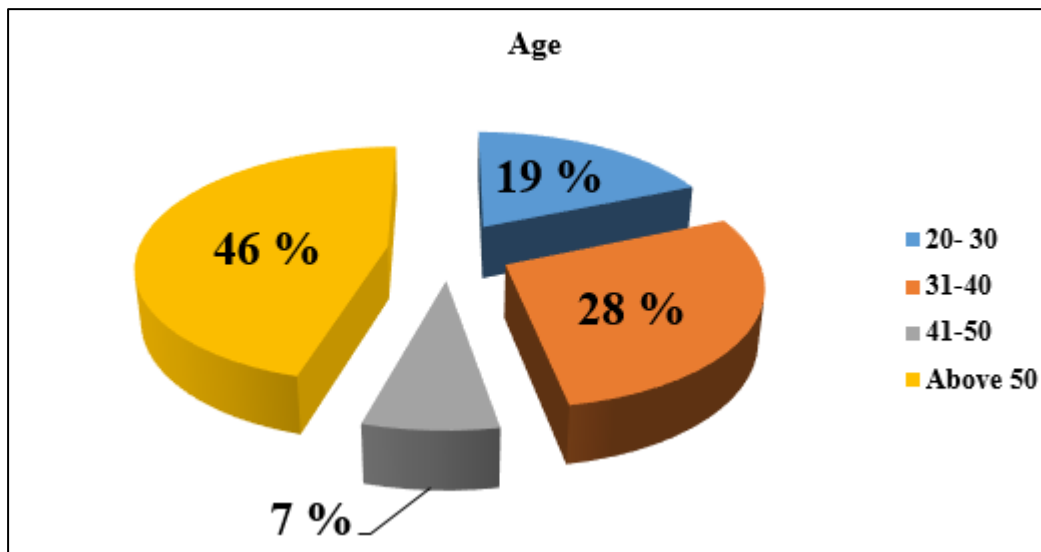
IBM SPSS 23 was used to perform the analysis consisting of the demographic test, reliability tests and Chi-square test. This segment shows the interpretation of the results produced from the usage of the significant statistical analysis. Questionnaires were distributed among the local inhabitants and tourists in Mauritius. Out of 500 survey distributed 316 responses were collected which represent a response rate of 63.2 %.

From the 316 responses collected, 193 were male while 123 were female amounting to a percentage of 39 % and 61 % respectively.



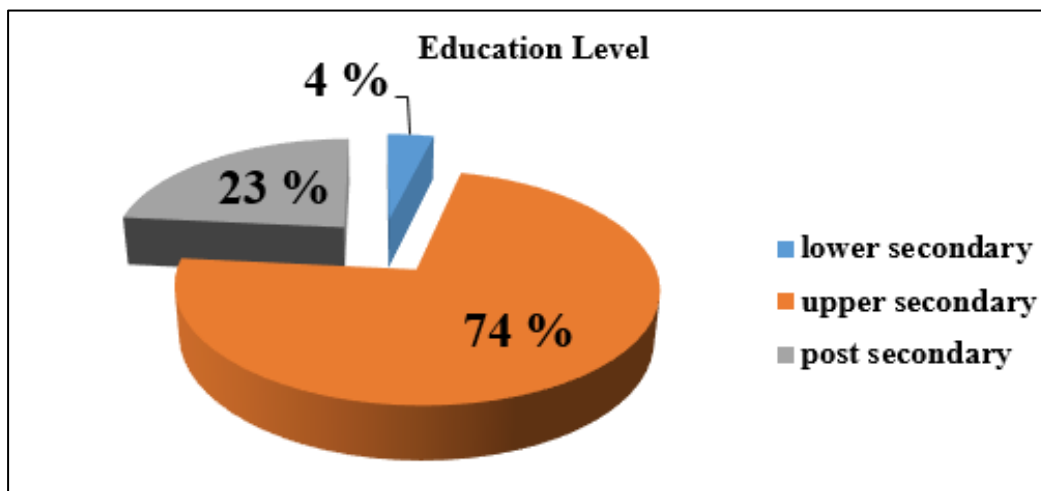
**Respondent Profile Figure 1: Gender**

Most of the respondents had an age which was larger than 50 years with a percentage of 46 % followed by the age group 31-40 with a percentage of 28 % and the age group 20-30 with a percentage of 19 % as well as the age group 41-50 with a percentage of 7 %.



**Figure 2: Age**

Figure 3, below shows that majority of the respondent has an upper secondary education with a percentage of (74%) following a 23% of post-secondary education and the remaining 4 % has a lower secondary education level.



**Figure 3: Education Level**

From 316 responses 229 respondent has an income from Rs 10,000 to Rs 20,000 per month, 56 has an income in the range from Rs 20,000 to Rs 30,000 , 19 people has an income above Rs 30,000 and a minority of 12 people has an income below Rs 10,000, see Figure 4.



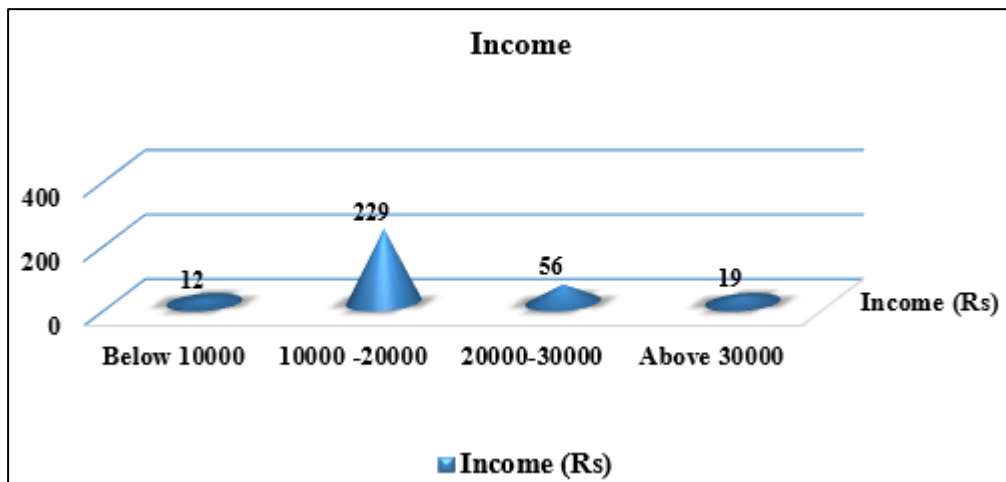


Figure 4: Income

**Reliability Test**

Cronbach’s alpha was used to evaluate the reliability, consistency and whether or not the collected data sample are interrelated (Hayes, 1998). Nunnaly (1978) stated that an alpha coefficient of 0.7 or larger indicates that the data collected is reliable and consistent. From table 1, it can be deduced that the collected sample of data is reliable.

Table 1: Reliability Test

Cronbach’s Alpha	Number of Items
0.715	23

**Chi-square test**

The chi-square test of independence was used to check the relationship between the demographic variables; age, gender, education and income and the three indicators of sustainable tourism; economy, socio-cultural and environmental.

Table 2: Chi-square test, Age

Age	Question	Sig.	Chi Square equation
1	Does tourism promote the creation of new jobs and fosters new businesses?	0.008	$\chi^2 (3) = 11.814, p = 0.008$
2	Does tourism attract foreign investment?	0.024	$\chi^2 (3) = 9.411, p = 0.024$
3	Does tourist expenditure boost the local economy?	0.003	$\chi^2 (3) = 14.068, p = 0.003$

4	Does tourism motivate investment in public infrastructure?	0.028	$\chi^2 (3) = 9.071, p = 0.028$
5	Is government revenue (tax) increased by development in tourism?	0.000	$\chi^2 (3) = 19.637, p = 0.000$
6	Do you consider that working in the tourism sector is less remunerative?	0.474	$\chi^2 (3) = 2.506, p = 0.474$
7	Has tourism caused a surge in the price of land and building in touristic areas?	0.029	$\chi^2 (3) = 9.049, p = 0.029$
8	Do you consider that the cost of living in certain regions has been accentuated by tourism?	0.017	$\chi^2 (3) = 10.218, p = 0.017$
9	Do you consider that tourism has stimulated the restoration of historical and traditional infrastructures?	0.049	$\chi^2 (3) = 7.868, p = 0.049$
10	Does tourism promote cultural exchange and understanding between different ethnic groups?	0.255	$\chi^2 (3) = 4.060, p = 0.255$
11	Does tourism promote cultural events for the local inhabitants?	0.000	$\chi^2 (3) = 17.891, p = 0.000$
12	Has tourism provided new entertainment and recreational opportunities for the residents?	0.049	$\chi^2 (3) = 7.084, p = 0.049$
13	Has tourism caused a cultural remodelling as residents tend to adopt the behaviour and lifestyle of tourists?	0.049	$\chi^2 (3) = 7.858, p = 0.049$
14	Do you consider that traditional arts and crafts have been modified due to the commercial demand of tourists?	0.003	$\chi^2 (3) = 14.100, p = 0.003$
15	Does tourism accentuate social problems such as crime, drug use, prostitution, alcoholism in the community?	0.214	$\chi^2 (3) = 4.484, p = 0.214$
16	Does tourism cause the enforcement of regulatory measures and environmental management schemas in touristic attraction?	0.241	$\chi^2 (3) = 4.199, p = 0.241$
17	Does tourism promote awareness towards the environment?	0.016	$\chi^2 (3) = 10.282, p = 0.016$
18	Does tourism promote the protection and conservation of natural resources?	0.070	$\chi^2 (3) = 7.048, p = 0.070$
19	Do you consider that tourism has resulted in high noise levels in certain regions?	0.748	$\chi^2 (3) = 1.221, p = 0.748$
20	Do you consider that tourism has accentuated the problem of traffic congestion?	0.183	$\chi^2 (3) = 4.851, p = 0.183$
21	Do you consider that tourism has caused the migration and extinction of certain species of fauna?	0.125	$\chi^2 (3) = 5.743, p = 0.125$
22	Do you consider that tourism development comes in line with the degradation of forests?	0.001	$\chi^2 (3) = 16.893, p = 0.001$
23	Does tourism contribute to an increased pollution level?	0.045	$\chi^2 (3) = 7.588, p = 0.045$

H1: Age is positively correlated with the economic perception of sustainable tourism H2:  
 Age is positively correlated with the socio-cultural perception of sustainable tourism

H3: Age is positively correlated with the environmental perception of sustainable tourism

As per the results in table 2, out of the 8 questions pertaining to the economic aspect of sustainable tourism, 7 were found to have a significant relationship with age. Hence it can be deduced that age is positively correlated with the economic perception of sustainable tourism. This may imply that people from different age groups may perceive the economic aspect of sustainable tourism differently.

From the 7 questions related to the socio-cultural aspect of sustainable tourism, 5 were found to have a significant relationship with age. Consequently, H2 can be confirmed and it can be seen that age is positively correlated with the socio-cultural perception of sustainable tourism. This may be due to the fact that people of different age have diverging opinions on cultural and social issues.

With respect to the environmental aspect of sustainable tourism, it can be noted that 3 out of the 8 questions have a significant relationship with age. As such, H3 is verified and age is positively correlated with the environmental perception of sustainable tourism. This may originate from the fact that different age groups view the environmental impacts of sustainable tourism differently.

**Table 3: Chi-square test, Gender**

Gender	Question	Sig.	Chi Square equation
1	Does tourism promote the creation of new jobs and fosters new businesses?	0.011	$\chi^2 (1) = 6.511, p = 0.011$
2	Does tourism attract foreign investment?	0.134	$\chi^2 (1) = 2.248, p = 0.134$
3	Does tourist expenditure boost the local economy?	0.878	$\chi^2 (1) = 0.024, p = 0.878$
4	Does tourism motivate investment in public infrastructure?	0.550	$\chi^2 (1) = 0.358, p = 0.550$
5	Is government revenue (tax) increased by development in tourism?	0.999	$\chi^2 (1) = 0, p = 0.999$

## Innovation and Progress in Sustainable

6	Do you consider that working in the tourism sector is less remunerative?	0.444	$\chi^2 (1) = 0.585, p = 0.444$
7	Has tourism caused a surge in the price of land and building in touristic areas?	0.521	$\chi^2 (1) = 0.442, p = 0.521$
8	Do you consider that the cost of living in certain regions has been accentuated by tourism?	0.923	$\chi^2 (1) = 0.009, p = 0.923$
9	Do you consider that tourism has stimulated the restoration of historical and traditional infrastructures?	0.334	$\chi^2 (1) = 0.935, p = 0.334$
10	Does tourism promote cultural exchange and understanding between different ethnic groups?	0.795	$\chi^2 (1) = 0.068, p = 0.795$
11	Does tourism promote cultural events for the local inhabitants?	0.537	$\chi^2 (1) = 0.380, p = 0.537$
12	Has tourism provided new entertainment and recreational opportunities for the residents?	0.532	$\chi^2 (1) = 0.390, p = 0.532$
13	Has tourism caused a cultural remodelling as residents tend to adopt the behaviour and lifestyle of tourists?	0.044	$\chi^2 (1) = 1.965, p = 0.044$
14	Do you consider that traditional arts and crafts have been modified due to the commercial demand of tourists?	0.021	$\chi^2 (1) = 1.983, p = 0.021$
15	Does tourism accentuate social problems such as crime, drug use, prostitution, alcoholism in the community?	0.004	$\chi^2 (1) = 1.257, p = 0.004$
16	Does tourism cause the enforcement of regulatory measures and environmental management schemas in touristic attraction?	0.041	$\chi^2 (1) = 4.175, p = 0.041$
17	Does tourism promote awareness towards the environment?	0.599	$\chi^2 (1) = 0.276, p = 0.599$
18	Does tourism promote the protection and conservation of natural resources?	0.105	$\chi^2 (1) = 2.625, p = 0.105$
19	Do you consider that tourism has resulted in high noise levels in certain regions?	0.717	$\chi^2 (1) = 0.131, p = 0.717$
20	Do you consider that tourism has accentuated the problem of traffic congestion?	0.186	$\chi^2 (1) = 1.745, p = 0.186$
21	Do you consider that tourism has caused the migration and extinction of certain species of fauna?	0.562	$\chi^2 (1) = 0.335, p = 0.562$
22	Do you consider that tourism development comes in line with the degradation of forests?	0.885	$\chi^2 (1) = 0.021, p = 0.885$
23	Does tourism contribute to an increased	0.877	$\chi^2 (1) = 0.024, p = 0.887$

	pollution level?		
--	------------------	--	--

H4: Gender is positively correlated with the economic perception of sustainable tourism

H5: Gender is positively correlated with the Socio-cultural perception of sustainable tourism

H6: Gender is positively correlated with the environmental perception of sustainable tourism

Table 3 shows the results of the chi-square tests between gender and the different perceptions of sustainable tourism. Out of the 8 questions relative to the economic perception of sustainable tourism, only question 1 was significant with gender. Thus, H4 cannot be proven and the hypothesis is rejected. This may result from the fact that everyone, irrespective of their gender has the same perception of the economic aspect of sustainable tourism.

Of the 7 questions related to the socio-cultural perception of sustainable tourism, 3 were found to have a significant relation with gender. Hence it is safe to assume that H5 can be accepted and this may arise from the fact that people with different gender have a diverging opinion on the socio-cultural aspect of sustainable tourism.

With respect to the environmental perception of sustainable tourism, it can be noted that only 1 out of the 8 questions examined had a significant relationship with gender. H6 is therefore rejected. The two genders share similar views on the environmental aspect of sustainable tourism.

**Table 4: Chi-square test, Education**

Education	Question	Sig.	Chi Square equation
1	Does tourism promote the creation of new jobs and fosters new businesses?	0.894	$\chi^2 (2) = 0.224, p = 0.894$
2	Does tourism attract foreign investment?	0.050	$\chi^2 (2) = 4.785, p = 0.050$
3	Does tourist expenditure boost the local economy?	0.076	$\chi^2 (2) = 5.142, p = 0.076$
4	Does tourism motivate investment in public infrastructure?	0.235	$\chi^2 (2) = 2.893, p = 0.235$
5	Is government revenue (tax) increased by development in tourism?	0.150	$\chi^2 (2) = 3.797, p = 0.150$
6	Do you consider that working in the tourism sector is less remunerative?	0.792	$\chi^2 (2) = 0.467, p = 0.792$
7	Has tourism caused a surge in the price of land and building in touristic areas?	0.399	$\chi^2 (2) = 1.839, p = 0.399$

8	Do you consider that the cost of living in certain regions has been accentuated by tourism?	0.192	$\chi^2 (2) = 3.301, p = 0.192$
9	Do you consider that tourism has stimulated the restoration of historical and traditional infrastructures?	0.144	$\chi^2 (2) = 3.877, p = 0.144$
10	Does tourism promote cultural exchange and understanding between different ethnic groups?	0.424	$\chi^2 (2) = 1.716, p = 0.424$
11	Does tourism promote cultural events for the local inhabitants?	0.938	$\chi^2 (2) = 0.128, p = 0.938$
12	Has tourism provided new entertainment and recreational opportunities for the residents?	0.737	$\chi^2 (2) = 0.611, p = 0.737$
13	Has tourism caused a cultural remodelling as residents tend to adopt the behaviour and lifestyle of tourists?	0.961	$\chi^2 (2) = 0.079, p = 0.961$
14	Do you consider that traditional arts and crafts have been modified due to the commercial demand of tourists?	0.752	$\chi^2 (2) = 0.0570, p = 0.752$

15	Does tourism accentuate social problems such as crime, drug use, prostitution, alcoholism in the community?	0.608	$\chi^2 (2) = 11.814, p = 0.608$
16	Does tourism cause the enforcement of regulatory measures and environmental management schemas in touristic attraction?	0.230	$\chi^2 (2) = 2.936, p = 0.230$
17	Does tourism promote awareness towards the environment?	0.498	$\chi^2 (2) = 1.395, p = 0.498$
18	Does tourism promote the protection and conservation of natural resources?	0.008	$\chi^2 (2) = 9.588, p = 0.008$
19	Do you consider that tourism has resulted in high noise levels in certain regions?	0.100	$\chi^2 (2) = 4.613, p = 0.100$
20	Do you consider that tourism has accentuated the problem of traffic congestion?	0.534	$\chi^2 (2) = 1.256, p = 0.534$
21	Do you consider that tourism has caused the migration and extinction of certain species of fauna?	0.287	$\chi^2 (2) = 2.495, p = 0.287$
22	Do you consider that tourism development comes in line with the degradation of forests?	0.578	$\chi^2 (2) = 1.098, p = 0.578$
23	Does tourism contribute to an increased pollution level?	0.573	$\chi^2 (2) = 1.112, p = 0.573$

H7: Level of education is positively correlated with the economic perception of sustainable tourism

H8: Level of education is positively correlated with the socio-cultural perception of sustainable tourism

H9: Level of education is positively correlated with the environmental perception of sustainable tourism

None of the 8 questions concerning the economic perception of sustainable tourism were significant with level of education. As such, H7 is rejected and it can be assumed that there is no relationship between level of education and the economic perception of sustainable tourism.

Only one of the 7 questions related to the socio-cultural perception of sustainable tourism is significant with level of education. Hence, H8 is rejected and this illustrates the

negative relationship of education with the socio-cultural perception of sustainable tourism.

Similarly, out of the 8 questions pertaining to the environmental perception of sustainable tourism, only 1 question was found to be significant. H9 is also rejected and this shows that irrespective of their level of education, both tourists and local inhabitants share the same perception towards the environmental aspect of sustainable tourism.

**Table 5: Chi-square test, Income**

Income	Question	Sig.	Chi Square equation
1	Does tourism promote the creation of new jobs and fosters new businesses?	0.016	$\chi^2 (3) = 10.383, p = 0.016$
2	Does tourism attract foreign investment?	0.050	$\chi^2 (3) = 7.597, p = 0.050$
3	Does tourist expenditure boost the local economy?	0.140	$\chi^2 (3) = 5.478, p = 0.140$
4	Does tourism motivate investment in public infrastructure?	0.202	$\chi^2 (3) = 4.620, p = 0.202$
5	Is government revenue (tax) increased by development in tourism?	0.025	$\chi^2 (3) = 9.308, p = 0.025$
6	Do you consider that working in the tourism sector is less remunerative?	0.849	$\chi^2 (3) = 0.803, p = 0.849$
7	Has tourism caused a surge in the price of land and building in touristic areas?	0.557	$\chi^2 (3) = 2.075, p = 0.557$
8	Do you consider that the cost of living in certain regions has been accentuated by tourism?	0.385	$\chi^2 (3) = 3.040, p = 0.385$
9	Do you consider that tourism has stimulated the restoration of historical and traditional infrastructures?	0.312	$\chi^2 (3) = 3.571, p = 0.312$
10	Does tourism promote cultural exchange and understanding between different ethnic groups?	0.519	$\chi^2 (3) = 2.268, p = 0.519$
11	Does tourism promote cultural events for the local inhabitants?	0.967	$\chi^2 (3) = 0.263, p = 0.967$
12	Has tourism provided new entertainment and recreational opportunities for the residents?	0.664	$\chi^2 (3) = 1.579, p = 0.664$
13	Has tourism caused a cultural remodelling as residents tend to adopt the behaviour and lifestyle of tourists?	0.979	$\chi^2 (3) = 0.190, p = 0.979$
14	Do you consider that traditional arts and crafts have been modified due to the commercial demand of tourists?	0.143	$\chi^2 (3) = 5.422, p = 0.143$
15	Does tourism accentuate social problems such as crime, drug use, prostitution, alcoholism in the community?	0.642	$\chi^2 (3) = 1.676, p = 0.642$
16	Does tourism cause the enforcement of regulatory measures and environmental management schemas in touristic attraction?	0.354	$\chi^2 (3) = 3.258, p = 0.354$



17	Does tourism promote awareness towards the environment?	0.619	$\chi^2 (3) = 1.780, p = 0.619$
18	Does tourism promote the protection and conservation of natural resources?	0.028	$\chi^2 (3) = 9.089, p = 0.028$
19	Do you consider that tourism has resulted in high noise levels in certain regions?	0.129	$\chi^2 (3) = 5.660, p = 0.129$
20	Do you consider that tourism has accentuated the problem of traffic congestion?	0.047	$\chi^2 (3) = 6.326, p = 0.047$
21	Do you consider that tourism has caused the migration and extinction of certain species of fauna?	0.367	$\chi^2 (3) = 3.161, p = 0.367$
22	Do you consider that tourism development comes in line with the degradation of forests?	0.004	$\chi^2 (3) = 6.153, p = 0.004$
23	Does tourism contribute to an increased pollution level?	0.002	$\chi^2 (3) = 7.861, p = 0.002$

H10: Income is positively correlated with the economic perception of sustainable tourism

H11: Income is positively correlated with the socio-cultural perception of sustainable tourism

H12: Income is positively correlated with the environmental perception of sustainable tourism

From the perspective of people with different income, it can be seen that they significantly perceive sustainable tourism as a means of promoting the creation of new jobs and fostering new businesses as well as attracting foreign investment. However the remaining 6 questions are not significant with respect to income. Hence, H10 is rejected and it is assumed that economic perception of sustainable tourism and income share a negative relationship.

None of the 7 questions concerning the socio-cultural perception of sustainable tourism is significant with income. Hence it can be supposed that income and socio-cultural perception of sustainable tourism have a negative relationship and H11 is rejected.

Out of the 8 questions relative to the environmental perception of sustainable tourism, only 4 are significant with respect to income. As such, H12 is accepted and income is positively correlated with the environmental perception of sustainable tourism.

## Conclusion

This paper examined peoples' perception on sustainable tourism in Mauritius. 500 questionnaires were designed and distributed to the respondents, mainly via social media

and google forms, of which 316 valid responses were collected with a response rate of 63.2 % was achieved. This research mainly investigated the relationships between the demographic variables gender, age, education level and income and the economic, socio-cultural and environmental perception of sustainable tourism. Chi-square tests were conducted to evaluate the relationships between the variables Gender, Age, Education, Income and Economic, Socio-cultural and Environmental perception of sustainable tourism. Empirical evidence shows that age has a positive and significant relationship with economic, socio-cultural and environmental perception of sustainable tourism, which goes in line with the study of Zhao (2014) and contrary to Sharma and Dyer (2009). Gender has a positive and significant association with the socio-cultural perception of sustainable tourism and income shows a positive association with the environmental perception of sustainable tourism, which is in line with Zhao (2014) and Dibra and Oelfke (2013) and contradictory with the study of Sharma and Dyer (2009).

### **Policy Recommendation**

There must be a mutual understanding between local residents and tourists and they should maintain cultural ethics.

1. Since various visitors have distinct views and ethnic belongings, it is primordial to obtain their views and perceptions and get them engaged in the drive to preserve the native environment.
2. Green tourism sensitisation campaigns ought to be set up to raise visitor awareness on the environment.
3. Tourism organisers need to ensure economic development does not harm the environment; as such a careful balance should be maintained.
4. The government should also consider the establishment of an advisory panel for proper management of sustainable tourism.
5. An effective framework should be designed and set up to boost sustainable tourism in Mauritius.

Further research can be carried out with additional sustainability indicators, for instance institutional as stated in Cottrell, Vaske, & Roemer (2013) and research can further be extended to other islands in the Indian Ocean to evaluate their perception towards sustainable tourism.

### **References**

Butler, R.W. (1993). Tourism-An Evolutionary Perspective. In J. G. Nelson, R. Butler & G. Wall (eds.) *Tourism and Sustainable Development: Monitoring, Planning,*

- 
- Managing, 26-43. Waterloo: Heritage Resources Centre, University of Waterloo.
- Choi, H. & Murray, I. (2010). Resident attitudes toward sustainable community tourism. *Journal of Sustainable Tourism*, 18(4), 575-594.  
<http://dx.doi.org/10.1080/09669580903524852>.
- Churchill, G. A. & Iacobacci, D. (2005). *Marketing Research: Methodological Foundations* (9th ed.) Mason, Ohio: Thomson South- Western.
- Cottrell, S., Vaske, J., & Roemer, J. (2013). Resident satisfaction with sustainable tourism: The case of Frankenwald Nature Park, Germany. *Tourism Management Perspectives*, 8, 42- 48.
- Dibra, M. & Oelfke, T. (2013). Students' Perceptions and Attitudes toward Sustainable Tourism Development in Albania. *Mediterranean Journal of Social Sciences*. <http://dx.doi.org/10.5901/mjss.2013.v4n10p706>.
- Garrod, B. (2004). *Tourism management: managing for change*, by Stephen J. Page. Butterworth-Heinemann, Oxford, 2003. No. of pages: 381 + xvii. ISBN 0-7506-5752-9. *International Journal of Tourism Research*, 6(6), 451-451.
- Hayes, A. (1998). SPSS procedures for approximate randomization tests. *Behavior Research Methods, Instruments, & Computers*, 30(3), 536-543.
- Law, R. (2004). *Tourism statistics: international perspectives and current issues*, by J. John Lennon. Continuum, London, 2003. No. of pages: 380. ISBN 0-8264-6501-3. *International Journal of Tourism Research*, 6(6), 452-452.
- Mathieson, A. & Wall, G. (1982). *Tourism: Economic, Physical and Social Impact*. London: Longman Cheshire.
- Mbaiwa, J.E. (2011). "Hotel companies, poverty and sustainable tourism in the Okavango Delta, Botswana", *World Journal of Entrepreneurship, Management and Sustainable Development*, 7(1), pp. 47 – 58.
- Nunnally, J. C. (1978). *Psychometric theory* (2nd ed.). New York: McGraw-Hill.
- Prayag, G., Dookhony-Ramphul, K. and Maryeven, M. (2010). Hotel development and tourism impacts in Mauritius: Hoteliers' perspectives on sustainable tourism. *Development Southern Africa*, 27(5), pp.697-712.
- Saunders, M., Lewis, P., & Thornhill, A. (2003). *Research method for business students*, 3rd edition. New York: Prentice Hall.

- 
- TAO,(2005), "Sustainable Tourism Development", Ohauo University
- Teye, V., Sirakaya, E., & Sonmez, S.F. (2002). Residents' attitudes toward tourism development. *Annals of Tourism Research*, 29(3), 668–688.
- The Shape of Ghana's Coming Tourism Landscape. *High Street Journal* (May 10, 1998):4–8.
- Lea, J.
- UNEP & UNWTO. (2005). *Making Tourism More Sustainable - A Guide for Policy Makers*, p.11-12
- Wilkinson, P.F. (1989). Strategies for tourism in island microstates. *Annals of Tourism Research* 16, pp.153–77.
- Zhao, W. (2017). Tourists' perceptions of sustainable tourism development of Tinashe Mountain in Anhui province, china. *Au-gsb e-journal*, 7(1).
- Sobhee, S. (2006). Fisheries biodiversity conservation and sustainable tourism in Mauritius. *Ocean & Coastal Management*, 49(7-8), pp.413-420.
- Sharpley, R. and Naidoo, P. (2010). Tourism and Poverty Reduction: The Case of Mauritius. *Tourism and Hospitality Planning & Development*, 7(2), pp.145-162.
- Sharma, B. and Dyer, P. (2009). An Investigation of Differences in Residents' Perceptions on the Sunshine Coast: Tourism Impacts and Demographic Variables. *Tourism Geographies*, 11(2), pp.187-213.
- Husbands, W. (1989). Social status and perception of tourism in Zambia. *Annals of Tourism Research*, 16(2), pp.237-253.

---

## **Sustainable tourism certification in the hotel sector in Africa: Progress made and opportunities for mainstreaming**

**Anna Spenceley**

*University of Johannesburg, South Africa, University of Brighton, UK,*  
[annaspenceley@gmail.com](mailto:annaspenceley@gmail.com)

**Acknowledgement:** This paper presents research commissioned by the African Development Bank (AfDB)'s African Natural Resources Center (ANRC)

**Key words:** Certification, Africa, hotels, incentives, sustainable tourism

### **Abstract**

This paper presents research commissioned by the African Development Bank (AfDB)'s African Natural Resources Center (ANRC), that aimed to identify and summarise existing monitoring data being gathered by national tourism authorities and international/regional certification bodies specifically relating to the accommodation sector in Africa.

The paper reviews the history of tourism certification globally and then presents the current status of certification bodies and certified hotels on the African continent. The research identified 9 African certification programs, and 9 international certification programs operating in Africa. Collectively, the African and international certification programs have certified at least 715 accommodation facilities in 19 African countries, against their environmental, social and economic criteria.

A number of incentives have been used in Africa, and internationally, to encourage the uptake of sustainable tourism certification. These include marketing and promotion; interest free loans for new technologies; preferential inclusion in tour itineraries; free or discounted application processes; and technical support. Stakeholders consulted through an online survey and direct communication suggested that hotels were generally motivated to seek certification to: (a) promote their achievements to environmentally conscious clients, and avoid negative criticism, and (b) save money by conserving resources. In terms of future incentives that might encourage greater uptake of certification in the accommodation sector, more than 50% of consultees 'strongly agreed' that (1) tax allowances and incentives, (2)

---

preferential promotion by national marketing bodies, (3) promotion on sustainable tourism online booking platforms, (4) information on the issues benefits and costs, and (5) inclusion in 'sustainable' tour itineraries would be effective.

Overall, the research found that there is an adequate number of tourism certification programmes in Africa, but that only a very small proportion of all hotels in Africa have been certified (certainly less than 3.4%) and that these are patchily distributed across the continent. The review found that tax allowances and more information would encourage more certification. However, hotels do not understand the financial benefits, and more research is needed on the Returns on Investment (ROI) and payback periods, and more government support is needed to promote certification programs in the hotel sector.

## Introduction

Tools for evaluating the performance of tourism activities, such as indicators, certification programs and accreditation systems, have been gradually developed over the course of the past century. Honey and Rome (2001) defined tourism certification as “*a voluntary procedure that assesses audits and gives written assurance that a facility, product, process or service meets specific standards. It awards a marketable logo to those that meet or exceed baseline standards.*” In general, certification signifies that an independent third party has verified the conformity of an activity or product to a written standard. For it to address sustainable tourism, the standard needs to include socioeconomic, cultural, and environmental criteria (Spenceley and Bien, 2013).

Certification aims to foster responsible environmental, social and cultural behaviour and provide a quality product to tourists. Certification provides a mechanism through which enterprises can achieve voluntary standards of performance that meet or exceeds baseline standards or legislation (Dodds and Joppe, 2005). Certification essential verifies claims made by enterprises to counter green-washing attempts. Certification also assists consumers and trade buyers who are looking for sustainable products and provides a basis for sustainable businesses to promote and network with each other with mutual confidence (Denman, 2010).

The variables specific to ecotourism within certification programs, over and above those of sustainable tourism are, according to the Mohonk Agreement (2000):

- focus on the visitor's personal experiences of nature to lead to greater understanding and appreciation;
- interpretation and environmental awareness of nature, local society and culture;
- positive and active contributions to conservation of natural areas or biodiversity;
- economic, social and cultural benefits for local communities;
- fostering of community involvement, where appropriate;

- locally appropriate scale and design for lodging, tours and attractions; and
- minimal impact on and presentation of local (indigenous) culture.

Certification can provide a useful tool for destination managers seeking to influence and work with tourism enterprises in developing and promoting sustainable destinations. It can be used as the basis for incentive schemes and rewards. Most valuably, it can help enterprises understand what they need to do to be considered sustainable. The process can help them identify weaknesses and gaps in their performance and seek to fill them within a programme of continuous improvement (Denman, 2010). Credible certification programmes that use internationally recognized standards and processes can facilitate the selection of suppliers by outbound travel agencies and wholesalers. Increasingly, European tour operators require that their hotels and inbound operators be certified by a reputable programme. In addition, Costa Rica offers free or subsidized participation in trade shows and advertising for certified businesses, while Barbados offers them significant tax benefits (Rome, 2005).

Despite the idealistic aims of certification, there are a number of limitations and constraints to which include the following (Spenceley and Bien, 2013):

- The number of applicants to certification programs globally within the private sector is only growing slowly, and is mainly due to geographical diversification, not market penetration attrition rates are significant and yet unreported (Font, 2009; WTO, 2002).
- The lack of robust and regular sources of income to effectively operate and market relevant, appropriate, and credible programs. Most sustainable tourism certification programs cannot cover the complete cost of running their program from user fees alone (Rome et al, 2006).
- Sophisticated tourism operations working across geographical regions and pushing the boundaries of sustainability feel that certification programs available are not sophisticated enough to fully capture their work.
- Once initial savings have been made from resource saving programs (e.g. energy, water), it is difficult for companies to justify retaining membership of certification programs, and recurring membership and evaluation fees (Rome et al, 2006), unless market advantages are clear.
- The market advantage envisaged from certification has not been fully realised. The vast majority of tourists are largely unaware of tourism certification labels (or indeed of sustainable tourism) offerings (TUI, 2010). Evidence does exist, however, that travel intermediaries do favour certified businesses, and moreover, that the process of certification induces businesses to become more efficient and offer higher quality services. Although there is little evidence that a certification label will induce higher occupancy, higher quality of service does do so (Bien, 2005)

- A plethora of tourism certification programs makes it difficult for tourists and tourism operators to discriminate between them, or understand what each really means in terms of ecotourism and sustainability. For example, tour operators in the Caribbean feel that the number and variety of different schemes makes it very difficult to educate their customers or their staff (Dodds and Joppe, 2009).

Certification programs may be offered by non-profit organizations, private institutions, governments or by multi-stakeholder groups (Spenceley and Rylance, 2016).

In the accommodation sector, certification may help to (adapted from ITP, 2016):

- Improve efficiency and reduce operating costs, particularly by installing new technologies and adapting operational practices.
- Gain credible independent recognition of commitment to sustainable tourism.
- Identify ways to improve internal management processes, and independently assess a hotel's environmental, social, and economic impact.
- Demonstrate compliance with statutory and regulatory requirements on environmental issues
- Increase sales by appealing to environmentally conscious customers (i.e. tourists and tour operators)
- Comply with tour operator minimum standards and requirements (e.g. many major outbound tour operators in the United Kingdom, including Cosmos, Kuoni, The Cooperative Travel, Thomas Cook, TUI UK & Ireland and Virgin Holidays, have selected Travelife as their preferred scheme.)

There were at least 100 tourism certification programs developed between 1990 and 2010 that addressed various forms of sustainable tourism. Each had its own certification program and variable adherence to generally accepted principles for standardization and conformity assessment (Bien, 2009). An effort to bring coherence and good practice to these programs began with the Mohonk Agreement (2000), the publication of indicators for sustainable tourism destinations by the World Tourism Organisation (UNWTO, 2004). This process culminated with the establishment of the Global Sustainable Tourism Criteria (GSTC Criteria) in 2008, and Global Sustainable Tourism Council (GSTC) in 2009 (Spenceley and Bien, 2013).

The GSTC is an international body for establishing and managing standards for sustainable tourism. Through extensive consultation processes, the GSTC has established globally recognized criteria for sustainable tourism at the hotel and tour operator level, and also for tourism destinations (Spenceley, 2016). The GSTC recognizes or approves sustainable tourism certification bodies that meet or surpass the relevant GSTC Criteria:



- GSTC-Recognized means that a sustainable tourism standard has been reviewed by GSTC technical experts and the GSTC Accreditation Panel and deemed equivalent to the GSTC Criteria for sustainable tourism and is administered by a standard owner that meets GSTC requirements (GSTC, 2016a)
- GSTC Approved means that a certification program is using a GSTC-Recognized standard and is following processes and procedures that have been reviewed and approved by the GSTC Accreditation Panel to meet international standards for transparency, impartiality, and competence (GSTC, 2016b).

The GSTC therefore acts as the closest global equivalent for the tourism sector to the Marine Stewardship Council or the Forestry Stewardship Council, although it does not practice certification of tourism products itself. The GSTC lists hotels that have been certified under GSTC approved or recognized standards, to help travellers and tour operators find sustainable accommodation (see Spenceley and Rylance, 2016).

The aim of this research, commissioned by the African Development Bank (AfDB)'s African Natural Resources Center (ANRC), was to identify and summarise existing monitoring data being gathered by national tourism authorities and international/regional certification bodies specifically relating to the accommodation sector in Africa. The report's findings and recommendations were launched by ANRC at the 22<sup>nd</sup> Climate Change Conference of the Parties (COP 22) in Morocco on 8 November 2016 (Spenceley, 2016).

## **Methodology**

The study was conducted through a mixed measures approach, incorporating a desk review and consultation process, which is summarised below.

### ***Desk review***

A desk review (Neuman, 2006) was undertaken to (a) identify certification schemes, (b) identify candidate case studies in Africa and trans-nationally. Information on certification schemes was obtained from the Sustainable Tourism Certification Alliance for Africa (the "Alliance"), by communicating with certification programs directly, and with regional and international experts on sustainable tourism. An internet-based search was also made of research articles, consultancy reports, guidelines and toolkits, and media articles relating to certification and incentives. During the desk-review process, information was collected on destinations with documented best practices and lessons learned (Spenceley, 2016).

### ***Consultation***

Surveys are widely accepted data gathering techniques used in social sciences (Neuman, 2006). A structured survey was devised using an online survey tool, SurveyMonkey, to

further consult on sustainable tourism certification, and in particular to explore options for incentives, and future interventions. Two members of the Alliance reviewed a draft of the questionnaire: the Secretariat (Fair Trade Tourism: FTT), and the Chair of the Alliance's Impact and Standards working group (Levelle Perspectives). The list of stakeholders to consult was drafted by the researcher, and supplemented with comments and suggestions from FTT and the Alliance. The survey was distributed by email directly to 80 stakeholders from government (e.g. Ministries of Tourism, national tourism boards), certification bodies, intergovernmental agencies, and NGOs on 12 September 2016, and was open for two weeks. A notice was also circulated using online media, to which additional responses (including from stakeholders that had not been targeted from the private sector). There were 41 complete responses from 20 countries including 10 African countries (i.e. Botswana, Egypt, Kenya, Madagascar, Mozambique, Namibia, South Africa, Seychelles, Tanzania, Zimbabwe) and 10 non-African countries (i.e. Australia, Chile, Denmark, France, Germany, India, Netherlands, Spain, UK, USA). The sample of consultees, and respondents in each category are summarized in the table below (Spenceley, 2016).

**Table 1: Stakeholders consulted**

Type of stakeholder	Requests sent	Responses
Government representatives (e.g. National tourism boards, Ministries of Tourism, Embassies, Research Institute)	34 (in 22 African countries)	7
Certification programs – African & International	24	14
Regional and international tourism specialists on certification, standards, water and waste	13	11
Private sector: tourism associations and non-governmental organizations*	5	7*
United Nations and intergovernmental agencies	4	2
Total	80	41

*\*Announcements on social media resulted in additional responses from these stakeholders, (including non-targeted hotels and tour operators). Source: Spenceley, 2016*

## Limitations

Although the survey response rate was acceptable (i.e. over 50%), there were relatively few responses from among the government representatives contacted (i.e. a 20% response rate). Due to the challenges in contacting individual hotels across Africa, tourism ministries, authorities and private sector associations were requested to circulate the online questionnaire invitation to their hotel databases, and other institutions circulated to their networks and using social media. However, there were only a few responses from this stakeholder group, when considering the number of hotels on the continent. Future research may need to identify an alternative approach to gaining their feedback.

The number of certified enterprises reported directly by certification programs often differed

from the number indicated on their websites. Therefore, there may be a margin of error in the numbers reported here. Furthermore, some hotels have more than one certification logo awarded. The figures presented represent the number of certifications awarded, but this will therefore be somewhat higher than the actual number of hotels at least one certification award.

### *Status of tourism certification in Africa*

Currently there are 9 African certification programs, and 9 international certification programs operating in Africa. The African schemes comprise government-initiated programs (e.g. Seychelles Sustainable Tourism Label, Botswana Ecotourism Certification System), schemes run for profit (e.g. Heritage Environmental Management Company), and those run by non-governmental/not-for profit organisations (e.g. Fair Trade Tourism, EcoAwards Namibia, Responsible Tourism Tanzania, Ecotourism Kenya). Furthermore, the GSTC has recognized and approved some of the certification standards used in Africa, in line with the GSTC criteria (Spenceley, 2016). Collectively, the African and international certification programs have certified at least 715 accommodation facilities in 19 African countries, against their environmental, social and economic criteria (see table and figure below) (Spenceley, 2016).

**Table 2: Certification programs operating in Africa**

Certification program	Countries of operation & no.	GSTC
<b>African programs</b>		
Botswana Ecotourism Certification System	Botswana: 23	
EcoAwards Namibia	Namibia: 65	
Ecotourism Kenya	Kenya: 110	
Fair Trade Tourism (FTT)*	South Africa: 61 Mozambique: 5 Madagascar: 8	Recognised
Green Star Hotel Program,	Egypt: 58	Recognised
Greenleaf Environmental / Eco Standard	South Africa: 33      Ethiopia: 1 Mozambique: 1      Senegal: 1	
Heritage Environmental Management Company	South Africa: 27      Nigeria Namibia: 2	: 1
Responsible Tourism Tanzania (RTT)	Tanzania: 24	
Seychelles Sustainable Tourism Label (SSTL)	Seychelles: 11	

<b>International programs</b>			
Earthcheck company standard	Morocco: no data Egypt: no data	Zanzibar: no data South Africa: no data	Recognised & Approved
Ecotourism Africa**	South Africa: 3		Recognised & Approved
Global Ecosphere Retreats Standard	Kenya: 2 Tanzania: 1	South Africa: 1 Namibia: 1	Recognised
Global Reporting Initiative (GRI)	South Africa: 7	Mauritius: 1	
Green Globe	Egypt: 10 Tunisia: 2	Mauritius: 1 Seychelles: 1	Recognised
Green Key	Morocco: 72	Egypt: 2	Recognised
Green Tourism	Zimbabwe: 13		
Green Tourism Active	South Africa: 20	Kenya: 1	Recognised
Travelife – large /small accommodation	Egypt: 57 Tunisia: 31 Morocco: 16	Kenya: 4 Tanzania: 2 Gambia: 1	Recognised

Note: Information obtained from certification bodies or their websites, September 2016

\*Fair Trade Tourism also has mutual recognition with Responsible Tourism Tanzania, Seychelles (SSTL), Botswana Ecotourism Certification, Ecotourism Kenya, EcoAwards Namibia

\*\* Based on Ecotourism Australia Source: Spenceley, 2016

**Figure 1: Distribution of hotel certification awards to hotels in Africa**


Source: Spenceley, 2016

Furthermore, there are also a series of certification schemes in progress in Mauritius (i.e. an eco-label under standard MS165:2014-Sustainable Tourism, but which is postponed while a compulsory hotel quality rating program is implemented), Morocco (i.e. an EVEA Tourism initiative that has started environmental labeling with 10 hotels in Marrakech), and Cabo Verde (i.e. a proposed GSTC linked program is to be established under the Ministry of Tourism, Investments and Business). However, others have lapsed, including the Moroccan Rural Accommodation Quality Assurance and EcoCertification, which ceased because the support institution (Zakoura Microcredit Foundation) went bankrupt in 2012, and although Credit Agricole, that purchased it maintained the rights to the program, they did not proceed with the operations (Spenceley, 2016).

### *Incentives for tourism certification*

A number of incentives have been used in Africa, and internationally, to encourage the uptake of sustainable tourism certification. Conditions under which incentives are more likely to succeed include sufficient returns to motivate a change in behavior. The OECD suggests that,

*“Subsidies and tax incentives only work if they close the price gap for more sustainable products or create significant tax rebates for their use. These instruments influence consumer behaviour by making sustainable choices less expensive. Incremental tax reductions or small subsidies do not by themselves create demand for more sustainable products. Also, subsidies or tax rebates which are complicated to apply for, or which have a long payoff time, may not be effective”* (OECD, 2008: pp17).

Types of incentives for tourism certification include the following (Spenceley, 2016):

- **Marketing and promotion:** Most certification bodies award their certified hotels with permission to use a logo, and also advertise them on their websites. This promotion allows tourists and tour operators to recognise hotels that have, and have not, had an independent third-party evaluation of their sustainability claims (including relating to waste and water). Furthermore, a number of online booking platforms focus specifically on promoting sustainable and certified hotels (e.g. WorldHotelLink; Bookdifferent; GoBarefoot; Responsibletravel). The European Union has supported marketing of certified businesses in Europe through the Voluntary Initiatives for Sustainability in Tourism program (CBD, UNWTO, UNEP, 2009). Also, the Tourism for Tomorrow Award has a specific environmental award category (WTTC, 2016).
- **Interest free loans to introduce new technologies:** The Green Star certification program in Egypt proposes in the future to offer interest free loans for hotels to green their operations and pay back in pattern that matches their occupancy (The Alliance, 2016).
- **Preferential inclusion in tour itineraries:** Certified accommodation facilities in the Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) are eligible for inclusion in Futouris tour operator catalogues (whose members include TUI, Gebeco, Thomas Cook, DER Tour and others). Those certified by FTT, EcoAwards Namibia (5 flowers) and Botswana Ecotourism (Ecotourism level) may be branded ‘Fair Trade Holiday’ (50% bed nights on itinerary). So far, the program has encouraged 25 additional lodges in the area to become certified in Botswana, Namibia, and Zimbabwe (Strasdas, 2016). (See examples section for more information).
- **Free or discounted application processes:** The Botswana Ecotourism Certification System’s audit costs are all met by Botswana Tourism (Board), and 23

accommodations have been certified in this way. Similarly, the Seychelles Sustainable Tourism Label offered the first 50 assessment applications for free, paid for by the government, and the incentive attracted 25 applications, of which 11 have been awarded the logo so far. In Mauritius there are plans to offer grant funding equivalent to 50% certification costs, up to a value of Rs44,000 (approx. USD1293), to meet the MS165:2014 standard (MTL, undated) once the scheme is operational. The Heritage Environmental Management Company used to offer to refund audit payments if the hotel did not make equivalent cost savings during the year. Heritage were able to prove the cost savings through their audits, and no hotels ever claimed a refund. However, the incentive was removed after 5 years because it was no longer attracting new business.

- **Technical support:** The Long Run offers their certified members personal and tailored technical support through their network of experts as part of their relationship, to help improved their sustainability performance.

**Table 3: Comments on certification from stakeholders consulted**

“Certification is a grudge activity in spite of the benefits that it can bring in the sustainable operation of businesses.”

“Most businesses don’t relate their expenses with the cost of certification – hence they are unable to see the Return On Investment (ROI) ratio that certification does produce”.

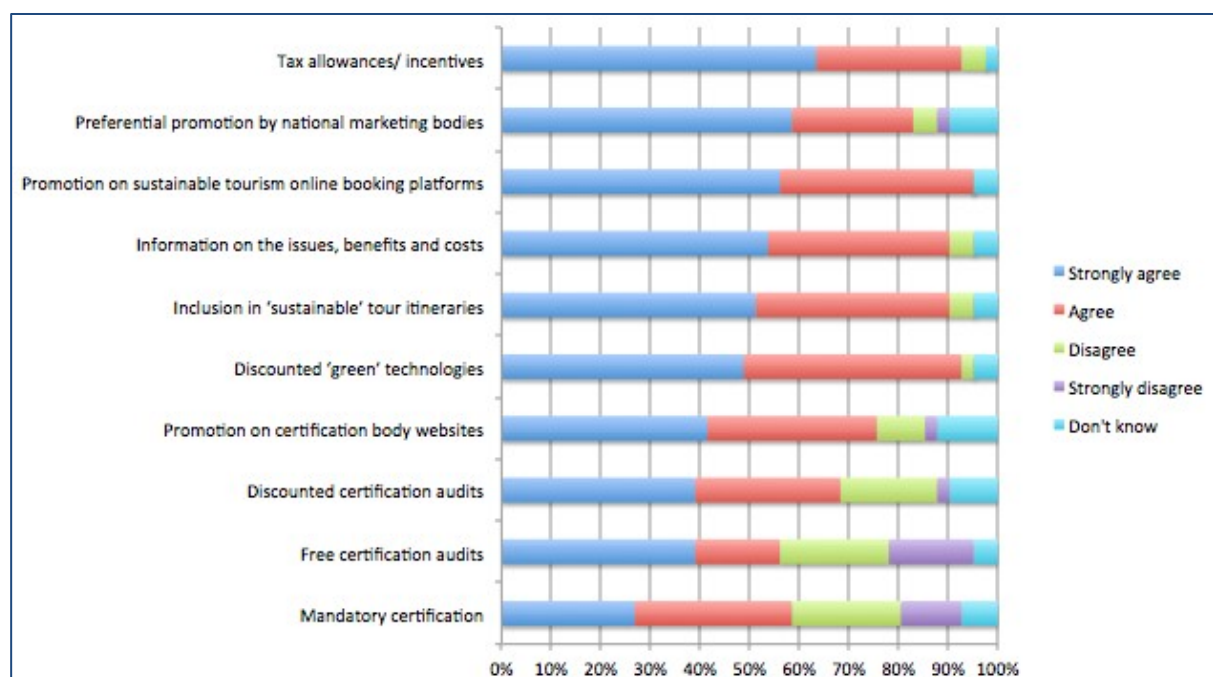
“Biggest barriers to certification were: cost, time to get organized and no guarantee of ROI. Only a few really idealistic products owners went through the very rigid process because they really believed in the principles”

“We had offered free certification for 10 properties a few years ago, as incentive. Most of these declined re-assessments and terminated membership as soon as they had to pay annual fees...” “Government needs to promote energy, water and waste audits among tourism businesses so that they start understanding the benefits of sustainable tourism and then get certification ready.”

Stakeholders consulted suggested that hotels were generally motivated to seek certification to: (a) promote their achievements to environmentally conscious clients, and avoid negative criticism, and (b) save money by conserving resources. One survey respondent noted that the lack of government direction or policy can undermine effective implementation of certification, because tourism enterprises have no official requirement to operate in a sustainable manner. Others suggested that hotels request whether a particular certification program is recognised or approved by government, before proceeding with it – and in some countries, such recognition is not available. In some instances, there are challenges in mainstreaming sustainable tourism certification systems in combination with quality grading programs, which are more likely to be government-endorsed (Spenceley, 2016).

In terms of future incentives that might encourage greater uptake of certification in the accommodation sector, more than half the consultees ‘strongly agreed’ that (1) tax allowances and incentives (63%), (2) preferential promotion by national marketing bodies (59%), (3) promotion on sustainable tourism online booking platforms (56%), (4) information on the issues benefits and costs (54%), and (5) inclusion in ‘sustainable’ tour itineraries would be effective (51%) (see Figure 2 below). The least popular incentives rated were mandatory certification (27%), and free or discounted certification audits (39%) (Spenceley, 2016).

**Figure 2: What new incentives or approaches do you think would encourage greater use of certification in the accommodation sector? (n=41)**



Source: Spenceley, 2016

### *Examples of certification in Africa*

This section contains four short examples of tourism certification in Africa: (1) a certification body developed by a national government, (2) application of certification to drive sustainable tourism in a destination, and (3) application by two major hotel groups.

#### *Certification body*

The Green Star Hotel (GSH) is a national certification and capacity-building program developed to distinguish hotels and tourism resorts operating in Egypt with interest in sustainable tourism. It was created as a result of successful local and international cooperation between the Egyptian Ministry of Tourism in cooperation with the local chamber of hotels (Egyptian Hotel Association), two Egyptian private tourism investors, a German tour operator and the GIZ organization. The program’s main objective is to encourage and



---

support hotels to improve their environmental performance and social standards through compliance with a carefully designed set of standards that are customized for the local context. GSH-certified hotels receive their award after passing on-site audits administered by a team of local and international certified auditors, granting them a star rating based on their level of compliance with the standards (3, 4 or 5 green stars). A public-private Board provides guidance to the program helping to streamline its operation, ensuring sustainability and supporting its international recognition. The program offers benefits to certified hotels through training and coaching as well as inclusion on the GSH webpage and its newsletter.

The GSH Programme standards are internationally recognized by the Global Sustainable Tourism Council (GSTC) (Spenceley, 2016).

### ***Tourism destination***

The Kavango Zambezi Transfrontier Conservation Area (KAZA TFCA) is a vast multiple land-use area extending over 519 912 km<sup>2</sup> in the river basins of the Okavango, Chobe and Zambezi rivers. KAZA was established through a by treaty between Angola, Botswana, Namibia, Zambia and Zimbabwe in 2011. The TFCA aimed to boost social and economic opportunities for local people, to expand wildlife habitat, and promote tourism. Futouris is a non-profit initiative of the German tourism industry aimed at sustainable development. Their members include leading outbound tour operators such as TUI, Gebeco, Thomas Cook and DER Tour as well as cruise companies and travel agencies (Spenceley, 2016).

The KAZA Sustainable Lodges project, rewards lodges for their commitment to sustainability by incorporating them into Futouris members' product portfolios: this allows international tour operators to "green" their own supply chains. The incentive is that being demonstrably sustainable creates a market advantage. In order to demonstrate their commitment, the sustainability claims of lodges must be independently verified on-site and certified by a credible partner organisation. Once certified, the accommodation is eligible for inclusion in Futouris tour operator catalogues. In addition, where operators have a mutual recognition agreement with Fair Trade Tourism and lodges have achieved the highest certification level, (i.e. EcoAwards Namibia: 5 flowers and Botswana Ecotourism Certification System: Ecotourism level), lodges can be included in a branded 'Fair Trade Holiday' (where, 50% bed nights on itinerary are certified). The project catalysed new certification applications and awards of 25 additional lodges through certification partners: EcoAwards Namibia (8 certified in Namibia), the Botswana Ecotourism Certification System (42 certified in Botswana), and Green Tourism (12 certified in Zimbabwe). This has increased the number of certified lodges in the KAZA TFCA from 37 in 2015 to 62 in 2016 (a 40% increase) (Spenceley, 2016).

### ***Hotel group***

The Constance Euphoria Seychelles is a 313 room resort based on the island of Mahé, in the Seychelles. It is one of seven hotels operated by the Constance Group in the Indian Ocean. In

line with the Constance Group's slogan, *"to be committed to the environment,"* Ephelia has been certified by two independent certification bodies: Green Globe, an international certification program since 2014; and the Seychelles Sustainable Tourism Label (SSTL), a locally developed initiative since 2012. The resort has found that certification not only helps them to protect the environment, but also reduces their operational costs (offsetting certification audit fees), and also supports promotion to guests interested in the environment. Markus Ultsch-Unrath of the Constance Ephelia Resort remarks, *"if you are not green, you will waste a lot of money. If you speak to people about the environment, people are not always serious. But if you talk to them about financial savings, then they will listen. So monitoring, and recording savings, provides a useful tool to persuade management of the benefits of good environmental practices. In other words, being sustainable will keep our environment healthy, will make our local communities happy and will result in financial savings plenty."* (Spenceley, 2016).

## Discussion and conclusions

This research has provided an assessment of the current status of tourism certification in Africa. The key findings are as follows (Spenceley, 2016):

- **No additional tourism certification programmes in Africa are needed:** There are 18 sustainable tourism certification programs operating in Africa. These include 9 African certification programs, and 9 international certification programs operating on the continent. Nine of the programs are recognised under the GSTC, and two of these are also approved by the GSTC.
- **Most certified hotels are present in North, East and Southern Africa.** There are certified hotels present in 19 of 52 African countries. The five countries with the most certifications to hotels are South Africa (153 certifications awarded), Egypt (129 certifications) and Kenya (44 certifications). Across Africa, 33 countries have no certified hotels, and four countries just have one each (i.e. Ethiopia, Gambia, Ghana, and Nigeria).
- **Only a very small proportion of all hotels in Africa have been certified – less than 3.4%.** Collectively, the African and international certification programs have certified at least 715 accommodation facilities Africa (and some hotels have more than one). Although the total actual number of hotels in Africa is not known (e.g. Booking.com lists 20,844 hotels in 51 of Africa's 52 countries, and this is certainly an underestimate). Therefore, the number of hotels that are definitely monitoring their waste and water consumption, and taking efforts to improve their practices, are a tiny proportion of the number of accommodation facilities on the continent: certainly less than 3.4%. This demonstrates that very little progress has been made over the past 30 years in mainstreaming sustainable tourism practices in Africa.

- **Tax allowances and more information would encourage more certification:** Stakeholders suggested that tax allowances and incentives would be effective in encouraging certification. Providing information on the issues, benefits and costs would be useful.
- Hotels do not understand the financial benefits, and more research is needed on the Returns on Investment (ROI) and payback periods. This needs to be shared with hotels so that they understand how good environmental practices can improve their profitability.
- **More government support is needed to promote certification programs that promote them in the hotel sector:** Although three certification programs operating have been developed by government (in Egypt, the Seychelles, and Botswana), others programs face challenges persuading hotels to be assessed if they are not formally endorsed by government. Few countries integrate sustainability criteria into their quality rating systems, and so sustainable tourism certification is an optional ‘nice to have’ rather than a core element of most hotels’ promotional strategy. The RETOSA initiative to harmonise southern African and Indian Ocean star-rating standards, and integrate sustainability criteria, needs to be supported, and could be up-scaled to the continent.

## Recommendations for interventions

The purpose of this section is to highlight areas of support needed in Africa to promote the uptake of sustainable tourism certification. The African Development Bank is currently accepting comment and feedback from its member states to identify the demand for particular types of intervention based on the following findings. Key points to recognised include:

- **Sustainable tourism certification provides an independent mechanism for evaluating and measuring water and waste management in African hotels.** Existing African and International certification programs have adequate criteria, and established processes and systems for working with the hotel sector to assess and monitor their waste and water management systems (in addition to other environmental, social and socio-economic components of sustainable tourism). Furthermore, the GSTC’s integrity program provides a mechanism to recognise that certification standards use a common and comprehensive approach to sustainability.
- **Sustainable tourism certification needs to be expanded and mainstreamed in Africa, policy and strategic framework.** Expanding the geographical scope of existing certification programs (particularly those that that are GSTC recognised or approved), rather than ‘re-inventing the wheel’ by developing new ones. This is recommended as the most cost-effective and efficient way for member states to expand coverage across Africa. Certification needs to be re-positioned as standard and mainstream business practice to have impact at scale. Options for interventions

include: (a) raising awareness of the benefits of sustainable tourism certification among member states (particularly those with currently low levels of certification – see Figure 1), (b) improving linkages between established certification programs and member states, where there the program is aligned with the country’s objectives, (c) providing guidance on the design and implementation of incentives to encourage certification, and (d) encouraging and supporting more African countries to integrate sustainability criteria into their hotel quality-rating programs. These interventions would support Sustainable Development Goal 12: Responsible Consumption and Production, and would also contribute to the objectives of the 10-Year Framework of Programmes on Sustainable Tourism.

## References

- Bien, A. (2005) International Accreditation System and Consolidation of National Systems for Sustainable Tourism Certification to Facilitate Small and Medium Enterprises’ (SMEs) Competitiveness and Market Access: Activity 3.1.4.4: Field tests of marketing "lessons learned". The International Ecotourism Society and Rainforest Alliance.
- Bien, A. (2007) Simple users’ guide to certification for sustainable tourism and ecotourism, 3rd edition, The International Ecotourism Society and Rainforest Alliance.
- Bien, A. (2009) Una guía básica sobre la acreditación de programas de certificación de turismo sostenible, Rainforest Alliance. Cited in Spenceley, A. and Bien. A. (2013) Op. cit.
- Denman, R. (2010) Tourism Sustainability Council Accreditation Manual: A guide to the accreditation of sustainable tourism certification programs, Report to the Global Sustainable Tourism Council, Draft version 1, 29 March 2010.
- Dodds, R. and Joppe, M. (2005) *CSR in the Tourism Industry? The Status of and Potential for Certification, Codes of Conduct and Guidelines*, Study prepared for the CSR Practice Foreign Investment Advisory Service Investment Climate Department, June 2005
- Font, X. (2009) Sustainability labels as ecological modernisation, International Centre for Responsible Tourism: Occasional Paper 19, accessed on 28 December 2011 from <http://www.icrtourism.org/documents/OP19Sustainabilitylabelsasecologicalmodernisation.pdf>
- Graci, S. and Kuehnel, J. (2010) Why go green? The business case for sustainability, Accessed on 2 September 2016 from <http://green.hotelscombined.com/Gyh-The-Business-Case-For-Sustainability.php>

---

GSTC (2016a) GSTC Recognition, accessed on 12 September 2016

from <https://www.gstcouncil.org/en/gstc-certification/recognition-of-sustainable-tourism-standards/program-gstc-recognized.html>

GSTC (2016b) GSTC Approved program, accessed on 12 September 2016

from <https://www.gstcouncil.org/en/gstc-certification/recognition-of-sustainable-tourism-standards/program-gstc-approved.html>

Honey, M. and Rome, A. (2001) Protecting Paradise: Certification Programs for Sustainable Tourism and Ecotourism, Washington, D.C.: Institute for Policy Studies, October 2001

International Tourism Partnership (ITP) (2016) Know How Guide: Sustainable hotel certification schemes, Green Hotelier

Ministry of Tourism and Leisure (MTL) (undated) Ministry of Tourism and Leisure Eco label grant

Mohonk Agreement, (2000) prepared by Guy Chester et al. and adopted November 19, 2000 by participants to the Sustainable Tourism and Ecotourism Certification Workshop,

Mohonk Mountain House, New Paltz, New York, 2000. Available at: [www.rainforest-alliance.org/tourism/documents/mohonk.pdf](http://www.rainforest-alliance.org/tourism/documents/mohonk.pdf).

Neuman, W. L. (2006) Social research methods: Qualitative and quantitative approaches, 6<sup>th</sup> edition, Pearson Education International

Rome, A. (2005) Current range of incentives offered to businesses by “green” certification programs and quality-ratings systems. The International Ecotourism Society and Rainforest Alliance.

Rome, A., Crabtree, A., Bien, A., Hamele, H. and Spenceley, A. (2006) Financial sustainability of sustainable tourism certification programs, The International Ecotourism Society, November 2006

Spenceley, A. (2016) Green certification in the tourism sector in Africa: Monitoring water and waste, Report vs 3.0. Final. Report to the African Natural Resources Centre of the African Development Bank

Spenceley, A. and Bien, A. (2013) Ecotourism standards: international accreditation, local certification and indicators, In Ballantyne, R. and Packer, J. (eds) The International Handbook on Ecotourism

Spenceley, A. and Rylance, A. (2016) The Responsible Tourist: How to find, book and get the most from your holiday, Kindle e-book

Strasdas, W. (2016) KAZA sustainable lodges, Results phase II, Presentation at ITB, Berlin, 8 March, 2016

UNWTO (2004). Indicators of Sustainable Development for Tourism Destinations. A Guidebook. Madrid: World Tourism Organization.

World Tourism Organization (WTO) (2002) Voluntary Initiatives for Sustainable Tourism. Madrid: World Tourism Organization

World Travel and Tourism Council (WTTC) (2016) <http://www.wttc.org/tourism-for-tomorrow-awards/winners-and-finalists-2016/>

TUI Travel Plc (2010) TUI Travel Sustainability 2010, Group Marketing TUI Travel, International Consumer Research

---

**Session 2: Innovation – Sustainable, Experiential, Product and Marketing**

Innovation in sustainable tourism – cases, issues, and challenges

Product, marketing and experiential innovation in sustainable tourism

---

---

## E-Mobility as an Innovation for a Sustainable Destination Future

**Tatjana Thimm**

Constance University of Applied Sciences, Germany, [tthimm@htwg-konstanz.de](mailto:tthimm@htwg-konstanz.de)

**Key words:** e-mobility; tourism; sustainable tourism; tourism mobility; Lake Constance, mobility turn

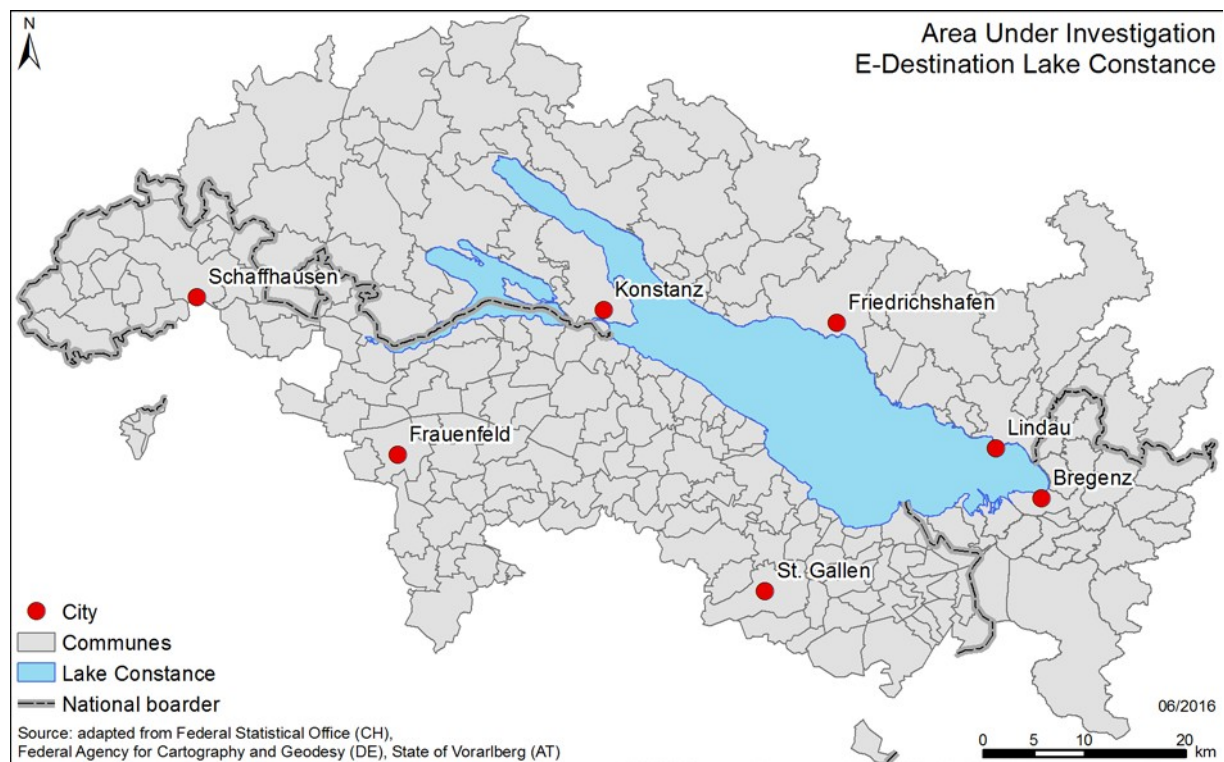
### Abstract

The project "E-Destination" funded by Internationale Bodenseehochschule (IBH) aims to show whether and in what form electro-mobility can play a bigger role regarding tourism in the rural region of Lake Constance (in German: Bodensee), Baden-Württemberg, Germany. Arrival, departure and to a lesser extent mobility within a destination, are producing the most CO<sub>2</sub> in tourism, but also offer the greatest potential for emission reduction (cf. Scott, Peeters, & Gössling 2010). Thus CO<sub>2</sub> savings in tourism mobility are by far the largest thrust towards a more sustainable tourism (cf. Thiel, Nijs, Simoes, Schmidt, van Zyl & Schmid 2016). For the Lake Constance region, increasing the share of *e-mobility* in the remote area is the particular challenge.

**“Electro mobility (or e-mobility)** represents the concept of using electric powertrain technologies, in-vehicle information, and communication technologies and connected infrastructures to enable the electric propulsion of vehicles and fleets. Powertrain technologies include **full electric vehicles** and **plug-in hybrids**, as well as **hydrogen fuel cell vehicles** that convert hydrogen into electricity.” (Source: <http://www.gartner.com/it-glossary/electro-mobility-e-mobility> [19/04/17])

Due to technical and financial challenges, as well as a discrepancy between the sustainable attitude vs. the actual behavior (cf. Cohen, Higham, Stefan & Peeters 2014) of many tourists (attitude-behavior gap) the potentials are not yet sufficiently exploited (cf. Barr & Prillwitz 2014). Therefore, one objective of the project is the acquisition of success factors and barriers of tourism e-mobility in rural regions (cf. Blotevogel, Spiekermann & Wegener 2013, Born 2011 and Bundesregierung 2011). The focus is set on the reduction of usage barriers of electro-mobility for touristic mobility providers and users. Accordingly, the topics of transportation (new mobility offers) and mobility behavior (decision making for e-mobility) are given special attention in the context of the project (cf. Kagerbauer, Heilig, Mallig & Vortisch 2015).





**Fig. 1 Lake Constance Area. Source: ZHAW 2016**

## Aim

The research questions of this projects are:

- What do tourists think about a Lake Constance E-Destination?
- How can the future of tourism mobility/e-mobility be like in 20 years in the Lake Constance region?
- What are possible tourism mobility scenarios for the Lake Constance region?

## Method

During the summer semester 2016 (April to June) primary data was collected by students' groups identifying present state, the vision and the expected future (in 20 years) of tourism e- mobility in the Lake Constance Area. 781 data sets were compiled among tourists at the German shore of the Lake, predominantly in the City of Constance and to a lesser extend in Meersburg, Überlingen and Kreuzlingen (CH). The sampling method can be described as a convenience sample since the students approached the interviewees not strictly at random. Due to the high sample size the clear tendency of the collected answers the survey's results are of importance. However, the technical term "e-mobility" was not defined by the interviewers. The common understanding of e-mobility refers predominantly to e-cars and to a minor extend to e-bikes. The data was then analyzed regarding gaps between vision – expected future and vision – present state via frequency

tables. Additionally a scenario of e-mobility for tourists in the cross- border destination Lake Constance containing an optimistic (mobility turn), a pessimistic and a realistic scenario was developed. Therefore scenario analysis (cf. Kosow & Gaßner 2008) in combination with descriptive statistical analysis of the collected data is the underlying method to answer the research questions.

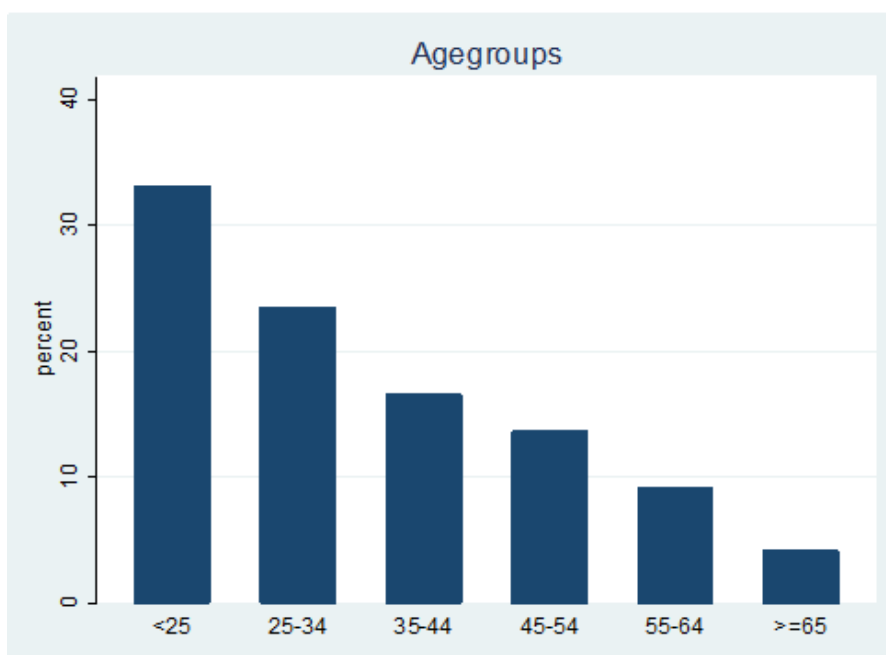
The scenario analysis examines key factors (drivers) from ecological, political, technical economic, social and legal fields into account from the macro level like decarbonisation, climate change or divestment and the micro level like e. g. fiscal promotion of e-cars, legislation on e-cars, e-car price or the price of petrol. These key factors will then be analysed in order to create different future scenarios.

Based on these scenarios recommendations for the development of Lake Constance towards an E-Destination, a mobility turn (cf. Rolshoven 2014), are derived as well as suggestions for a successful transition towards it.

The research area focused on the City of Constance. Constance does have the worst traffic congestions at the Lake. Thus it can be assumed that results at other places would have generated an even more positive result.

## Findings

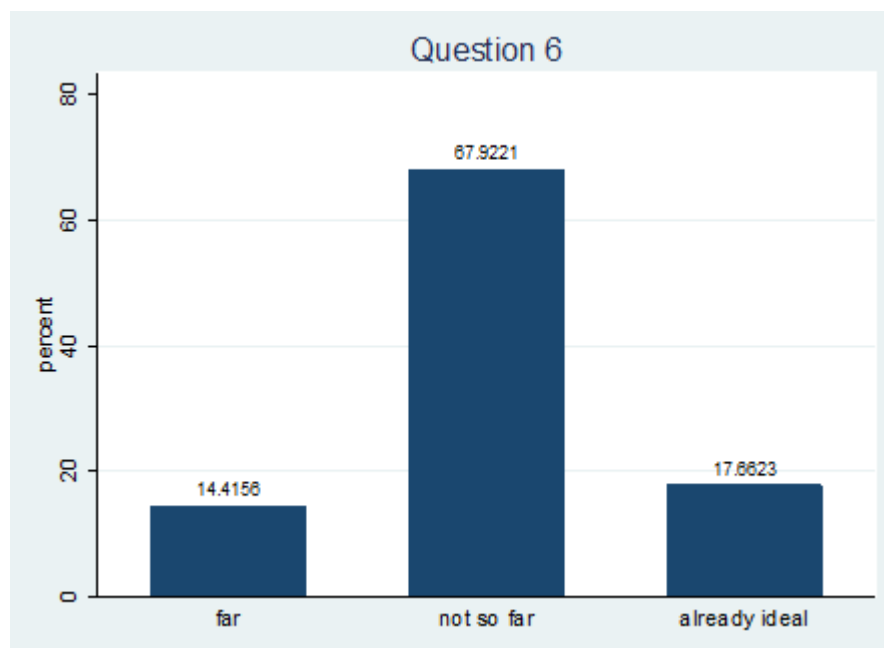
Regarding the age groups an overrepresentation of young people in the sample can be observed. This is due to the students' behavior to approach preferentially their own age group. Therefore the sample is biased in this regard and is not representative regarding the age groups of tourists at Lake Constance (cf. Scherer & Strauf 2010).



**Fig 2 Age groups of the sample (Source: Thimm 2016, Graph: Hehn 2016)**

Regarding gender the sample was almost balanced. The majority of the interviewees were Germans, which have in general quite a positive attitude towards green mobility (Müller-Rommel, p. 82).

The majority of the interviewees considers an *ideal form of mobility* at Lake Constance as not necessarily exclusively e-mobility, with high connectivity and well planned, availability of the own car, generally amended and based on renewable energies. Almost 70% think of the *current state of mobility* at Lake Constance as “not so far from that ideal” (cf. Fig 3).



**Fig 3 “How far away is the destination Bodensee from the ideal tourism mobility? (Source: Thimm 2016, Graph: Hehn 2016)**

Regarding the *future form of mobility* at Lake Constance in 20 years, the interviewees by the majority presume that there will only be e-mobility, that mobility will be well planned and coordinated, the individual car use is still dominant, mobility will be based on renewable energies, amended and better planned.

In summery the tourists are very optimistic and expect more or less an e-destination although this does not necessarily represent for them the ideal form of mobility.

In addition to the assessment of the tourists scenario analysis is used in order to discuss different future mobility scenarios of the Lake Constance destination. First, the relevant factors were identified and classified:

**Tab 1: Factor classification (Source: Thimm 2016)**

## Scenario Analysis – Factor Classification



political	economic	social	technological	legal	ecological
renouncement climate change	divestment	divestment	e-mobility innovations (e. g. range)	legislation	divestment
decarbonisation	gasoline price		innovations as alternatives to e-mobility (e. g. fuel cell)		decarbonisation
	e-car price		CO2 harvesting/conversion		



Source: Thimm 2016

Furthermore the interdependencies of the factors were analysed:

**Tab 2: Factor analysis (Source: Thimm 2016)**

## Scenario Analysis – Factor Analysis

Source: Thimm 2016



effect to from	legislation	renouncement cc	e-car price	CO2 conversion	gasoline price	decarbonisation	alternatives	e-mobility innovations	divestment	active sum
legislation		3	2	2	2	3	2	2	3	17
renouncement climate change	3		2	3	1	3	2	2	2	16
e-car price	2	0		1	1	2	3	3	1	13
CO2 conversion	1	0	1		2	3	2	2	1	11
gasoline price	1	0	0	2		2	1	2	1	9
decarbonisation	1	0	1	3	2		2	2	3	13
alternatives	1	0	2	1	2	2		3	1	10
e-mobility innovations	1	0	3	0	2	2	1		2	8
divestment	2	1	1	0	2	3	3	3		14
passive sum	10	4	11	11	11	18	13	16	13	

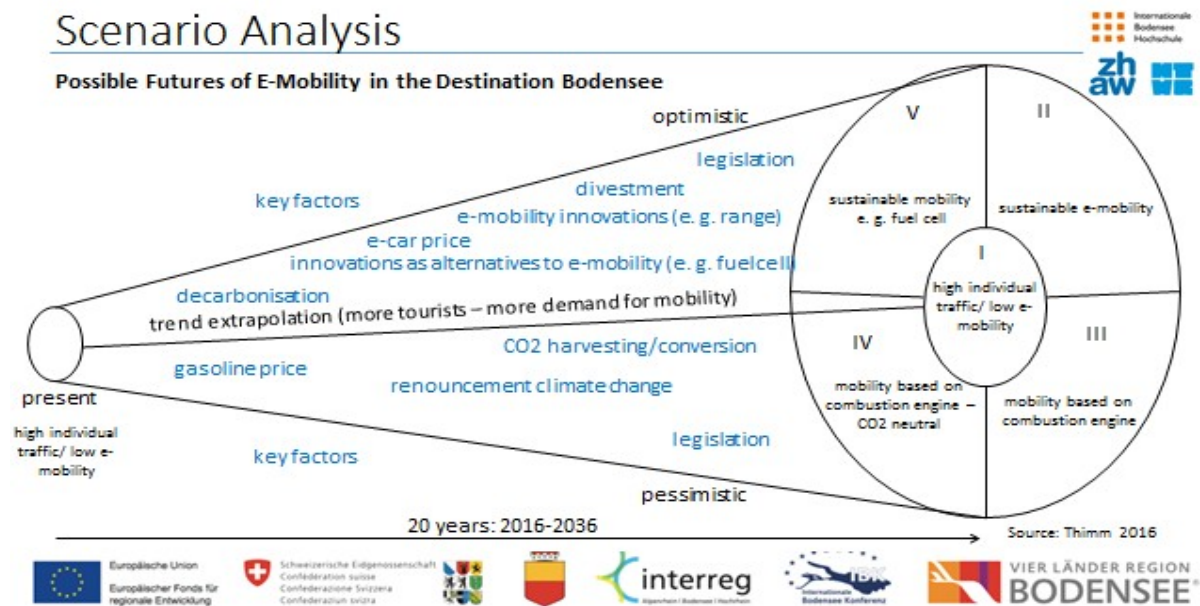


The higher the active sum the more influential the factor is, the higher the passive sum, the more influenced the factor is. According to the authors' assessment legislation and a possible

renouncement of climate change are the most influential factors. Decarbonisation and e-mobility innovations are the most influenced factors.

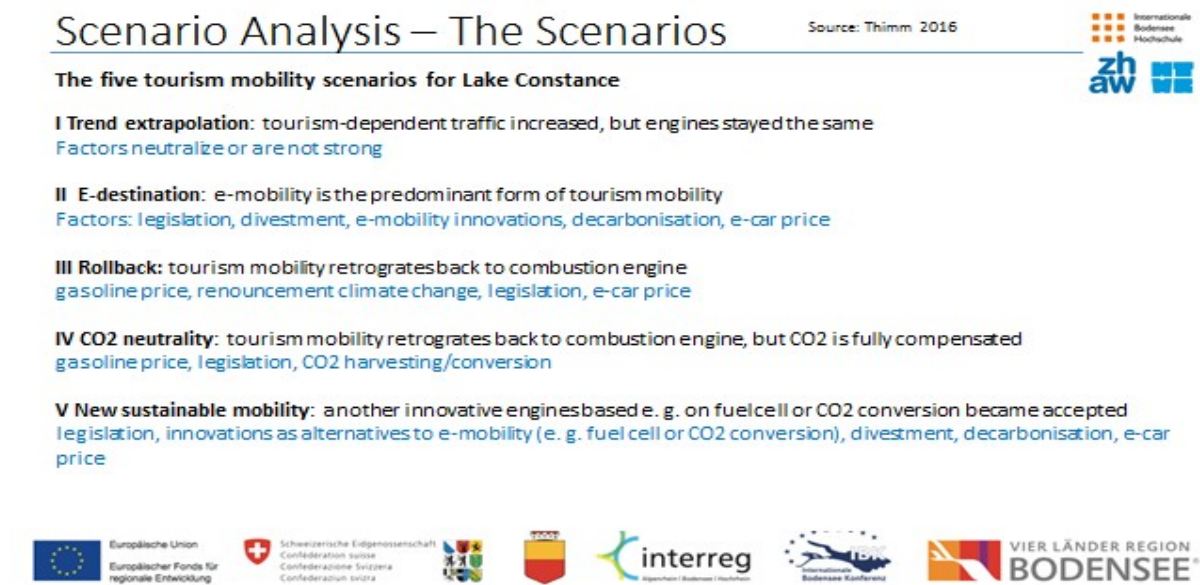
**Conclusion**

A scenario analysis then delivers the following futures:



**Fig 4 Scenario Analysis (Source: Thimm 2016)**

The underlying key factors for the respective futures are as follows:



**Fig 5: Scenarios and key factors (Source: Thimm 2016)**

Tourists consider an e-destination of Lake Constance very possible in the future, but they are also quite content with the current state of the mobility situation. Applying scenario analysis an e-destination of Lake Constance (scenario II) is just one of five possible futures.

Regarding climate change the scenarios II and IV are the most desirable. Since the tourists' attitude is positive towards them a transition towards them should be doable in this regard. Therefore a mobility turn towards one of the optimistic scenarios is basically possible.

## References

- Barr, S., & Prillwitz, J. (2014). A smarter choice? Exploring the behaviour change agenda for environmentally sustainable mobility. *Environment and Planning: government and policy*, 32(1), 1-19.
- Becken, S. 2004. "How tourists and tourism experts perceive climate change and carbon-offsetting schemes." *Journal of Sustainable Tourism* 12 (4):332–45.
- Blotevogel, H. H., Spiekermann, K., Wegener, M. (2013). Deutschland in Europa. Ergebnisse des Programms ESPON 2013. Heft 2: Metropolen und ländliche Räume. BBSR – Bundesinstitut für Bau-, Stadt- und Raumforschung im BBR – Bundesamt für Bauwesen und Raumordnung (Hrsg.).
- Böhler, S., S. Grischkat, S. Haustein, and M. Hunecke. 2006. "Encouraging environmentally sustainable holiday travel." *Transportation Research, Part A: Policy and Practice* 40 (8):652–70.
- Born, K. M. (2011). Ländliche Räume in Deutschland. Differenzierungen, Entwicklungspfade und -brüche. *Geographische Rundschau*, 63. Jg., H. 2, 4- 10.
- Bundesregierung (2011). Nationaler Entwicklungsplan Elektromobilität der Bundesregierung. Abgerufen am 27.07.2016 unter [https://www.bmbf.de/files/nationaler\\_entwicklungsplan\\_elektromobilitaet.pdf](https://www.bmbf.de/files/nationaler_entwicklungsplan_elektromobilitaet.pdf)
- Cohen, S. A., Higham, J. E., Stefan, G., & Peeters, P. (2014). Understanding and governing sustainable tourism mobility: Psychological and behavioural approaches (Vol. 43). Routledge.
- Chen, Yajing. 2011. Nachhaltige Mobilität im Bodenseetourismus. Direktmarketing des ÖPNV bei Bodenseegästen.
- Dickinson, J. E. and J. A. Dickinson. 2006. "Local transport and social representations: Challenging the assumptions for sustainable tourism." *Journal of Sustainable Tourism* 14 (2):192–208.
- Mobil BW GmbH (2016). URL: <http://www.e-mobilbw.de/de/> [17/11/16] Friedl, Ch, M.

- 
- Schmied, and K. Götz. 2005. Traumziel Nachhaltigkeit. Innovative Vermarktungskonzepte nachhaltiger Tourismusangebote für den Massenmarkt. INVENT Tourismus. Berlin.
- Gartner, URL: <http://www.gartner.com/it-glossary/electro-mobility-e-mobility> [19/04/17]
- Götz, K., W. Loose, M. Schmied, and S. Schubert. 2003. Mobility styles in leisure time. Paper presented at 10th International Conference on Travel Behaviour Research, Moving through nets: The physical and social dimensions of travel, August 10-15. Lucerne.
- Hoppe, M. et al. (2012), “Mobility Lake. Nachhaltige Mobilität für Tourismus und Freizeit am Bodensee”, available at: [www.zhaw.ch/de/engineering/institute-zentren/ine/nachhaltige-transportsysteme/mobility-lake/](http://www.zhaw.ch/de/engineering/institute-zentren/ine/nachhaltige-transportsysteme/mobility-lake/) (accessed 19/08/16).
- Kagerbauer, M., Heilig, M., Mallig, N., & Vortisch, P. (2015). Wirkungen zukünftiger Mobilität: mobiTopp–Simulationswerkzeug zur Integration von Carsharing und Elektromobilität in die Mobilitätslandschaft.
- Kosow, H. & Gaßner, R. (2008). Methoden der Zukunfts- und Szenarioanalyse. Überblick, Bewertung und Auswahlkriterien. Berlin. Institut für Zukunftsstudien und Technologiebewertung.
- Müller-Rommel, F. (2001). Sozialwissenschaften. Berlin et al. Springer Verlag. Reddemann, Sophie. 2011. Erlebnis. Fahrten. Bodensee - Potenzialanalyse für touristische Erlebnislinien am Bodensee zur Attraktivitätssteigerung von nachhaltigen Verkehrsmitteln.
- Lumsdon, Les M. and Peter McGrath. 2011. "Developing a conceptual framework for slow travel: a grounded theory approach." Journal of Sustainable Tourism 19 (3):265–79.
- Rolshoven, J. (2014). (Invitation to) Cultural Debate.
- Scherer, R. and Strauf, S. (2010), “Positionierung der Internationalen Tourismusregion Bodensee”, available at: [www.dasbodenseeprojekt.eu/wp-content/uploads/2010/05/Ergebnisse-Ist-Analyse.pdf](http://www.dasbodenseeprojekt.eu/wp-content/uploads/2010/05/Ergebnisse-Ist-Analyse.pdf) (accessed 19/09/16).
- Scott, D., Peeters, P., & Gössling, S. (2010). Can tourism deliver its “aspirational” greenhouse gas emission reduction targets? Journal of Sustainable Tourism, 18(3), 393-408.
- Thiel, C., Nijs, W., Simoes, S., Schmidt, J., van Zyl, A., & Schmid, E. (2016). The impact of the EU car CO<sub>2</sub> regulation on the energy system and the role of electro-mobility to achieve transport decarbonisation. Energy Policy, 96, 153-166.
- Thimm, T. (2011), “Coopetition als Managementgrundlage der internationalen Destination

---

Bodensee”, in Bocksberger, P. and Schuckert, M. (Eds), Innovationen in Tourismus und Freizeit, Erich Schmidt Verlag, Berlin, pp. 195-212.

Thimm, T. (2012), “Comparison of management styles of cross-border destinations: Lake Constance, Upper Rhine and the Catlins”, in Kagermeier, A. and Saarinen, J. (Eds), Transforming and Managing Destinations. Tourism and Leisure in a Time of Global Change and Risk, MetaGIS, Mannheim, pp. 105-20.

Thimm, T & Seepold, R. Past, present and future of tourist tracking. 2016. Journal of Tourism Futures. 2 (1), pp. 43-55

Zschiegner, A. K. and J. Yan. 2006. A long march ahead? Consumer attitudes and economic preferences for sustainable tourism in the domestic Chinese tourism market. Paper presented at E-CLAT Climate change and tourism conference.



---

## **The Role of Tour guide for Sustainable Tourism with the Impact of Emerging Information Technologies**

**Daisy Suk-fong FUNG**

*School of Hotel & Tourism Management, Hong Kong Polytechnic University, Hong Kong,*  
email: [ccdaisy@hkcc-polyu.edu.hk](mailto:ccdaisy@hkcc-polyu.edu.hk)

**Key words:** tour guide, interpretation, mediation, information technology, nature-base tourism, cultural tourism.

### **Abstract**

The emergence of information technology has a profound impact on tourism industry. Today, visitors are more inclined to have searched the Internet to gain more pre-tour knowledge for the destinations than before. The advances of the various mobile technologies are providing high quality on-site assistance to visitors at destinations. Can technology in somehow substitute for the roles and functions that tour guides have previously provided? The aim of this paper is to examine how the tour guide could fit in the changing environment of the emerging technologies with their roles in the sustainable tourism

### **Introduction**

The paper reviews and synthesizes the literature to date on (1) the changing roles and functions of the tour guide (2) the new technologies that have been providing assistance of guiding at destinations and their impacts on tour guides. Based on the framework from the literature reviews, we discussed the roles and contributions of tour guides compared with mobile technology to sustainable tourism. It is supported by cases or examples from Hong Kong to demonstrate the crucial role of tour guides for sustainable tourism.

### ***The roles and duties of the tour guide***

According to European Federation of Tourist Guide Association (FETGA), a tour guide is defined as a person, usually a professional, who guides groups or individual around venues or places of interest such as natural areas, historic buildings and sites, and landscapes of a city or a region; and interprets the cultural and natural heritage inspiringly and entertainingly in the language of the visitor's choice.

Cohen (1985) suggests that the role of the guide has been focused on two issues: one of "leader" and one of "mediator". As a leader, the tour guide has to provide direction,

organized and control. As a mediator, the guide acts as a middleman for the tourists and the host destination. Urry (1990) states that tour guides have an important role to enable tourists to understand other culture. They facilitate tourists to see, hear, smell, taste and feel other culture.

In recent years, there has been a shift away from guides playing a largely instrumental role to playing multiple roles of sustainability outcome such as enhancement of the understanding the value of sites, communities, environment and culture influencing the visitors' behavior and conservation attitudes (Ballantyne, Packer, & Hughes, 2009; Weiler & Kim, 2011).

A relevant study of Weiler and Walker (2014) about the four mediatory domains illustrates the roles of tour guides as a broker for enriching visitors' experiences:

Domain 1: The role of tour guides in *brokering physical access to places and spaces*, not only by physically leading visitors to be in the right place and at the right time, but also by controlling what and how they present and interpret to visitors.

Domain 2: Tour guide is a *broker of encounters or interactions* within and between the visitors and host communities and environments, such as by providing language interpretation and facilitating communication between hosts and visitors (Macdonald 2006 and Weiler and Yu, 2007).

Domain 3: The guide as a *broker of understanding* (Macdonald, 2006; Weiler and Yu, 2007) or intellectual access (McGrath, 2007). Tour guides can mediate understanding by using information as a tool for conveying the significance of a place or site (Ap & Wong, 2001; Bras, 2000).

Domain 4: The final of the four domains is the *brokering of empathy or emotion* in which guides mediate experiences. Many literatures supports that reflection is an important process for integrating sensations, emotions, feelings, memories and ideas. The mediation of empathy or emotion is heavily reliant on a guide's skills in interpretation (Weiler and Walker 2014).

### ***Emerging technologies that are using in presenting attractions and destinations***

The emerging Information and Communication Technologies (ICTs), particularly in mobile technologies are increasing important for delivering tourism services. Mobile phone with high-resolution displays and wireless access to the Internet provide a revolutionary tool to

deliver on-site information to visitors. Geographic Information System (GIS) techniques with Global Positioning System (GPS) functions are adopted to develop a Location-Based Service (LBS). The integrated GIS and GPS techniques including navigation, tracking, guiding and social networking have made possible to show maps and information onto the mobile devices by tracking a person's current location (Choi et al., 2011). The locations of the scenic spots change continuously following the moving tourist. This is very important in

the on-trip phase (Hopken et.al 2010).

### ***Would tour guides be replaced by the emerging information technologies?***

With the popularity of using Information and Communication Technologies (ICT) in pre-tour information searching and one-site technology-assisted experience of mobile application, Can technology somehow substitute for what a tour guide previously provided? Interpretation is among the roles of tour guides that has obtained most attention of the researchers. Tour guide can respond to individual differences and adjust the presentation to tourist needs such as using examples or make comparisons to things that visitors are familiar with or interested in. They can use techniques in verbal communication such as using non-technical languages, storytelling, personification and using non-verbal communication such as visual aids, facial expression, and body languages. Technology cannot perform the function of a human guide in acting sensitively to deal with tourists of different political, cultural and religious background.

### ***Mediation of the tour guide vs. mobile technologies in sustainable tourism***

In the previous section, we discussed Wailer & Walker's four mediatory domains which provide us a framework to examine the mediatory role of tour guide in facing with emerging technologies in the guiding of cultural & heritage destinations.

*Domain 1: the role of brokering physical access:* Mobile guiding systems from the mobile devices cannot distinguish the different types of tourists when displaying the information. In other words, all tourists receive the same types of information. Conversely, tour guides can control what and how they present and interpret to tourists. They can mediate physical access by not only provide opportunities for visitors to experience the local culture and heritage, but also determine what is not reveal to visitors (Hollway, 1981). Their function in dealing the complexity of the cross-cultural issues is something that mobile technologies cannot perform.

*Domain 2: a broker of encounter:* Mobile technologies somehow can provide language interpretation to a certain extent, but it can hardly facilitate a proper encounter between visitors and host communities. Tour guides can act as "go-betweens" and language brokers and actively mediate visitors' encounters. They may also act as a role-model for appropriate social and cultural and environmental behaviour (Weiler & Yu, 2007).

*Domain 3: a broker of understanding:* Mobile devices display the information to the tourists but cannot ensure that tourists can really understand or appreciate it. Tour guides can make use of the techniques such as marking comparison; symbolize the information by using examples that are familiar to the visitors' culture. They can act as role-model to help tourists to have a deeper understanding of the information such as the customs of the host community.

---

Domain 4: *broking of empathy and emotion*: the mobile guiding applications providing information and help tourists to move around sites very successfully. However, the narrative content can hardly create any emotion or empathy for the tourists for the host community.

Tour guides can use their interpretive skills to create affective connections with the host community. Moreover, if the guide is a member of the host community, the effect of the empathy will be much enhanced.

The following case is a good example to illustrate the importance of the mediating role of tour guides:

The *Heritage Tour* in Hong Kong was developed by the Hong Kong Tourism Board (DMO) which showcases tourists the customs and culture of indigenous people living in the New Territories. While visiting an ancestral hall (place where villagers play respect to their ancestors and holding ceremonies and gatherings), the tour guide worked as a role model for the right virtue when tourists visiting the hall. While they were touring around the hall, they came across a group of villagers practicing Tai Chi. The guide explained to the tourists about this type of traditional exercise. She got the acquiescence of the Tai Chi Master to let the group members to take pictures. Mobile guiding system at this point could not response and reacts to this type of happening. Tourists would probably miss the opportunity to have deeper appreciation of this event without the guide's mediation. When passing by the village houses, there were some elderly woman sitting outside chatting to each other. The guide greeted them and chatted with them. The tourists were able to exchange some conversations with these villagers with the help of the guide's language interpretation. They took pictures with the villagers with their consensus. Some friendly elderly women even showed the tourists into her houses. Tour guide acted as a "go-between" and actively mediated their encounter. When walking along the area where visitors were not welcomed by some of the villagers, tour guide advised the tourists to stay away from the area; and especially for their personal safety where there were fierce dogs in the area. The guide's act was to control the physical access so as to reduce any misunderstanding between the visitors and the host community.

The above experience could only be enabled with the mediation of the tour guide. Independent travellers with their mobile guiding systems in hands could hardly acquire these types of experience.

Mobile guiding system can remind visitors the proper behaviour and helps to deliver the education system on screen. However, it is hard to control the understanding and behaviour of the visitors. A number of studies confirm the positive impacts of tour guide's role in reducing on-site misbehaviour (Howard et al., 2001, Skibins et al., 2012). The following example well illustrates the fact that visitors behave in a more responsible way with the presence of tour guide in a nature-based tour:

A tour group was led by an eco-tour guide to Ha Pak Nai, a well-known wetland area that offers the best sunset views in Hong Kong. The guide explained to tour members about the plants, animals, and birds that they saw in the area such as the mangrove, mudskipper and fiddler crab. One of the tour members picked up a fiddler crab into a bottle and intended to bring it home. A few members of the tours tried to persuade him not to do it but were in vain. However, when the tour guide saw the bottle in the hand of the member, she said “should we put it back?” This time he listened to the tour guide and let go the fiddler crab. Although the tour member was the customer and this happened in public area, the guide was being perceived as having a kind “authority” in this circumstance.

The tour guide is in an influential position to modify and correct visitor behaviour to ensure that it is environmentally responsible and contributes to environmentally sensitive attitudes (Armstrong & Weiler, 2002; Kimmel, 1999).

### Conclusions and Implications

Whether we choose to use technology or the technology thrust upon us, we are now living in a world of mobile technology. Tour guides and tour operators should try to co-exist with the technology in operation of tours. This underlines the need for tour guiding to be innovative and value added in ways that technology cannot. This study has revealed that guides’ role of mediation is particularly important in the areas of nature-based tourism and cultural tourism. Guides are also increasingly expected to facilitate and foster sustainable tourism by influencing and monitoring visitors’ behaviour. Furthermore, visitors are more inclined to seek intellectual and emotion engagement in their travel experience. All these imply that tour guides must equip themselves with knowledge, skills and experience in order to perform the role of the mediation well. Quality training and education in transforming tour guides to be an effective mediator for sustainable tourism is in need of further research.

### References

- Armstrong, E., & Weiler, B. (2002). Getting the message across: An analysis of messages delivered by tour operators in protected areas. *Journal of Ecotourism*, 1(2&3), 104–121
- Ap, J. and Wong, K.K.F. (2001) “Case study on tour guiding: professionalism, issues and problems”, *Tourism Management*, Vol.22, pp.551-563
- Ballantyne, R., Packer, J., & Hughes, K. (2009). Tourists' support for conservation messages and sustainable management practices in wildlife tourism experiences. *Tourism Management*, 30, 658e664
- Bras, K. (2000). Dusun Sade: local tourist guides, the provincial government and the (re)presentation of a traditional village in Central Lombok. *Pacific Tourism Review*, 4(2/3), 87e103.

- 
- Cohen, E. (1985) "The tourist guide: the origins, structure and Dynamics of a role", *Annals of Tourism Research*, Vol. 12, pp.5-29.
- Choi, J. Y., J. H. Jung, S. Park, H. J. Shin, and B. M. Chang, (2011) "A Smart Location-Aware Application for Bus Guide based on GPS", *International Journal of Information Processing and Management*, vol. 2, no. 1, pp. 101-108.
- Holloway, J. (1981) "The guided tour: a sociological approach", *Annals of Tourism Research*, Vol.8, pp.377-402.
- Hopken, W., Fuchs, M., Beer, T. (2010). Context-based adaptation of mobile applications in tourism. *Information Technology & Tourism*, Vol. 12 pp. 175-195
- Howard, J., Thwaites, R., & Smith, B. (2001). Investigating the roles of the Indigenous Tour Guide. *Journal of Tourism Studies*, 12(2), 32e39.
- Jezewski, M. and Sotnik, P. (2001) *The Rehabilitation Service Provider as Cultural Broker: Providing Culturally Competent Service to Foreign Born Persons*. Buffalo, NY: Center for International Rehabilitation Research Information and Exchange.
- Kimmel, J.R. (1999). Ecotourism as environmental learning. *Journal of Environmental Education*, 30(2), 40–44.
- Markwell, K. (2001). An intimate rendezvous with nature? Mediating the tourist nature experience at three tourist sites in Borneo. *Tourist Studies*, 1(1), 39e57.
- Macdonald, S. (2006). Mediating heritage: tour guides at the former Nazi party rally grounds, Nuremberg. *Tourist Studies*, 6(2), 119e138.
- McGrath, G. (2007). Towards developing tour guides as interpreters of cultural heritage: the case of Cusco, Peru. In R. Black, & A. Crabtree (Eds.), *Quality assurance and certification in ecotourism* (pp. 364e394). Oxfordshire: CAB International
- Skibins, J.C. Powell, R.B. and Stern, M.J. (2012) Exploring empirical support for interpretation's best practices. *Journal of Interpretation Research* 17(1), 25-44
- Urry, J. (1990) *The Tourist Gaze: Leisure and Travel in Contemporary Societies*. London: Sage
- Weiler, B., & Black, R. (2015). *Tour Guide Research: Insights, Issues and Implications*. UK: Channel View Publication.
- Weiler, B. & Walker, K. (2014). Enhancing the visitor experience: Reconceptualising the tour guide's communicative role. *Journal of Hospitality and Tourism Management*. 21 90-99

---

Weiler, B., & Kim, A. K. (2011). Tour guides as agents of sustainability: rhetoric, reality and implications for research. *Tourism Recreation Research*, 36(2), 113e125.

Weiler, B., & Yu, X. (2007). Dimensions of cultural mediation in guiding Chinese tour groups: implications for interpretation. *Tourism Recreation Research*, 32(3), 13e22.

---

## **Innovation driving structural power changes in peripheral, small island destinations: Case study of Le Morne, Mauritius**

**Chaya Hurnath**

*University of Mauritius, Mauritius [c.hurnath@uom.ac.mu](mailto:c.hurnath@uom.ac.mu)*

**Key words:** Core/periphery tourism system, innovation and entrepreneurship

### **Introduction**

Traditionally, tourism development in small island destinations has been explained through the lens of the Dependency Theory (Bianchi, 2002; Britton, 1982; Brown & Hall, 2000; Buhalis, 1999; Butler, 1993; Hall, 1994; Harrison, 2001; Weaver, 1998). Developed during the years 1960's, this theory studies the nexus between core-periphery whereby demand and capital investment coming from main economic centres are channelled to peripheral destinations which then leads to the repatriation of profits (Frank, 1978; Peet, 1999). Recently, Balcilar, Kutan and Yaya (2017) have provided empirical confirmation of this relationship in the case of Cyprus with mainland partners of Greece and Turkey.

Adopted in island destination research, some studies have drawn parallels between specialist commodity plantations and enclave tourism resorts; both of which focus on external metropolitan markets and capital investment (Finney & Watson, 1977). However, it has been observed that such type of relation may involve domination and exploitation by major, developed centres over underdeveloped, peripheral countries (Britton, 1982; Jordan, 2004). Tourism is thus seen as reproducing a development model that increases dependency and that exacerbates structural inequalities between the core and the periphery. In their studies, Turner and Ash (1975) suggested that peripheral islands are commoditised into 'pleasure peripheries' and Britton (1981) highlighted the lack of integration of the tourism industry into local economies.

However, the Dependency Theory and resulting structural model has tended to be deterministic over time and has been severely criticised for its over-simplistic and unsophisticated applications (Chaperone & Bramwell, 2013). Furthermore, it has been criticised for promoting the assumption that in peripheral island destinations, a single pattern of tourism development is dominant, which is large-scale, based on externally owned resort enclaves and that attracts international tourists. It has failed to explain the emergence of local entrepreneurship, thus in accounting for changing tourism power structures.



---

## **Aim of the paper**

The aim of this paper is to analyse changes in power structures from core to periphery through local entrepreneurship and innovation. In this perspective, Schumpeter's (1934) five types of innovation and actor's entrepreneurship are analysed to understand changes that they are bringing to the traditional, enclave resort hotels in the area of Le Morne in Mauritius. Three main periods of entrepreneurship and innovation can be observed in the area as from 1950's till the present day. These innovation and entrepreneurship have thus brought about structural changes in power and morphological changes on the local territory. Thus, secondly, from a geographical perspective, shifts in accommodation structures, foreign and local investment, varying scales of tourism service providers and procurement services will be mapped out.

This research aims primarily to be an empirical one, whereby it contends that innovation and entrepreneurship do help to contribute to structural changes in the tourism system in a local territory. However, it also recognises that core/periphery power structures through investment, procurement and even human resources have not completely been replaced by local entrepreneurs in the le Morne area. In fact, there is a duality of agency and structuralist power relations (Bramwell & Meyer, 2007; Erskine & Meyer, 2012; Giddens, 1984; Meyer, 2013).

## **Method**

The case study location is Le Morne area, found on the South West Coast of Mauritius. Three main villages spanning the area are qualified as the least developed according the national statistics (Statistics Mauritius, 2012), despite the first beach resort opening during the 1950's and implantation of four other hotel resorts since then. To achieve our first objective, a programme of semi-structured interviews were conducted with various types of tourism service providers, ranging from five-star hotels to guesthouses, food and beverage, tourism activity providers (both inland and nautical activities) and destination management companies.

Using the method developed by Meyer (2013), a standardised interview schedule was used and comprised of the four main sections:

- (i) tourism statistics (e.g. types of visitors, nationality, length of stay, average spending, seasonality, main reason to come to le Morne),
- (ii) ownership and investment history of the business,
- (iii) Procurement of inputs (types of inputs required, procurement location, value of imports as compared to local or national procurement)
- (iv) Data of employment (number of employees, ratio of local versus foreign or national employees, types of job responsibilities, seasonality of the job, etc).

Secondly, in-depth interviews were conducted so as to understand the motivations, perspectives and innovation capacities of the service providers. They were selected mostly based on their willingness to converse with us, thus referring more to a convenience sampling. These interviews were mostly recorded (except when the interviewee did not agree), transcribed and thematic open coding was used.

## **Findings**

Data collected will be represented on maps that will show the layout and extent of properties of the service providers, the population of different types of service providers, their types of procurement (local, national or foreign, or hybrid models), and population characteristics of their employees. The visual representations of data will be supplemented by the analysis of in-depth information acquired on the innovations capacities of the respondents. Three different periods of local innovation can be observed and these point to the changing tourism-related power structures.

## **Discussion and conclusion**

The findings of this paper provide empirical evidence that innovation, entrepreneurship and local investment can play an important role in the agency capacity of local actors and that could lead to structural power change in the territory. The study shows that foreign hotels resort groups exist alongside local accommodation and other tourism service providers at le Morne area, thus highlighting a duality between power structures and agency in the tourism system. This case study can contribute to the debate on the peripherality of island destinations and thus, dispel the rather deterministic and simplified myth that power of tourism system is concentrated by core and northern centres.

## **References**

- Balcilar, M., Kutan, A.M., & Yaya, M.E... (2017). Testing the dependency theory on small island economies: The case of Cyprus. *Economic Modelling*, 61, 1-11.
- Bianchi, R. (2002). Towards a new political economy of global tourism. In R. Sharpley & D. Telfer (Eds.), *Tourism and development. Concepts and issues* (pp. 265– 299). Clevedon: Channel View.
- Bramwell, B., & Meyer, D. (2007). *Networks, power and policies in transition*. *Annals of Tourism Research*, 34(3), 766–788.
- Britton, S. (1981). *Tourism, dependency and development: A mode of analysis*. Development Studies Centre Occasional Paper 23. The Australian National University, Canberra.

- Britton, S. (1982). The political economy of tourism in the third world. *Annals of Tourism Research*, 9(3), 331–358.
- Brown, F., & Hall, D. (2000). *Tourism in peripheral areas: Case studies*. Clevedon: Channel View.
- Buhalis, D. (1999). Tourism on the Greek islands: Issues of peripherality, competitiveness and development. *International Journal of Tourism Research*, 1, 341–358.
- Butler, R. (1993). Tourism development in small islands. Past influences and future directions. In D. Lockhart, D. Drakakis-Smith, & J. Schembri (Eds.). *The development process in small island states* (pp. 71–91). London: Routledge.
- Erskine, L., & Meyer, D. (2012). Influenced and influential: The role of tour operators and development organisations in tourism and poverty reduction in Ecuador. *Journal of Sustainable Tourism*, 20(3), 339–357.
- Finney, B., & Watson, K. (Eds.). (1977). *A new kind of sugar: Tourism in the Pacific*. Santa Cruz: Center for South Pacific Studies, University of California, Santa Cruz.
- Frank, A. (1978). *Dependent accumulation and underdevelopment*. London: Macmillan.
- Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Cambridge: Polity Press.
- Hall, M. (1994). *Tourism and politics. Policy, power and place*. Chichester: Wiley.
- Harrison, D. (2001). Tourism in small islands and microstates. *Tourism Recreation Research*, 26(3), 3–8.
- Jordan, L.-A. (2004). Institutional arrangements for tourism in small twin-island states of the Caribbean. In D. Duval (Ed.), *Tourism in the Caribbean. Trends, development, prospects* (pp. 99–118). London: Routledge.
- Meyer, D. (2013). Exploring the duality of structure and agency – the changing dependency paradigms of tourism development on the Swahili coast of Kenya and Zanzibar. *Current Issues in Tourism*, Vol. 16, Nos. 7–8, 773–791.
- Peet, R. (1999). *Theories of development*. New York: Guilford Press.
- Taglioni, F. (2007). La périphéricité: du concept au lobby politique. *L’Espace politique*, n°2, p. 5-11.
- Turner, L., & Ash, J. (1975). *The golden hordes: International tourism and the pleasure periphery*. London: Constable.

Weaver, D. (1998). Peripheries of the periphery. Tourism in Tobago and Barbuda. *Annals of Tourism Research*, 25(2), 292–313.

---

## **New Forms of ‘Responsible Tourism’ in Refugee Camps and Contested Regions: the Case of Western Sahara**

**Jaume Guia, Sil van de Velde & Lauren Chan**

*University of Girona, Catalonia, Spain, [jaume.guia@udg.edu](mailto:jaume.guia@udg.edu)*

*University of Girona, Catalonia, Spain, [silvandelvelde@hotmail.be](mailto:silvandelvelde@hotmail.be)*

*University of Ljubljana, Slovenia, [laurenkanachan@gmail.com](mailto:laurenkanachan@gmail.com)*

**Key words:** New Forms of Tourism, Contested Places, Responsible Tourism, Western Sahara

### **Abstract**

Responsible Tourism is about “making better places for people to live in and better places for people to visit”. Traveling responsibly is thus about managing travel and destinations in an environmentally and culturally responsible way and designing tourism programs and individual trips carefully, to provide travellers with the experience they seek, while leaving a positive footprint on their destination (Leslie, 2012).

### **Concept**

Contested regions and related spaces like refugee camps are not always the most inviting destinations for travellers. However, even though conventional tourism may not even exist, some forms of travel do exist. Attention to tourism in these places is scant (Timothy, 2010) and as a consequence there is lack of knowledge about these types of visits, whether they are instances of responsible travel, or about what is responsible travel like in this type of contested places. It is, thus, the aim of this paper to contribute to fill this gap by looking at the history of one of the oldest cases of place contestation in Africa: Western Sahara.

This place was a Spanish colony until Spain handed this land to Morocco in 1974. A war immediately ensued between the Sahrawi, who a few years earlier had started the struggle for independence, and Morocco who occupied the country. As a result of this war, most Sahrawi retreated to neighbouring South-eastern Algeria where they established the Refugee Camps of Western Sahara. War stopped in 1991 and since then the country remains divided and contested. As a result, the largest area, on the West, is under the occupation of Morocco, while the Eastern area is under the control of the Sahrawi, which they name ‘Liberated Territories’. A relevant ‘third region’ is the Sahrawi ‘exclave’ of the Refugee Camps, within Algerian territory, from where the Sahrawi govern both the Camps and the Liberated Territories, and claim the right to govern the remaining ‘Occupied Western Sahara’.

As Western Sahara is a divided contested area, where each side of the divide is under the control of an opposing government, this research refers only to those regions governed by the Sahrawi. Within the framework of an International Cooperation project, the authors have collected data in two field trips to the area, by means of which they gained first-hand knowledge of the place and access to information about the visitors of this unique, contested 'destination', and about their public policy with regard international visits. All six Refugee Camps and the whole Northern region of the Liberated Territories were visited and interviews with relevant members of government and many members of the local communities took place. Data thus collected was later coded to identify types of tourism and whether they fit with the concept of responsible travel.

Findings show how at an early stage, visitors' motivations were restricted to two types: political activism and solidarity and humanitarian support in form of donations and/or social volunteering. Together with these first flows of visitors to the Camps, an innovative type of mobility was developed, by means of which Sahrawi children from the camps could travel during the summer months away from the suffocating temperatures, invited by hosting families abroad. In exchange, the hosting families are invited to visit the camps and stay in the children's family homes. A two-way flow of visits was thus established through which, a particular type of VFR tourism became dominant. A large and strong network of international support was thus created. Nonetheless, over time and with the perpetuation of the political *status quo* the attention of international media on the Sahrawi conflict started to decrease. Similarly, the emergence of a 'market' economy in the camps affected external perceptions of the Sahrawi's needs of humanitarian support. In all, attracting new visitors and supporters became difficult. Awareness-raising activities become thus, at this stage, preferential in order to counteract this lack of attention by international media and the stagnation of the international solidarity network. For this purpose, a series of international art and sport events started to take place by means of which, the presence of 'celebrities' in the events or simply the attractiveness of practising arts or sports in such a unique setting, new visitors were attracted, whose primary motivation were not solidarity but who, after the visit could become solidary and raise awareness throughout their social networks.

The path was opened for new forms of tourism: international youth gatherings, language learning programmes, discovery trips and other types of special interest tourism. In all these cases, the main motivation for travelling does not have to be humanitarianism nor political solidarity, and in most cases it will be the satisfaction of other visitors' special interests in an extremely unique environment. For this purpose, opening the Liberated Territories to these visits enhances enormously their attractiveness, or even makes them possible at all, as many visitors' interest could only be satisfied when these territories are taken into consideration.

Results show that after so many years as refugees the Sahrawi society has necessarily been transformed, and the types of visitors have also evolved along that transformation: the camps have become something close to towns, the economy has changed from one of aid-beneficiaries to a sort of market economy, and, as the Sahrawi government controls vast areas of their native Western Sahara land, which Sahrawi can access, they are becoming less and less functional

refugees and living more and more like ordinary citizens. The types of tourism have also evolved from refugee-related (solidarity tourism) to special interest and more general types of tourism. Nevertheless, the places thus visited continue to be, in formal terms, refugee camps and a 'frozen' war zone, whose whole existence and identity relies on the hope of these people to become a free nation in their native land. International support is thus paramount for this endeavour and therefore any new form of tourism must also require, from visitors, post-trip activism in terms of international awareness raising and advocacy, and/or humanitarian/political solidarity towards the Sahrawi nation. Otherwise they would not qualify as responsible travel and would not contribute to their cultural and political sustainability. The ethical implications of travelling to such places can thus be explored.

**References:**

Leslie, D. (2012). *Responsible Tourism: Concepts, Theory and Practice*. CABI.

Timothy, D.J. (2010). Contested Place and the Legitimization of Sovereignty Claims through Tourism in Polar Regions. In M. Hall & J. Saarinen (Eds): *Tourism and Change in Polar Regions: Climate, Environments and Experiences* (pp. 288-298). Routledge.

---

## Transit Tours for Airport Passengers – Issues and Challenges

**Priscilla Chau Min Poon**

*Hong Kong Polytechnic University, Hong Kong, [Priscilla.poon@connect.polyu.hk](mailto:Priscilla.poon@connect.polyu.hk)*

**Key words:** transit passengers, transit tourism, airport hub, same-day visit, transit stop, transit destination.

### Introduction

Since the advent of liberalisation of the aviation industry in the late 1970s, many countries have adopted the liberal policy in air transport and entered bilateral air service agreements, often referred to as “open skies agreements” (OSAs), whenever other countries will accept it (International Council of Airport Operators, 2013). Exploiting the connectivity of the OSA between pair nations, many airport operators have developed a hub and spoke airline network (De Barros et al., 2007), which promotes transit routes and connectivity of near or far destinations. The hub and spoke airline network promotes tourism flows and configures new tourism spaces (Redondi, Malighetti & Paleari, 2012); it generates an emergent market of transit passengers who make fair contribution to the transit destination. In addition, the breakthrough from a regulated environment to a liberalized one has provided travellers with a much greater degree of individual choice over which airport to use in terms of convenience and transit experience.

Airport operators are responding to such change in travel pattern by providing new or improved products and services to the increasingly large volume of transit passengers. However, the concept of transit tourism and experience of transit passengers in the transit destination have rarely been critically examined and are only marginally understood from theoretical and empirical stand points.

### Aim

The aim of this paper serves to examine the volume of transit passengers and the customized tourism products and services for transit passengers in major transit hubs in the world, and uncover the challenges faced by the transit destinations in producing and providing such innovative products and services. It focuses on improving benefits to the destination, enhancing the experience of transit passengers and development of transit tourism.



---

## Methodology

Unlike origin and departing passengers at the airport, transit passengers are kept in the transit hall of the airport and their mobility is confined within the restricted area, unapproachable by outsiders or any other airport users. . Owing to the crucial factor of inaccessibility to the transit passengers in any practical field research, the most viable option of transit passenger study by desk research method.

Desk research, one of the secondary data collection methods, involves collecting data from existing resources (Denscombe, 2010). The approach is extracting relevant information from online resources by directly browsing the specific information from the official websites and online publications, and extracting the information out of these sites. By so doing, it is possible to generate legitimate research data that can be analysed, the result will be a reliable assimilation of evidence to reach a reliable conclusion (Bennette et al., 2005).

The desk research involves in this study is done by collecting relevant information from industry organisations of aviation, airport authorities, home based airline operators and national tourism organisations. These organisations announce and publish tourism performance reports (e.g. annual throughout) or industry updates (e.g. new flight network) on a periodic term, of which a great extent is available online. This study filters examples of the supply side that produces and provides customised tourism products and services for transit passengers at the airports. In particular, it examines the initiatives of the world's busiest airport hubs that go into delivery of tourism products for consumption by transit passengers.

A systematic approach is adopted in this study by desk research, it begins with key word search, the inclusion and exclusion criteria are also applied in the search. The keyword search was the world's ten busiest airports, and including only the products and services dedicated a specific population i.e. transit passengers. Hence, the search for other airports and other airport user's namely originating and departing passengers were excluded in the process.

Thereafter, selecting and filtering information was done by developing a series of spreadsheets to gather and organise the results. This included items such as name of airport, location, annual throughput of transit passengers, types of transit products and services. The data collected was analysed in a descriptive statistics method and the results forms the corpus directly relevant to the research question.

## Findings

According to the ranking by Airport Council International in terms of annual international tourist throughput in 2014 (International Council of Airport Operators, 2014), the top ten airports in the world, in descending order, are in Dubai, London, Hong Kong, Paris, Amsterdam, Singapore, Frankfurt, Seoul, Istanbul and Bangkok; and they received between 37 to 69 million of transit passengers in 2014. These airports provide a range of products and services including transit tours for transit passengers.

These hub airports are leveraging the tourism attributes of the destination to enhance experience of transit passengers (Amsterdam Schiphol Airport, 2016; Frankfurt Airport, 2016.) Airport operators have taken the initiative of entering into collaboration with DMOs and tour service providers, so that the airport can offer same day visit in the form of a transit tour for transit passengers in more or less half day duration (Changi Airport, 2017; Suvarnabhumi Bangkok Airport, 2009, Incheon International Airport, n.d.) Collaboratively, they provide clear information on various same day tour options and instructions on way to access to the transit tour on the websites of the airport, DMO and or other travel portals.

The transit tours to enable transit passengers to have a quick tour of the highlights of the city before returning to the airport timely enough to catch their connecting flights. The tours are exclusively catered for bona fide transit passengers who must have at least 2 to 6 hours of transit time to be eligible for the tour (Hong Kong Tourism Board, 2017; Turkish Airline, 2017; Korean Air, 2016; Dubai City Tours, 2016; Amsterdam Schiphol Airport, 2016; Paris Connection, 2016; London Magical Tour, 2016). There is a regular schedule to fit the transit duration of the transit passengers.

The visa processes in many countries remain the major obstacle to tourism development (UNWTO, 2013). In addition, short transit time in between flights makes leaving the airport impractical (McKercher & Tang, 2004). Correia et al (2007) also confirm that as flight connecting times increases, transfer passengers will have longer stays to consume airport facilities and they would likely value their experience in those facilities. All in all, the dwell time at the airport restricts the activities in which transit passengers can participate and confines the area for the activities to take place.

## **Conclusion**

Nowadays, transit and transfer traffic represents an important market for established airport hubs (McKercher & Tang, 2004). The transit tours for air passengers who depart and return to the airport the same day is short-term movements in the immediate and extended environment of tourist dispersion (Stetic et al., 2011). By introducing transit visa and with minimal investment in tourism offer, same day trips will not only meet the demand of transit passengers but also contribute to the incremental arrival statistics of the transit destination.

## **Contribution and limitations**

This paper uncovers, from the supply side, the innovation of tourism products and services to cater to an emergent group of travellers i.e. transit passengers at airport hubs. It also suggests new line of inquiry on the conditions for accessibility to transit tours. It reveals the potential of generating incremental arrival to the destination. There is a research gap from the demand side, particularly on how transit passengers consume the transit destination in relation to their discretionary time. It calls for future research relating to the barriers and enablers for transit tourism.

The contribution of this paper will make to the literature and logical connection to the argument on managing sustainable tourism development of urban centres, most of which

focuses on origin-and-destination passengers that comprise the majority users of the airport and consumers of tourism attractions. There is also a possibility to use the findings to conceive a sustainable tourism strategy for developing stopover traffic (for airlines) and stopover holiday (for air passengers), thus generating overnight arrival and longer duration of stay for destinations.

## References

- Airport Council International (2014). World's Busiest Airport Preliminary Ranking. Retrieved 30 November, 2016. Retrieved from <http://www.aci.aero/News/Releases/Most-Recent/2016/04/04/ACI-releases-preliminary-world-airport-traffic-rankings>
- Amsterdam Schiphol Airport Layover Guide. (2016, December1). Retrieved from <http://www.amsterdamtips.com/tips/amsterdam-airport-layover.php>
- Bangkok Airport Transfer Passenger Tours. (2016, December1). Retrieved from <http://www.bangkok-travel-ideas.com/bangkok-airport-transfer-passenger-tours.html>
- Bennett, J., Lubben, F., Hogarth, S., & Campbell, B. (2005). Systematic reviews of research in science education: rigour or rigidity?. *International Journal of Science Education*, 27(4), 387-406.
- Changi Airport. (n.d.). In Transit. Retrieved April 24, 2015, from <http://www.changiairport.com/in-transit>
- Correia, A. R., Wirasinghe, S. C., & de Barros, A. G. (2008). A global index for level of service evaluation at airport passenger terminals. *Transportation Research Part E: Logistics and Transportation Review*, 44(4), 607–620.
- De Barros, A. G., Somasundaraswaran, A. K., & Wirasinghe, S. C. (2007). Evaluation of level of service for transfer passengers at airports. *Journal of Air Transport Management*, 13(5), 293–298.
- Denscombe, M. (2010). *The good research guide: for small-scale social research projects*. Open University Press.
- Dubai Layover Transit Tour from Dubai Airport. Retrieved from <http://dubaicitytours.net/dubai-layover-transit-tour-dubai-airport/>
- Frankfurt Airport Tours. (2016, December 1). Retrieved from <https://www.frankfurt-airport.com/en/flights---more/flights.html>
- Hong Kong International Airport. (2015). Passenger Guide - Transfer / Transit Procedures -. (n.d.). Retrieved November 29, 2016, from <http://www.hongkongairport.com/eng/passenger/transfer->

[transit/all/transit\\_procedures.html](http://transit/all/transit_procedures.html).

Hong Kong Tourism Board. (2017). Transit Tours. Retrieved from

<http://www.discoverhongkong.com/eng/see-do/tours-walks/guided-tours/transit/index.jsp>

Incheon International Airport - Transit Tours. (n.d.). Retrieved November 29, 2016, from

[https://www.airport.kr/iiacms/pageWork.iaa?\\_scode=C1202020600](https://www.airport.kr/iiacms/pageWork.iaa?_scode=C1202020600)

International Council of Airport Operators. (2013). Worldwide Air transport Conference Paper. Retrieved November 30, 2016, from

<http://www.icao.int/Meetings/atconf6/Pages/WorkingPapers.aspx>

Korean Air (2016). Transit Tours. Retrieved

from <https://www.koreanair.com/global/en/offers-promotion/excellent-transit-program/transit-tours-schedule.html>

London Layover Tours. (2016, December 1). Retrieved from

[http://www.londonmagicaltours.com/london\\_layover\\_airport\\_tours\\_londonairport\\_tours.html](http://www.londonmagicaltours.com/london_layover_airport_tours_londonairport_tours.html)

McKercher, B., & Tang, E. (2004). The challenges of developing transit tourism. *Asia Pacific Journal of Tourism Research*, 9(2), 151–160.

Paris Airport Layover Tour (2016, December 1) Retrieved from

[http://www.parisconnection.fr/paris\\_transfers/airport-layover-tours.php](http://www.parisconnection.fr/paris_transfers/airport-layover-tours.php)

Redondi, R., Malighetti, P., & Paleari, S. (2012). De-hubbing of airports and their recovery patterns. *Journal of Air Transport Management*, 18(1), 1–4.

Visit Korea (2014). Transit Tour .Retrieved from

[http://english.visitkorea.or.kr/enu/SI/SI\\_EN\\_3\\_5\\_1.jsp](http://english.visitkorea.or.kr/enu/SI/SI_EN_3_5_1.jsp)

Singapore Changi Airport (2017). Free Singapore Tour - City Sights Tour. Retrieved from

<http://www.changiairport.com/content/cag/en/airport-experience/attractions-and-services/free-singapore-tour/free-singapore-tour-city-sights-tour.html>

Stetic, S., Simicevic, D., & Stanic, S. (2011). Same-day trips: A chance of urban destination development. *UTMS Journal of Economics*, 2(2), 113–124.

Turkish Airline Tour Istanbul Is Free. ( 2016, December 1). Retrieved from

<http://www.istanbulinhours.com/how-to-apply>

United Nation World Tourism Organisation (2013). Tourism Ministers call for higher policy coordination between tourism and aviation. Retrieved on 30 November, 2015, from

<http://media.unwto.org/press-release/2013-11-08/tourism-ministers-call-higher-policy-coordination-between-tourism-and-aviat>

---

## **Travelers Satisfaction with Dimensions of Tourist Tertiary Support Services and its Effect on Destination Loyalty**

**Boopendra Seetanaah & Viraiyan Teeroovengadam & Kesseven Padachi**

*University of Mauritius, Mauritius, [b.seetanaah@uom.a.mu](mailto:b.seetanaah@uom.a.mu)*

*University of Mauritius, Mauritius, [v.teeroovengadam@uom.ac.mu](mailto:v.teeroovengadam@uom.ac.mu)*

*University of Technology, Mauritius, Mauritius, [k.padachi@umail.utm.ac.mu](mailto:k.padachi@umail.utm.ac.mu)*

**Key words:** Destination Satisfaction, Destination Loyalty, Tertiary Support Services, Tourism, Mauritius

### **Introduction**

Loyalty of customers is recognized as a key ingredient for the success of organisations. A 5% increase in customer retention has been linked to 85% increase in profits (Reichfield and Sasser, 1990). As noted by Assael (1984), long term organizational success does not depend on first time purchase but rather on repurchase. The same principles have been found to apply at destination level (Oppermann, 2000). With increasing recognition of the importance of destination loyalty, studies in tourism and hospitality have given more and more consideration to this concept during the last years (Gursoy, Chen and Chi, 2014; Hultman, Skarmeas, Oghaziand Beheshti, 2015; Sun, Chi and Zu, 2013; Zhang, Fu, Cai and Lu, 2014). According to Chen and Phou. (2013, p.270) “*destination loyalty has become a critical part of destination marketing and management research, due to increasing competition and the recognition of the importance of loyal visitors*”. Undeniably, gaining a better understanding of destination loyalty, so as to enhance it, depends on knowledge about its determinants.

Numerous studies have focused on the identification and assessment of determinants of destination loyalty (Meleddu, Paci and Pulina, 2015; Gursoy, Chen and Chi, 2014; Zhang *et al.*, 2014; Sun *et al.*, 2013; Prayag and Ryan, 2012; Chi, 2012; Alegre and Cladera, 2009; Lee *et al.*, 2007; Yoon and Uysal, 2005). A major antecedent of destination loyalty identified by past studies in hospitality and tourism and also considered to be the most influential one, is customer satisfaction (Bowen and Chen, 2001; Chi and Qu, 2009; Neal and Gursoy, 2008; Ozdemir, Aksu, Ehtiyar, Çizel, Çizel, and İçigen, 2012; Prentice, 2013). Empirical findings have demonstrated that satisfied customers are more likely to revisit the destination and recommend the destination to others (Alegre and Garau, 2010; Chi and Qu, 2009; Neal and Gursoy, 2008; Gursoy *et al.*, 2007; Oppermann, 2000; Prayag and Narang, 2012). Most studies have conceptualized and operationalized destination satisfaction as an overall post-

purchase evaluation of the destination experience and as a unidimensional construct (Chen and Chen, 2010; Chen and Phou, 2013; Hultman *et al.*, 2015; Lee *et al.*, 2007; Prayag and Narang, 2012; Sun *et al.*, 2013). However, tourist satisfaction is considered to comprise of a mixture of diverse experiences (Gursoy *et al.*, 2014). Consequently, some studies have looked at satisfaction of tourists with various components such as hotels, shopping malls, food service and tourism sites. One aspect which has been neglected by the literature so far is that of support facilities such as banking, health and security services, termed as tertiary support services (Dwyer, Forsyth and Spurr, 2010). This study focuses on filling this particular gap in the literature.

This empirical study is conducted in Mauritius, which is an Indian Ocean Island reputed as a sun and sea destination in Africa. The tourism sector is one of the most important economic pillars of the Mauritian economy, contributing to an estimated 11.3% of GDP in year 2014 (WTTC, 2015). After the EPZ sector, the tourism sector has been an important contributor to the development of the economy with tourists' earnings reaching around Rs 44.6 billion in the year 2014 (WTTC, 2015). In 2014, the tourism sector produced 60,000 direct employment which amounts to 10.9% of total employment in Mauritius (WTTC, 2015). The development of tourism in Mauritius relies on the development of appropriate infrastructure, which caters for tourist's needs and encourages investment by the private sector in competitive tourism product (Sannasse and Seetanah, 2015). Research on destination loyalty and satisfaction in the Mauritian context has been scarce. Moreover, two related past studies by Prayag (2009) and Ryan and Prayag (2012) conducted in the Mauritian context focused on overall satisfaction and did not consider the multi-attribute aspect of destination satisfaction. The study is therefore of substantial contextual relevance as well, and consequently also contains a descriptive assessment of satisfaction of tourists with support services using the importance-performance analysis, in view of the making some additional context specific recommendations for Mauritius.

In light of the above, the objectives of the present study are therefore to (1) identify key attributes and dimensions of tourist tertiary support services, (2) evaluate the importance and satisfaction of tourists with them, and (3) assess the impact of tourist tertiary support services on destination loyalty. The next section presents the review of existing literature and this is followed by a description of the methodology employed. The data analysis, discussion and conclusions are then presented.

### **Literature Review Destination Loyalty**

Loyalty to a destination refers to the level of commitment of visitors to the destination (Rodger *et al.*, 2015). Customer loyalty has been linked to higher level of profitability and therefore constitute a key ingredient of business success (Ozdemir *et al.*, 2012; Stephenkova and Mills, 2010; Zhang *et al.*, 2014). The concept of loyalty has been defined in three distinct ways (Gursoy *et al.*, 2014). The three approaches are attitudinal, behavioural and a combination of both the attitudinal and behavioural perspective (Gursoy *et al.*, 2014). The behavioural approach lays emphasis on tourists' behaviour in relation to their consumption

process, such as, repeat behaviours (Oppermann, 2000). As stated by Ozdemiret *al.* (2012), interpreting loyalty from the behavioural viewpoint refers to the customer's act of repeatedly buying the same product/service. In the context of the destination, it therefore implies the act of revisiting the same destination again and again. It has been argued that the best approach to conceptualize and operationalize loyalty in the tourism context is the behavioural perspective (Oppermann, 2000). Conquering with this viewpoint several studies have conceptualized destination loyalty as the intention to revisit the destination (Kozak, 2001). The present study adopts the latter viewpoint and focuses on tourists' intention to revisit the destination.

### ***Destination Satisfaction***

Alike, loyalty, satisfaction is an essential concept in modern marketing research and has been strongly linked to long term success of business (Sun *et al.*, 2013). In the context of tourism and hospitality research, satisfaction of travelers with a destination has been found to be the most important determinant of loyalty due to its influence on the choice of destination and services, the destination revisit intention and on the possibility of recommending the destination to others (Ozdemiret *al.*, 2012). Destination loyalty has been recognized to be a multi-attribute concept (Kozak, 2003; Ozdemiret *al.*, 2012). However, as noted by Gursoyet *al.* (2014), previous studies have often focused on only part of the multi-faceted tourist's experience. Some have focused on satisfaction of tourists with hotels (Grobelna and Marciszewska, 2013), others on food services (Karim and Chi, 2010) or shopping malls (Yuksel, 2007). Focusing on a single dimension of a multi-dimensional and mixed experience might not be comprehensively reflect the satisfaction of tourists with the destination experience, since satisfaction with the various components of the destination experience are likely to differ (Chi and Qu, 2009).

The destination experience has been described as the outcome of a complex experience that involves the use of multiple services, such as information, transportation, accommodation and attraction services that occurs during the course of the visit (Gunn, 1998). The importance of the quality of services to the destination experience was highlighted by Smith (1994) who stated that the availability and quality of services such as transportation, water and power supply and information and communication technologies were key features in determining the satisfaction of travelers' destination experience. Crouch and Richie (2000) identified six major destination level services, namely, shopping services, recreation and attraction services, food services, travel services, transportation services and accommodation services. These various components are recognized as being part of the destination experience of the traveler and have been the focus of past empirical studies (Gursoyet *al.*, 2014). However, one aspect that has been neglected is support services (Crouch and Richie, 2000). More specifically, these have been termed as tertiary tourist services (Dwyer *et al.*, 2004).

Services provided to tourists can be divided into three categories, termed as primary, secondary and tertiary tourist services (Dwyer *et al.*, 2004). Primary services include: accommodations/hotels, restaurants, fast food outlets and travel and tour services; secondary services include: shopping facilities, recreational assets and entertainment and visitor

information services; and finally tertiary tourist services include: health services and care, emergency and safety services and financial services (Dwyer *et al.*, 2004). Tourist tertiary support services are an important aspect in promoting a destination. In effect, support services which include health, banking and security services are termed as tertiary tourist facilities and services. The existence of hospitals, clinics, trained doctors, and security aspects in terms of police stations help towards increasing tourism by reducing the risks of travel. Security remains the most critical aspect as small levels of banditry, violent conflict, or a history of attacks on tourists will severely deter tourism. Health infrastructure is especially important for groups travelling with children, the elderly, or the disabled.

Specialised medical services included in health infrastructure offer health guarantee to the tourists in the country. It is a fact that international clinics around the country, as well as doctors' offices in hotels, provide tourists a guarantee of safety and health during their visit. In fact several studies like Gauci, Gerosa and Mwalwanda (2002) and Cleverdon (2002) highlight the importance of health services in nurturing and promoting the tourism sector. In today's era of globalisation, tourists believe more in banking facilities than carrying cash on themselves. Hence developed banking system is a factor which definitely impacts upon choosing a destination. Investment in this particular field could help to trigger an increase in the number of tourists' arrival in the country. A study by the Rajasthan Tourism Development Corporation (2005) in the districts of Rajasthan in India showed that all major destination places are equipped with nationalised and private banks offering 24 hour ATM facility and money transfer facility to provide convenience to tourists and general public as well. This was one of the reasons why tourists were more interested in visiting that particular place.

Situational conditions are grouped mainly under destination location and security and safety. Moreover, the safety and security within a destination is a qualifying element of a country's tourism sector. Crofts (1996) underlined the elements of safety and security as: political instability, probability of terrorism, crime rates, transportation safety, corruption, quality of sanitation, prevalence of disease, quality of medical services, and availability of medication. Sonmez and Graefe (1998) revealed that future risk and safety anxiety are stronger forecasters of not choosing one or more destinations.

Evidence from empirical studies have shown that the more tourists are satisfied with their destination experience the more loyal they are likely to be with the destination (Bowen and Chen, 2001; Chi and Qu, 2009; Neal and Gursoy, 2008; Ozdemiret *et al.*, 2012; Prentice, 2013). It has been found that tourist satisfaction has a positive effect on behavioral intentions of tourists (Gursoy *et al.*, 2014). Repeat visits and intention to recommend have been found to be the outcomes of satisfaction of tourists with their destination experience (Lee *et al.*, 2011; Neal and Gursoy, 2008; Prayag and Ryan, 2012). It is therefore hypothesized that satisfaction with tertiary support services will have a positive effect on destination loyalty while controlling for tourists' satisfaction with other destination attributes.



H<sub>1</sub>: Satisfaction with tertiary support services has a positive effect on destination loyalty.

## **Methodology**

### ***Sample and Data Collection Process***

The study makes use of the survey strategy using a quantitative approach. The survey method allows for the measurement of key variables such as tourists' satisfaction with various destination attributes and destination loyalty. The measurement of variables, are key to testing the hypotheses developed for this study. Data for the study was collected using self-administered questionnaires. The questionnaire was translated in English and French. Using the confidence interval technique a sample size of 1790 was deemed to be sufficient. The survey was conducted at the departure waiting lounge of the SSR International Airport in Mauritius, for which access permission was obtained from the Civil Aviation Department. A team of 7 persons made up of 5 students of the University of Mauritius and 2 Research Assistants were selected to carry out the survey. Members of the team were all able to fluently communicate in English and French with the international tourists at the SSR International Airport. Tourists were approached and told about the objectives of the study. A token was provided to those who agreed to respond to the questionnaire as an incentive. On average the questionnaires took 20 minutes to be filled in. In total 1790 questionnaires were collected and 1721 of them were useable and retained for analysis.

### ***Survey Instrument***

The survey instrument comprises of three main sections. The first section captures data about the satisfaction of tourists with respect to the various destination attributes. Each item is measured on a 5-point Likert scale (1 = not satisfied at all; 5 = very satisfied). The destination attributes were identified from the existing literature (Chi and Qu, 2009; Huiet *al.*, 2007; Ozdemieret *al.*, 2012). A list of destination attributes related to tourist tertiary support services was obtained from the literature and supplemented by some exploratory interviews with tourists and experts in the field. Other attributes referred to as primary (accommodations/hotels, restaurants, fast food outlets and transportation services) and secondary services (shopping facilities, recreational assets and entertainment and visitor information services) were also included and items were adapted from previous studies (Chi and Qu, 2009; Huiet *al.*, 2007; Ozdemieret *al.*, 2012). Focusing on the behavioral aspect of destination loyalty, it was operationalised as tourists' intention to revisit Mauritius.

Respondents were asked to indicate their intention to come back to Mauritius (1 = Yes, 2 = no). The last section of the survey instrument includes the demographic characteristics of the respondents such as gender, age, nationality, length of stay, number of previous visits, place of residence during trip, and country of origin and nationality.

### ***Data Analysis Procedure***

Univariate descriptive statistics is used to profile the respondents in terms of their socio-demographic variables. Given that the questionnaire is designed in such a way to capture the importance and satisfaction level of the tourist, a gap analysis is also used to measure if there are any significance differences among the variables of interest. An exploratory factor analysis using principal components analysis and varimaxrotation is used to identify the most appropriate factor structure for the items related to tourist tertiary services. A cut-off point of 0.4 is used for retention of items (Hair, Anderson, Tatham and Black 2006).

The study further uses an econometric approach based on a Probit framework to model if tourist tertiary services is a likely predictor of destination loyalty. Given that there are 1721 respondents at a particularly point of time and the dependent variable is a binary one (0 if tourist signifies his intention not to come back or will not recommend the destination and 1 if the tourism signifies his intention to come back and to recommend the destination), the preferred methodological approach is that of 'limited dependent variable regression' (Greene, 1997) as the dependent variable was dichotomous in nature, taking the value 1 or 0. A binary variable is defined as  $P_i = 1$  and  $P_i = 0$  otherwise where  $z$  is the case if the tourist responded his willingness to repeat or recommend. So the binary variable basically measures whether a tourist will repeat or recommend the destination. In fact, though Ordinary Least Squares (OLS) could have been used to compute the estimates for the binary choice models, certain assumptions of the classical regression model are violated. These include non-normality of the disturbances, heteroscedastic variances of the disturbances and questionable value of  $R$  as the measure of goodness of fit. Moreover, OLS imposes constant parameters over the entire distribution and these may lead to bias estimates (Grootaert, 1997). Linear Probability Models (LPM) have also been alternatives, but Probit and Logit models are recommended to overcome the problems associated with LPM. The former models use Maximum Likelihood Estimation (MLE) procedures. A multinomial Probit is used since probit models are more flexible than Logit models and that it plays an important role in applied econometrics (Heckman, 1981).

## **Results and Discussion**

### *Descriptive Analysis*

This part of the analysis deals with the profile of the interviewed tourists. The demographic characteristic of the tourists surveyed is firstly analyzed using appropriate descriptive statistics. Next, the foreign visitors were asked a set of questions about their level of satisfaction about the various destination attributes, and whether they intended to revisit the country. Thus part of the analysis endeavours to give an insightful picture of the level of satisfaction of the sampled tourists with the different destination components; also included is an importance-performance analysis of the tourist tertiary support services.

From table 1, we can conclude that the majority of tourists were mainly between the age group of 19-30. Above 50% of the tourists were at their first visit and 66.7 % stayed on the island for 1-2 weeks. Furthermore, most of the tourists learnt about Mauritius through the

word-of-mouth communications and most of the tourists interviewed had stayed in beach hotels of Mauritius. Further it was found that most of the tourists interviewed were mainly from France with 34%, 21% were from England, 12% from Reunion Island and the remaining 33% were from USA, Australia, India and South Africa amongst others. Furthermore it can be seen that both genders were more or less equally interviewed.

**Table 1: Percentage distribution of foreign tourists by background characteristics**

<b>Gender</b>				
<i>Male</i>		<i>Female</i>		
49.2		50.8		
<b>Age Group</b>				
<i>&lt;18</i>	<i>19-30</i>	<i>31-40</i>	<i>41-60</i>	<i>&gt;60</i>
4.0	32.7	29.3	23.4	10.6
<b>Length of Stay</b>				
<i>Less than 1 week</i>	<i>1-2 weeks</i>	<i>2-3 weeks</i>	<i>&gt;3 weeks</i>	
21.6	66.7	6.2	5.3	
<b>Place of Residence during the trip</b>				
<i>Hotel</i>	<i>Bungalow</i>	<i>Friend or relative</i>	<i>Other</i>	
56.7	29.1	8.3	5.5	

### **Exploratory Factor Analysis (EFA) for Tertiary Support Services**

Factor analysis is used in an exploratory manner to analyse and summarize the interrelationships among the variables of tourist tertiary services which influence a tourist's decision in choosing a destination and their loyalty to the destination. An initial factor analysis was run with all the 14 variables, giving three factors. Some of the variables loading onto a particular factor were low and also did not make theoretical sense. These were eliminated in the final factor analysis. Therefore, the 14 variables with loading greater than 0.4 on the original three factors were analysed separately in a second factor analysis. The reason was to remove some of the 'noise' added by variation due to extraneous variables. All the assumptions of the factor analysis were satisfied (Hair *et al.*, 2006). The results were rotated, using the varimax rotation to isolate more meaningful dimensions. After varimax rotation three factors (those with eigenvalues greater than 1.0 were retained and used to identify groupings of items which influence a tourist's loyalty. Variables with high loadings (greater than .40) were considered to be representative of the characteristic reflected by that factor, indicating that convergent validity is adequate.

**Table 2: Rotated component matrix of respondents’- Tourist Tertiary Support Services**

Infrastructural Elements/Services	Component		
	<i>Banking Services</i>	<i>Security Services</i>	<i>Health Services</i>
Banking Halls	.735		
Availability of Banking Halls	.685		
Availability of FOREX facilities	.810		
Operating times	.816		
Quality of services	.814		
Security	.710		
IT security services		.673	
Public security services		.762	
Availability of Night patrols		.791	
Street Lightings		.761	
CCTV in public places		.797	
Tsunami/Severe weather notifications		.754	
First Aid Facilities			.792
Access to Health Services			.869
Value of money for private health services			.768
Access and Operating hours of drug store			.774
<i>Eigenvalue</i>	4.120	4.026	3.058
<i>% of Variance explained</i>	25.75	25.16	19.11
<i>Cronbach’s Alpha</i>	.935	.931	.907

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Total Variance explained: 70.02%

Barlett’s Test of Sphericity: 5595.579 (.000)

KMO = Kaiser-Meyer-Olkin Measure of Sampling Adequacy = 0.926

Along the same line as for the previous dimensions, these variables were grouped into distinct components using the PCA. After varimax rotation three components were identified as showed in *Table 2*. They are labelled as “Banking Services”, “Health Services” and “Security Services”. The consistency of the scales, were verified using the Cronbach’s Alpha reliability test and the values obtained are satisfactory with values all above the 0.7 threshold score.

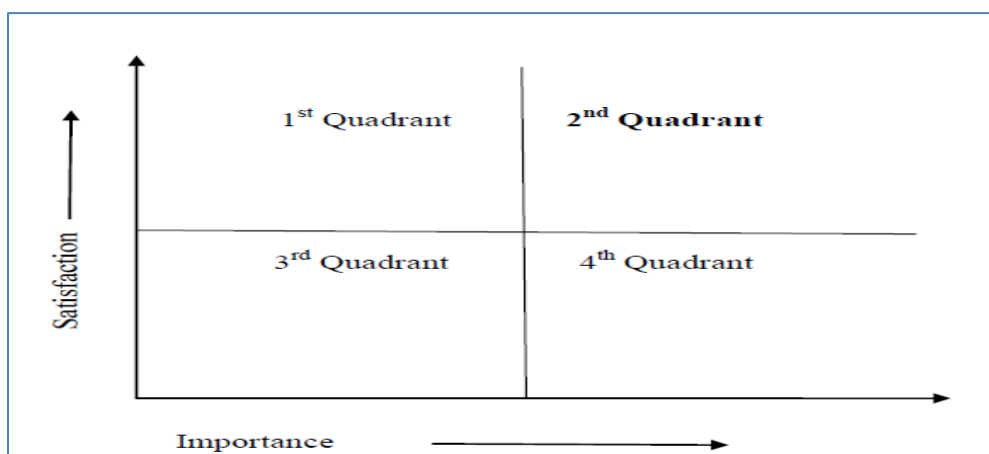
## Importance Performance Analysis for Tertiary Support Facilities

All the 1721 respondents were asked to assign scores on the scale of 1 to 5 on the degree of ‘importance’ they attach to the different components of tertiary support services attributes. They were also asked to assign scores to the existing current level of ‘satisfaction’ with these attributes. This part of the analysis discusses the degree of gaps which currently exist between the “*importance-satisfaction*” scales of different components of each attribute. The main idea behind this kind of analysis is that the components having large gaps between “*importance*” and “*satisfaction*” need to be identified so that by improving them, the level of tourist satisfaction can be increased to make their visit more satisfying and also may help to increase the flow of tourists in future. Table 3 shows the different mean values under the ‘Soft Infrastructure’ category. Most of the ‘Banking facilities/services’ have recorded a good score as compared to factors like: ‘Street Lightings’, ‘CCTV in public places’ and ‘Value of money for private health’.

The Importance – Satisfaction gap is derived from the difference between Importance and Satisfaction average ranks (Importance mean scores – Satisfaction mean scores). Figure 1 below depicts the different scenarios that may crop up, but the results of the mean scores derived for all components eventually lie in the 2<sup>nd</sup> quadrant (*high importance – high satisfaction*) with a mean scores of above 2.5 for both sets of data.

The difference between the mean score is less than 1 for all the components - in fact one will not expect a large gap difference when the variables are located in the 2<sup>nd</sup> quadrant. As such, a difference gap of less than 1 also suggests that the mean level of importance nearly portrays the level of satisfaction assigned by the tourists. A negative difference value simply underscores that the satisfaction value is greater than the importance one whilst a positive sign shows that the tourists have ranked a higher value for the importance than the satisfaction variables. The higher the positive sign, the more emphasis is to be laid on the particular infrastructural/services elements.

**Figure 1: Importance – Satisfaction chart**



Innovation and Progress in Sustainable
 

---

Note: 1<sup>st</sup> Quadrant = Low Importance & High Satisfaction; 2<sup>nd</sup> Quadrant = High Importance & High Satisfaction; 3<sup>rd</sup> Quadrant = Low Importance & Low Satisfaction; 4<sup>th</sup> Quadrant = High Importance & Low Satisfaction

All the infrastructure related variables (*first aid facilities, access to health services, value for money and access for and operating hours of drug store*) falling under ‘Health’ are poorly rated, resulting in a gap value of greater than 0.5. Security services is deemed to be very important in the visitors’ eyes and this tend to multiply when going in a foreign country – ‘street lightings’, ‘CCTV in public roads’, ‘availability of night patrols’ and ‘alert systems’ have all experienced a significant gap value as shown in the survey results. These bottlenecks need to be tackled so as to make the tourists feel more secure during their stay in Mauritius.

The main focus of our study is to assess the importance attached to the tourist tertiary support services. Along this line, the questionnaire contains a number of statements (measured on a 5 point Likert scale with anchored 5 for ‘very important’ and 1 for ‘not important at all’) to obtain the respondents’ views on the overall status of the country’s soft infrastructure. They encompass availability of health services, banking services and security services including Tsunami Alert system. The mean score (Table 3) for the 16 statements ranges from 3.97 to 4.31, which indicates that the tourists equally ascribe high importance to the tertiary support services. The availability and quality of health service is very important in the evaluation of their satisfaction with Mauritius as a destination and they also attach equal importance to their security.

**Table 3: Mean Scores for Tourist Tertiary Support Services Dimensions**

Tertiary Support Services Dimensions and Attributes	Importance	Satisfaction	Gap
Health	4.24	3.54	0.7
First Aid Facilities	4.31	3.59	0.71
Access to Health Services	4.31	3.57	0.74
Value of money for private health services	4.14	3.42	0.72
Access and Operating hours of drug store	4.20	3.58	0.62
Banking	4.23	3.88	0.35
Banking Halls	4.14	3.86	0.28
Availability of Banking Halls	4.27	3.80	0.47
Availability of FOREX facilities	4.29	3.96	0.33
Operating times	4.19	3.73	0.46
Quality of services	4.20	3.94	0.26
Security	4.28	3.96	0.32
Security Services	4.08	3.48	0.6
IT security services	3.97	3.62	0.35
Public security services	4.19	3.70	0.49
Availability of Night patrols	4.10	3.52	0.58
Street Lightings	4.14	3.27	0.86
CCTV in public places	3.99	3.34	0.65
Tsunami/Severe weather notifications	4.07	3.43	0.64

### *Probit Model Results and Hypothesis Testing*

To test for the effect of tourist tertiary support services on destination loyalty, an econometric framework is used to assess the importance of these services in tourism using selected data from the survey, more particularly on tourist satisfaction (rating score of the actual satisfaction on a number of dimensions and including elements that proxy for tertiary services). The dependent variable is destination loyalty, operationalised as revisit intention. It is hypothesized that satisfaction with respect to a number of 'ingredients' (independent variables in this case) is related to the probability of repeat tourism. Central to the econometric modelling is the construct of a measure for tertiary services dimensions. Such a proxy was built by aggregating the satisfaction scores of the various elements and dimensions pertaining to tourist tertiary support services (banking, health and security) as summarised in Table 4.

To control for other factors that may affect the decision of tourists to revisit Mauritius as a destination, scores on other major potential determinants of tourism decision are extracted (well documented in the literature), including satisfaction with price of the destination and cost of living, satisfaction level with overall development of the destination, satisfaction with quality of information, satisfaction with infrastructural components related to accommodation services, satisfaction with transportation services, satisfaction with shopping and recreational facilities and satisfaction with utility infrastructure.

Thus the proposed empirical model is specified as:

$$DL_i = \{ SAT(\text{Price})_i, SAT(\text{General Infrastructure})_i, SAT(\text{General Infrastructure})_i, SAT(\text{Accommodation Services})_i, SAT(\text{Transportation Services})_i, SAT(\text{Shopping and Recreational Services})_i, SAT(\text{Utility Services and Infrastructure})_i, SAT(\text{Tertiary Support Services})_i \}$$

Where SAT is the satisfaction score, DL is destination loyalty and i represents the respondent

Results from the multinomial Probit, based on data extracted from the satisfaction survey, is presented in Table 4 below:

**Table 4: Probit Model Estimates (Dependent variable: Destination Loyalty)**

Variable	Probit model estimates
Constant SAT (Price)	0.06
SAT (General Infrastructure) SAT	(4.23)*** 0.012
(Information Services) SAT	(1.11)
(Accommodation Services) SAT	0.07 (2.32)** 0.049 (2.14)**
(Transportation Services)	0.078 (2.17)** 0.043
SAT (Shopping and Recreational Services)	(2.36)*** 0.058 (1.91)* 0.036 (2.21)** 0.053 (2.05)*
SAT (Utility Services)	
SAT (Tertiary Support Services)	
R <sup>2</sup>	0.64
Number of observations	1721
Prob> chi2	0.002
LR chi2(9)	1434.64

\*significant at 10%, \*\* significant at 5%, \*\*\*significant at 1%

The small letters denotes variables in natural logarithmic and t values are in parentheses. The likelihood ratio chi-square of all the models report a p-value of 0.003 which serve to confirm that our model as a whole fits significantly better than an empty model.

The reported coefficients represent the level of correlation between the independent variables and the dependent variable. Of particular interest to this study is satisfaction with tourist tertiary support services which is reported to be a statistically significant predictor of the probability of revisit intention and thus of destination loyalty. In fact, the coefficient of satisfaction with tourist tertiary support services(TSS) is 0.053 suggesting that each point of increase in satisfaction related to TSS results in a 0.053 standard deviation increase in the predicted Probit index, that is in the probability of repeat visit to the destination. Thus tertiary services related to tourism are seen to be an important precursor to a tourist's choice for a destination and an important element in a destination's competitiveness and attractiveness framework. This piece of results validates the general theoretical and empirical arguments that support services are important dimensions of tourism development, especially for the case of island economies. The present result interestingly focuses on tertiary services, an element which received scant attention.

Interestingly, there is evidence that the other types of infrastructure also matter in the decision of tourist, although to different extent. As a matter of fact tourists appear relatively more sensitive to transportation services and accommodation services, as witnessed by the relative larger size of the regression coefficient. In addition, the other explanatory variables are found to be significantly correlated, with the expected signs, with the independent



variable.

Interestingly satisfaction with cost of the destination appears to be not significant in predicting destination loyalty. This could be explained by contextual reasons, namely, the fact that the country of origin of most tourists are developed nations with the cost of living in their country being much higher than in Mauritius. Such results are to a large extent consistent with recent previous econometric works investigating the determinants of tourism development on the island.

## Conclusions

Analysis from the survey reveals that 80% of the visitors are satisfied with Mauritius as a tourist destination. The majority of the tourists surveyed are either couples or partners while the retirees and family are underrepresented. Slightly above 40% of the tourist have visited the island before, which indicates that the island is able to attract repeat tourist. In line with the national statistics, France, Great Britain and Reunion make up the majority of the tourist. The African continent represents only 10%, with South African having the lion share. The survey results also reveal that the majority would like to return for a second holiday and would also recommend the destination to relatives and friends.

Among the proposed “**General Factors**” that influence tourists’ decision, the hospitality of people and the hotels standard are found to be very important in choosing their travel destination. Equally ‘*Security of transport including taxi safety*’ are rated as very important with an average score of 4.29. On the other hand, tourist travelling with family members attached high importance to first aid facilities and access to health services.

Although the **importance-satisfaction gap** is rather small (that is less than 0.5) for the general factors and tourist site infrastructure, the quality and security of the roads more precisely the width of the roads, the road signs, the markings of the roads, security patrol and footpaths need particular attention since the level of satisfaction generated by foreign visitors does not match the importance assigned by them. Also, the adverse state of the public transport and the congestion dilemma has been highlighted. The gap difference is more pronounced in the utility and soft infrastructure/services category: internet facilities and availability and quality of water supply; health and security services.

The mean score for the case of tertiary services were on the relatively high side which indicates that the tourists equally ascribe high importance to them. The availability and quality of health service are very important in their decision to choose Mauritius as a destination and they also attach equal importance to their security. The phenomenon of repeat tourism is undeniably a subset of appropriate factors: good infrastructure; tourism facilities and services among others. Good quality infrastructure is likely to attract tourists more often although John *et al.* (2000) revealed that repeat tourists are influenced mostly by regular visits to friends or family and ease of travel.

In terms of tertiary services, tourists rate communication, both internet and telephone services, and security to be most important. Significant gap has been found in the categories of 'Health' and 'Security'. All the components assessed under the category of Soft infrastructure are critical to the tourism industry with mean score ranging in a bandwidth of 3.97 and 4.31.

The survey findings reveal that tourists attribute a high level of importance to health. In fact, first aid facilities and access to health services are a real concern to these visitors among all the proposed destination attributes under tertiary services. Government should therefore emphasize on the continuous improvement and provision of these basic health care services which are of utmost importance to the tourists.

External factors having a major impact on Africa's tourism potential are the continent's perceived poor track record in areas such as safety, security and health. In fact there are several proposed solutions to remedy the tourism situation in Africa. One such recommendation is to encourage and assist African countries' effort to address security, hospitality management, infrastructure and environmental constraints to tourism development through tourism training programmes.

The econometric approach focusing on a Probit framework to model destination loyalty (revisit intention) confirm that satisfaction of tourist with tertiary support services is a statistically significant predictor of the probability of revisit intention and such result confirm the theoretical links between support services and destination loyalty.

The findings and contributions of this study should be viewed in light of some limitations which also provide avenues for future research. First, the research data is collected only in Mauritius and while evidence of the influence of tourists' satisfaction with tertiary support services on their loyalty has been found, the findings cannot be generalised to other countries without caution. Second, while transaction specific measure of satisfaction did explain a large amount of variance in loyalty, there is a need to find out about the other potential determinants of tourists' loyalty.

## References

- Assael, H. (1984). *Consumer Behavior and Marketing Action*. Belmont, Wadsworth, CA.
- Alegre, J. and Cladera, M. (2009). Analyzing the effect of satisfaction and previous visits on tourist intentions to return. *European Journal of Marketing*, Vol. 43 No 5/6, pp. 670- 685.
- Baltagi, B H, eds .(1995). *Econometric Analysis of Panel Data*. New York: John: Wiley
- Beer, A., Maude, A. and Pritchard, B. (2003). *Developing Australia's Regions: Theory and Practice*. University of NSW Press, Sydney

- Brown, K. (2009). Island Tourism Marketing: Music and Culture. *International Journal of Culture, Tourism and Hospitality Research*, 3(1): 25-32.
- Chen, C.F. and Phou, S., 2013. A closer look at destination: Image, personality, relationship and loyalty. *Tourism Management*, 36, pp.269-278.
- Chi, C.G. (2012). An examination of destination loyalty: differences between first time and repeat visitors. *Journal of Hospitality and Tourism Research*, Vol. 36 No. 1, pp. 3-24.
- Christie and Crompton. (2003). Republic of Madagascar: Tourism Sector Study. *Africa Region Working Paper Series*, 63 (E)
- Cleverdon, R.G. (2002). Tourism development in the SADC region: the opportunities and challenges. *Development Southern Africa*, 19(1), 7-28
- Crotts, J. (1996). Theoretical perspectives on tourist criminal victimisation. *Journal of Tourism Studies*. 7 (1), 2-9.
- Crouch, G. I., & Ritchie, J. R. B. (1999). Tourism competitiveness and societal prosperity. *Journal of Business Research*. 44(3), 137-152
- Crouch G.I. and Ritchie, J.R.B. (2000). The competitive destination: A sustainability perspective. *Tourism Management*: 21 (5), 34-45
- Dharmaratne, G.S. and Braithwaite, A.E. (1998). Economic valuation of the coastline for Tourism in Barbados. *Journal of Travel Research*, 37(2), 138-44.
- Central Statistical Office (2011). *Digest of International Travel and Tourism Statistics*. Statistics Mauritius
- Dunn, R. and Iso-Ahala, S. (1991). Sightseeing tourists' motivations and satisfaction. *Annals of Tourism Research*, 18 (2): 226-37.
- Dwyer, L., P Forsyth & R Spurr. (2004). Evaluating tourism's economic effects: new and old approaches. *Tourism Management*, 25(3), 307-317
- Eilat Y and Einav L. (2004). Determinants of international tourism: a three-dimensional panel data analysis. *Applied Economics*. 36, 1315-1327
- Gauci, A., Gerosa, V. and Mwalwanda, C. (2002). Tourism in Africa and the Multilateral Trading System: Challenges and Opportunities. *Economic Commission for Africa*. D. United Nations.
- Greene, W.H. (1997) *Econometric Analysis*, 3<sup>rd</sup> Edition, New York, US: Macmillan.

- Grootaert, C. (1997). The determinants of poverty in Cote d'Ivoire in the 1980s. *Journal of African Economies*, 6(2): 169-196.
- Gunn, C.A, eds. (1988). *Tourism Planning* (second edition). New York: Taylor & Francis
- Gursoy, D, Chen, J.S, Chi, C.G. (2014) Theoretical examination of destination loyalty formation, *International Journal of Contemporary Hospitality Management*, Vol. 26 Iss: 5, pp.809 - 827
- Hair, J. F., Anderson, R.E., Tatham, R.L. and Black, W.C. (1998). *Multivariate Data Analysis with Readings*, 5th Edition. Englewood Cliffs, NJ: Prentice Hall.
- Heckman, J. (1981). The incidental parameters problem and the problem of initial conditions in estimating a discrete time-discrete data stochastic process. In *Structural Analysis of Discrete Data with Econometric Applications*, Manski, C. and McFadden D. (eds). MIT Press: Cambridge
- Hultman, M., Skarmeas, D., Oghazi, P. and Beheshti, H.M., 2015. Achieving tourist loyalty through destination personality, satisfaction, and identification. *Journal of Business Research*, 68(11), pp.2227-2231.
- Inskeep, E. (1991). *Tourism Planning: An integrated and sustainable development approach*. New York, Van Nostrand Reinhold
- Iroegbu, H. (2006). The Effects of Airfares and Foreign Exchange Rates on Global Tourism. *Advances in Hospitality and Leisure*, 2:255–263
- Kim L, Crompton, J, L, Botha, P. (2000). Responding to competition: a strategy for Sun/Lost City. *South Africa Tourism Management*. 21 (41)
- Kim, S.H., Han, H.S., Holland, S. and Byon, K.K. (2009). Structural relationships among involvement, destination brand equity, satisfaction and destination visit intentions: the case of Japanese outbound travelers. *Journal of Vacation Marketing*, Vol. 15 No. 4, pp. 349-365.
- Krejcie, R and Morgan, D. (1960). Determining Sample Size For Research Activities. *Educational and Psychological Measurement*, 30: 607-610
- Lee, S., Jeon, S. and Kim, D. (2011). The impact of tour quality and tourist satisfaction on tourist loyalty: the case of Chinese tourist in Korea, *Tourism Management*, Vol. 32 No. 5, pp. pp. 1115-1124.
- Lim C. (1997). Review of international tourism demand models. *Annals of Tourism research*. 24, (4): 835-849
- Martin, A & Witt, F. (1988). Substitute prices in models of tourism demand. *Annals of*

*Tourism Research*, 15(2): 255-268

- McElroy J, L. (2003). Small Island Tourist Economies Across the Lifecycle. *Proceedings of the International Conference, Beyond MIRAB: The Political Economy of Small Islands in the 21<sup>st</sup> Century*. School of Economics and Finance, Victoria University, Wellington, New Zealand, 23-25 February 2004
- McKercher, B. (1998). The effect of market access on destination choice. *Journal of Travel Research*, 37: 39–47.
- Meleddu, M., Paci, R. and Pulina, M., 2015. Repeated behaviour and destination loyalty. *Tourism Management*, 50, pp.159-171.
- Mo, Howard and Havitz. (1993). Testing a tourist role typology. *Annals of Tourism research*. 20: 319-335
- Murphy P, Pritchard M, Smith, B. (2000). The destination product and its impact on traveler perceptions. *Tourism Management*, 21: 43-52
- Naudee W A, Saayman A. (2004). The determinants of tourist arrivals in Africa: A Panel Data Regression Analysis. *Paper presented at the International Conference, Centre for the Study of African Economies*. University of Oxford
- Neal, J.D. and Gursoy, D. (2008). Travelers' satisfaction with hospitality and tourism services, *Journal of Travel Research*, Vol. 47 No. 1, pp. 53-62.
- Nunkoo, R., Gursoy, D. and Ramkissoon, H. (2013). Developments in hospitality marketing and management: social network analysis and research themes. *Journal of Hospitality Marketing and Management*. Vol. 22 No. 3, pp. 269-288
- Oppermann, M. (2000). Tourism destination loyalty. *Journal of Travel Research*, Vol. 39 No.1, pp. 78-84.
- Ozdemir, B., Aksu, A., Ehtiyar, R., Çizel, B., Çizel, R.B. and I`çigen, E.T. (2012). Relationships among tourist profile, satisfaction and destination loyalty: examining empirical evidences in Antalya region of Turkey, *Journal of Hospitality Marketing and Management*, Vol. 21 No. 5, pp. 506-540.
- Prayag, G. and Ryan, C. (2012). Antecedents of tourists' loyalty to Mauritius: the role and influence of destination, *Journal of Travel Research*, Vol. 51 No. 3, pp. 342-356.
- Prentice, C. (2013). Service quality perceptions and customer loyalty in casinos, *International Journal of Contemporary Hospitality Management*, Vol. 25 No. 1, pp. 49-64.
- Reichheld, F.F. and Sasser, Jr, W.E. (1990). Zero defections: quality comes to services",

---

*Harvard Business Review*. Vol. 68 No. 5, pp. 105-111.

Seetanah, B and Khadaroo, J. (2007). Transport Infrastructure and Tourism Development. *Annals of Tourism Research*, 34(4): 1021-1032

Smith, S. L. J. (1994). The tourism product. *Annals of Tourism Research*. 21(3): 582-595

Statistics Mauritius.(2011). *Digest of International Travel and Tourism Statistics*. Ministry of Finance and Economic Development

Sun, A., Chi, C.G. and Xu, H. (2013), Developing destination loyalty: the case of Hainan Island, China. *Annals of Tourism Research*, Vol. 43 No. 1, pp. 547-577.

Tourism Task Force (TTF)(2008). *Down the track; better ways to deliver tourism's land transport infrastructure*. Available on [www.ttf.org.au](http://www.ttf.org.au)

Yoon, Y. and Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: a structural model, *Tourism Management*, Vol. 26 No. 1, pp. 45-56.

Yuksel, A., Yuksel, F. and Bilim, Y. (2010), Destination attachment: effects on customer satisfaction and cognitive, affective and conative loyalty, *Tourism Management*, Vol. 31 No. 2, pp. 274-284.

Uysal, M., Chen, J. and Williams, D. (2000) .Increasing state market share through a regional positioning. *Tourism Management*, 21 (1): 89–96.

Witt, S. F. and Martin, C. A. (1987). Econometric models for forecasting international tourism demand. *Journal of Travel Research*. Winter.

Witt S and Witt C. (1995). Forecasting tourism demand: A review of empirical research. *International Journal of Forecasting*. 11:447-475

Zhang, H., Fu, X., Cai, L.A. and Lu, L. (2014). Destination image and tourist loyalty: a meta-analysis. *Tourism Management*, Vol. 40 No. 1, pp. 213-223

---

## **Enclave tourism: a friend or a foe for small island destinations? A social perspective**

**Perunjodi Naidoo**

*University of Technology, Mauritius, [pnaidoo@umail.utm.ac.mu](mailto:pnaidoo@umail.utm.ac.mu)*

**Key words:** Community wellbeing, enclave resort, island, tourism, Mauritius

### **Introduction**

Earlier studies have stimulated much debate regarding enclave tourism development in developing countries (Britton 1982). However, it is increasingly being acknowledged that despite criticisms, all forms of tourism have the potential to contribute to community wellbeing (Naidoo & Sharpley, 2016) and sustainable development. Research on wellbeing in the tourism industry have mostly examined the wellbeing of tourists and it is only in recent years that the interconnectedness between tourism development and community wellbeing have gained attention (See Andereck et al., 2011; Nawijn & Mitas, 2012; Kim et al., 2013 ; Moscardo et al. 2013; Moscardo, 2016; Naidoo & Sharpley, 2016; Naidoo et al., 2017).

Community wellbeing has been associated in the tourism literature with the sustainable tourism development paradigm and is often used interchangeably with the concept of quality of life, happiness and life satisfaction. Wellbeing is a concept difficult to quantify since it consists of both objective and subjective elements. Individuals incorporate personal feelings and perceptions about their environment in their definition of wellbeing (Dissart & Deller, 2000) and these subjective components are fundamental to understand the needs and aspirations of the locals and hence the resources which should be made available them to enhance their quality of life and empower them. It has also been argued that community wellbeing provides a more contemporary approach to understanding “the relationships between tourism and destinations and identifies in more detail how tourism detracts from or contributes to sustainability for destination regions” (Moscardo *et al.*, 2013: 534).

From a sustainable development perspective, tourism development in destinations should provide the resources to meet the aspirations of the community (Moscardo, 2008) but it is concerning to note that communities are often perceived as resources for tourism development and the later results in the depletion of a destinations resources mainly in fragile ecosystems

such as small islands. Islands represent significant challenges in terms of sustainable development and tourism policy (Bardolet & Sheldon, 2008; Twining-Ward & Butler, 2002; Moscardo & Murphy, 2016) and need to be investigated in their own context.

### **Aim of study**

The market for enclave tourism has rapidly expanded in small island developing states such as Mauritius which has in the past few decades experienced a buoyant tourism industry (Naidoo

& Sharpley, 2016; Naidoo & Ramseook-Munhurrin, 2016) largely based on enclave resorts which are perceived by the government as a viable option for current and future tourism development. In this study, enclave tourism refers to resorts with self-sufficient infrastructure and amenities which provide tourism services in a closed environment, such as large hotels and Integrated Resort Schemes. They provide tourists with facilities required during their holidays, such as accommodation, food and beverage, entertainment, shopping and leisure (Naidoo et al., 2017). This study assesses the extent to which enclave tourism, which is the focus of the tourism development strategy in Mauritius, is perceived to contribute to sustainable development in terms of community wellbeing from the perspective of the social domain. It is important to note that no study specially examines the social aspects of community wellbeing and its potential for tourism planning and marketing.

### **Methodology**

The study adopts an emic approach to research where qualitative data with the use of in-depth interviews are conducted with key stakeholders groups of the tourism industry namely government officials, business operators, and the host community to determine their perceptions about the contributions of enclave to community well-being. A list of semi-structured questions was set as a guide for the interview. The participants were asked about the positive and negative social contributions of enclave tourism to community well-being in Mauritius. The interviews were recorded with the permission of the respondents, transcribed verbatim and manually analysed.

### **Findings**

The results reveal that the socio-cultural and socio-economic domains are important themes which emerged in relation to community wellbeing. The findings reveal that opportunities and linkages, cost of living, community pride, public services and corporate social responsibility, social interaction, and culture and social spaces were important determinants of community wellbeing in Mauritius.

### **References**

Andereck, Kathleen L., and Gyan P. Nyaupane (2011) Exploring the nature of tourism and quality of life perceptions among residents. *Journal of Travel Research* 50(3): 248-260.



- Bardolet, E., & Sheldon, P. J. (2008). Tourism in archipelagos: Hawai'i and the Balearics. *Annals of Tourism Research*, 35(4), 900-923.
- Britton, S. G. (1982). The political economy of tourism in the Third World. *Annals of tourism research*, 9(3), 331-358.
- Dissart, J. C., & Deller, S. C. (2000). Quality of life in the planning literature. *CPL bibliography*, 15(1), 135-161.
- Edensor, T. (2001). Performing tourism, staging tourism (Re) producing tourist space and practice. *Tourist studies*, 1(1), 59-81.
- Jenkins, C. L. (1982). The effects of scale in tourism projects in developing countries. *Annals of Tourism Research*, 9(2), 229-249.
- Kim K., Uysal M. and Sirgy M. J. (2013) How does Tourism in a Community Impact the Quality of Life of Community Residents? *Tourism Management*. 36: 527-540.
- Moscardo, G. (2008). Sustainable tourism innovation: Challenging basic assumptions. *Tourism and Hospitality Research*, 8(1), 4-13.
- Moscardo, G., Konovalov, E., Murphy, L., & McGehee, N. (2013). Mobilities, community well-being and sustainable tourism. *Journal of Sustainable Tourism*, 21(4), 532-556.
- Moscardo, G., & Murphy, L. (2016). Using destination community wellbeing to assess tourist markets: A case study of Magnetic Island, Australia. *Journal of Destination Marketing & Management*, 5(1), 55-64.
- Naidoo, P. (2014) Stakeholders' perceived contributions of agritourism and enclave tourism to community well-being in Mauritius, PhD Thesis, University of Technology Mauritius.
- Naidoo, P., & Ramseook-Munhurrun, P. (2016). Enclave Resorts in Mauritius. In *The World Meets Asian Tourists* (pp. 127-147). Emerald Group Publishing Limited
- Naidoo, P., & Sharpley, R. (2016). Local perceptions of the relative contributions of enclave tourism and agritourism to community well-being: The case of Mauritius. *Journal of Destination Marketing & Management*, 5(1), 16-25.
- Nawijn J. and Mitas O. (2012) Resident Attitudes to Tourism and Their Effect on Subjective Well-Being: The Case of Palma de Mallorca, *Journal of Travel Research*. 51(5): 531- 541.
- Naidoo, P., Pearce, P., & Sharpley, R. (2017). The Contributions of Enclave Tourism to Community Wellbeing in Mauritius: Host Community Perspective. In *Balancing Development and Sustainability in Tourism Destinations* (pp. 179-188). Springer Singapore.



---

**Session 3: Tourism Impacts, Sustainable Tourism Education,  
Interpretation**

Understanding tourism impacts

Other topics relevant to the Think Tank theme and/or sustainable tourism education –  
Interpretation

---

---

## **Managing open rock art sites for tourism, in the central uKhahlamba-Drakensberg Park, KwaZulu-Natal, South Africa**

**Claire Louisa Fordred & Kevin Mearns**

*University of South Africa, South Africa, [cfordred@gmail.com](mailto:cfordred@gmail.com)*

*University of South Africa, South Africa, [mearnkf@unisa.ac.za](mailto:mearnkf@unisa.ac.za)*

\*Acknowledgement: I acknowledge the assistance and affiliation with the Department of Geography, Geoinformatics and Meteorology and the Archaeology department at the University of Pretoria, South Africa during my studies.

**Key words:** rock art, sustainable tourism, impacts, management, conservation, awareness

### **Introduction**

Rock art is found across the world and is a unique heritage which is divided into three main categories; rock paintings (pictographs), rock engravings, (petroglyphs), and geoglyphs (natural objects used as designs) (Anati, 1993; Clottes, 1997). This study deals with rock art paintings (pictographs) in the uKhahlamba-Drakensberg Park (UDP). Based on the South African National Heritage Resource Agency's rock art definition - *being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within ten meters of such representation*" (NHRA, 1999: 6). The focus of this research revolved around the advantages and disadvantages of tourism developments at rock art sites and the way in which these sites and painting are being managed and conserved through sustainable tourism practices. Positive impacts of sustainable tourism practices identified were through the increase in rock art awareness, providing opportunities for people to see and experience existing paintings in a natural setting and the contributions from rock art tourism to the local communities and local infrastructure. The negative aspects of rock art tourism include alternating of the sites and the increasing probability of negative human impacts such as graffiti and vandalism which deteriorate the art. These impacts are paradoxical to the future of conserving rock art and were explored the study.

***uKhahlamba-Drakensberg Park (UDP)***

The UDP is part of the Drakensberg Mountain Range which runs down the eastern side of South Africa creating a natural barrier between what is today KwaZulu-Natal province and Lesotho (Pearse, 2006). The UDP was declared a World Heritage Site in November 2000 (Briggs, 2006; UNESCO, 2000). The Drakensberg range comprises of two rock types; it is capped with hard dark igneous basalt that has been eroded to form steep cliffs with a softer rock type below called Clarens Formation sandstone (Mazel & Wright, 2007; Vinnicombe, 1976). The sandstone erodes easier than the basalt creating overhangs where the San left their art located between 1600m and 2000m above sea level (Hoerlé, 2006; Lewis-Williams & Blundell, 1998;). Three rock art sites were selected for research. Two sites found in the Giant's Castle Game Reserve; namely, Battle Cave at Injisuthi and Main Caves at Giant's Castle Camp. The third site, Game Pass Shelter found in the Kamberg Nature Reserve section of the UDP. At Kamberg Rock Art Centre is also located at Kamberg Nature Reserve. These three sites were selected as they are all advertised as sites opened to the public to view the art and are developed for tourism and visitation.

### ***Aim and objectives***

The aim of this study was to evaluate the management and conservation methods that are taking place at the selected rock art sites. In order to achieve the research aim, three criteria were investigated at each study site namely the

1. *Deterioration of the site and rock art*: caused by human visitation and natural impacts;
2. Tourism and development: of the study sites; and
3. Management and conservation methods: of the rock art sites and paintings.

### ***The historical background of rock art and its importance***

Rock art is a historical testimony that illustrates different religious practices, beliefs, ways of life, cultures, economic and social activities that were practiced, representing the intellectual life that man developed so long ago (Anati, 1993; Clottes, 1997; Coulson & Campbell, 2001). Clottes (1997: 15) states that "rock art constitutes one of the essential components of humanity's cultural and religious heritage and it possesses a universal value". Rock art is an old form of art dating to approximately 77 thousand years, i.e. Blombos ochre – which may be the world's oldest piece of 'art', consisting of a complex patterned engravings is found in South Africa (Smith, 2006; Wadley *et al.*, 2004). Today, rock paintings are appreciated for their aesthetic beauty and because they are the "most immediate link surviving between ourselves and the Stone Age" (Johnson & Maggs, 1979: 8). Rock art has creative qualities and symbolism that are highly regarded around the world. However these creative qualities have been exploited through commodification (Greenwood, 1989).

In depth work has been done in Australia dealing with tourism impacts on rock art (Bednarik, 1993; Hedges, 1993; Loubser, 1991; Sullivan, 1995; Whitley, 2005). Sullivan (1995), points

out that visitation strategies such as the number of people visiting a site at a time, rotation of sites being open to the public and asking an entrance fee with a guided tour are now among the necessary strategies used to conserve the rock and paintings surfaces. No matter where rock art is situated, in caves, open air shelters, or in the open, the art is exposed to natural impacts and some sites however are also impacted on by human activities

The rock art found at Chauvet Cave, Cosquer and Lascaux are regarded, somewhat Eurocentrically, as the world's most famous rock art paintings, dating to between 17 000 – 35 000 years ago (Clottes, 1997). Lascaux, which was rediscovered in 1940 and was opened to tourist visitation, is an excellent example of the vulnerability of rock art when impacted by tourism (Coulson & Campbell, 2001). Lascaux had to be closed in 1963 because the constant influx of people had led to an increase in moisture levels, which in turn led to the growth of algae and micro-organisms on the cave walls threatening the art work (Graff, 2006). The very visitation and enjoyment of viewing rock art sites leads to the site's deterioration and even its destruction. Thus, there are advantages and disadvantages of tourism at a rock art site which is the paradox being investigated in this study.

The most valuable and fragile sites found in South Africa have been closed to the general public for conservation purposes, for example Eland's Cave in the northern region of the UDP. Some sites that are more visitor-friendly have been with development with boardwalks and viewing platforms for tourism (Deacon, 2006). There will, however, always be room for improvement through better management and presentation strategies (Smith, 2006). Rock art management in wilderness areas is a step forward integrating the management of natural and cultural resources (Deacon, 1993). The management of South African rock faces a number of challenges these include, the planning and management of sites, the training of the guides and staff, enforcement of protection policies and regulations as well as community involvement (Deacon, 1993; Mazel, 1982).

### *Significance of the study*

There has been a great deal of research and documentation on the location, conservation, interpretation and archaeological importance of rock art in southern Africa (Deacon, 1994, 2006; 1995; Lewis-Williams, 1986, 2002; Lewis-Williams & Dowson, 1992; Meiklejohn & Hattingh; Ouzman, 2001; Whitley, 2005). However, little has been written on the complexities of tourism at rock art sites in the UDP. This research aimed to contribute to understanding the impacts of tourism on rock art sites through:

- determining what management measures/rock art sustainable practices that exist at open UDP rock art sites to the public;
- determining what management methods are missing; and
- suggest solutions and recommendations that can be applied to fill the shortcomings discovered at these selected sites and other sites.

---

***Visitation, tourism behaviour and its impacts at rock art sites***

The way tourism is managed determines the extent of impacts on the physical and cultural environment (Buckley *et al.*, 2000). Tourism effects vary some sites are developed to enhance the quality and the sustainability of the environment while other site developments create damage (Buckley *et al.*, 2000). Bednarik (1993) discusses the way some rock art sites that are not open to the public are vandalised mainly because of negative reaction to site closure. As a result some sites that are not under great threat are ‘sacrificed’ for public viewing and are developed and managed effectively for visitors (Bednarik, 1993). Over the past decade, tourism has grown at a remarkable rate with an increasing global dispersal (George, 2007).

Whitley (2005: 158) states that “visitation does not necessarily equate with destruction”, while Gale and Jacobs (1991) question the issue of whether rock art and tourism are compatible. The behaviour of tourists at rock art sites needs to be constantly monitored. Children and tour groups are seen as especially high risk visitors (Bednarik, 1993). In Loubser’s (2001) work descriptions of systematic surveys of visitor’s attitudes and behaviour were conducted - results from that study indicate that tourists visit a site with the prime interests in the surrounding landscape first. A first impression at a site determines the behaviour that can be expected at a site (Loubser, 2001).

An unmanaged site appears neglected and dirty and is more likely to be intentionally and unintentionally damaged by humans (Loubser, 2001). While managed sites that are clean and consist of conservation interventions that display the importance of the site, gain more respect and are less likely to suffer human damage (Loubser, 2001). Gale and Jacobs (1987) have done extensive studies on the behaviour of tourists visiting rock art sites in Australia. They found that tourists tend to touch rock paintings more in smaller confined shelters compared to larger open rock art sites and that children did more damage than adults. Loubser (1991) made a comprehensive study of Australian rock art conservation methods and states that damage is not done by the sheer number of visitors alone, but by the ignorant behaviour of people visiting the sites. The impacts of tourism are important for the planning and management of tourism. All recreation activities including tourism lead to social and environmental change (Mason, 2003). If the causes of change are acknowledged then management actions are more effective.

Knowledge on the causes of the impact also aids decision making, planning and monitoring of tourism development, assisting in determining if management objectives are being met (Pedersen, 2002). Whether impacts are perceived as positive or negative depends on the observer’s judgment and value of the impact.

***Management and conservation***

In order to have the sites open to the public, sites need to be managed effectively for the sake of the art, the art’s surrounding environment and for the sake of enjoying the San culture.

Examples of successful site management methods include; developments to help strengthen

and support the site for tourism, thereby ensuring that minimal damage is done to the physical site, as well as increased rock art awareness through education (Bertilsson, 2002).

Management includes taking the interest of the different role players and tourism organisations into account (George, 2007). In the UDP, Ezemvelo KZN Wildlife, Natal Museum and Amafa aKwaZulu-Natali and KwaZulu-Natal Nature Conservation Services manage cultural heritage sites in terms of the KwaZulu-Natal Heritage Act No. 4 of 2008. General management recommendations have been implemented such as, no camping to be allowed in shelters containing rock art or archaeological artefacts (Mazel, 1982). The whereabouts of sites that are not interpretative sites should not be published on maps, in brochures or by any other means.

The burning of surrounding grassy areas should not be done too close to archaeological sites and that agreed upon maximum safety distances be adhered to (Mazel, 1982). The purpose of conservation is to conserve rock art so it can be enjoyed by many (Levin, 1991).

Conservation aspects include: education and interpretation, management and conservation, physical and chemical preservation (Deacon, 1993). Conservation methods have been tested all over the world and may include controlling visitor numbers at a site and the introduction of compulsory guides on sites (Mason, 2003) - the most successful of these conservation measures are now being used in South Africa (Loubser, 2001; Mazel, 1982).

## **Research methods**

Various research methods were utilised in the study. Primary field data was collected after in depths consultation of literature. The literature review for this study was compiled and obtained from studies undertaken in similar fields and regions, and was used in the analysis in supporting the results obtained. Techniques and processes found in literature were applied, which helped to evaluate the selected study sites (Deacon, 1993; Whitley, 2001; 2005).

Fieldwork included mapping the sites, narrative recording of the site, graphic documentation, photographing, drawn data and general recording the rock art sites and clusters (Whitley, 2005). The site is recorded firstly as a whole using the same recording site forms and methods, given for each region and specific project (Deacon, 1993). Rock art photography is essential as it allows for different shots and angles to be taken of the panels. Documentation of the whole provides a general idea of the size of the site and compliments the graphic documentations and narrative recordings. Photographs of the site can be used as evidence to show vandalism, site degradation and the natural processes of weathering (Leuta, 2009; Whitley, 2005). Before visiting the selected sites, evaluation tables were drawn up to ensure that the same things were observed, at each site. The factors that were included in these tables for investigation were compiled using existing criteria found in a standard site record form (Deacon, 1993; Mazel, 1982). A site record form is an overall assessment of a site to use for management and conservation purposes (Deacon, 1993). The three main criteria investigated in this research – natural and human impacts, tourism and management were used as baseline topics to be analysed in these tables. From these main criteria, eight tables



were formulated to evaluate each site. These eight tables address the following issues at each study site (with further factors under each main issue):

1. Camp (accommodation and office area in the reserve) and rock art awareness;
2. On route to rock art site;
3. Upon arrival at site;
4. The rock surface and the paintings;
5. Weathering and deterioration of the surface and paintings – naturally;
6. General and intentional human impacts at a rock art site;
7. Tourism factors at the camp and rock art site; and
8. Management methods at the site.

## **Results and recommendations**

In this section the overall results found at the selected study sites (Table 1) and the unexpected findings found in the project are discussed.

### ***Common management methods***

Overall there was a number of common management methods found at the open sites for tourism, these were:

- Entrance fee to visit the site;
- tours conducted by a rock art guide;
- tours conducted at specific times;
- the site is fenced or the greater area of the site is;
- a sense of direction flow with viewing areas and;
- a parking area and dustbin found at a distance from the art.

### ***Common management methods that are missing***

Along with existing management methods, there were common management methods missing at open tourism sites too, they were:

- a need for better advertising of these guided rock art sites providing the necessary information i.e. times, entrance fee and where to meet; and

- a need for a pamphlet on the specific rock art site as well as general rock art information – including other rock art sites to visit.

**Table 1. A comparison results table for the three selected study sites in the uKhahlamba-Drakensberg Park**

Study Area			Giant's Castle Game Reserve	Kamberg Nature Reserve
Study Site			Injisuthi Camp: <b><u>Battle Cave</u></b>	Giant's Camp: <b><u>Main Caves</u></b>
General information to get to the site			Long hike, not suitable for day visitors. Guided tours – make a booking. Pay an entrance fee	Site not too far from camp, easy walk. Meet guide at the site's gate. Pay an entrance fee
Information on the site			Large site with a large quantity of paintings. Famous battle scene. Difficult viewing access of the art, scramble of	Most developed rock art site. Large, spacious site, two deep overhangs. High quality and quantity of paintings. Good
Three main criteria investigated				
1.	Deterioration	Natural Impacts	High, intense sunlight, fading the paintings, flaking and cracking of the	Rock surface varies but in a reasonable good condition. Fading in some areas
		Human impacts	Low: little evidence of graffiti (because of the site's distance away from camp)	Low graffiti levels on site but very high at the entrance gate area
2.	Tourism and Development	In the area	Remote, poor access roads – 30km dirt road. Camp is well developed, variety of accommodation. Not for casual day	Most developed rock art site for tourism, camp is well developed for tourism, easy access, tarred roads. Suitable for day
		At the site	Undeveloped for tourism, no boardwalks and information boards. Not tourist friendly – have to climb over rocks to	Site is developed, impressive on first arrival, interpretive display, boardwalks and has a visitor's book.
3.	Management and Conservation	At the camp	Little rock art awareness at the camp on the site. A rock art site etiquette sign is at the reception	Medium awareness of rock art – focus it at the site. Site ideal for tourism, there is a variety of accommodation and
		At the site	Fence around the site, no site developments, no easy access to view the art. Payment to see the art and to have a	Interpretive display, boardwalk, visitor's book, fence, guided tours, payment to the site. There is a board stating the art is
Recommendations			Non-obstructive surface management methods. Site pamphlet and a visitor's book. Development isn't necessary – but a path for visitors to walk on will be safer	More signage for the walk to the site. More rock art awareness at the camp, posters and a site pamphlet. Pay attention to visitor's comments in the

### ***Unexpected findings:***

The study of archaeology has provided us with what we know about rock art today but it is these techniques that can be very destructive during the excavation of sites, radiocarbon dating and burning of samples (Whitley, 2005). Research equipment was found at the selected study sites, but it was hard to understand why research was being undertaken at sites that are open for tourism. The simple answer to this unexpected finding was because these sites are open for visitation and research. It was surprising to see that sites with equipment had no signs saying research is being undertaken and why, or any mention of the research by the guides. A sign or the tourist guide should provide information that research is taking place and why. Or sites that are closed for tourism should at least be open for research too, so that open tourist sites have a more authentic feel and experience for visitors. It is essential to ensure the correct management and conservation of the art and site research, removal of graffiti and site management should be undertaken by professional people. The destructive nature of archaeological research must adhere to strict guidelines – namely the permit system that has been in place in South Africa since 1969 (National Heritage Resources Act, No. 25 of 1999 – section 35) (SAHARA, 2000; Solomon, 1998; Whitley, 2005). These recording activities especially tracing – involves coming into direct contact with the art should only be done by trained professionals with a strict set of guidelines and protocols (Whitley, 2001).

At camps and sites, there is a need for more face to face interaction and interpretation explaining the paintings and San culture, i.e. story telling by the local people. A site needs a visitors' book for visitors to leave their comment and it can even be a way to prevent graffiti at a site and provides managers an opportunity to hear what visitors think of the site. The location of the visitor's book is vital, to ensure visitors complete it. A pamphlet for each rock art site needs to be available to fully enjoy and understand the site; which will increase rock art awareness too. Another unexpected finding was the unavailability of open tourist sites in northern and southern Drakensberg. This due to sites being on private property and a number of closed sites closed off to the public without permits. It was also found that no limitation is placed in the total number of visitors that each site may accommodate at any one time. It was noticed at the sites that the guides have only a very basic knowledge of rock art and this limits their interpretation abilities. The guides also tend to touch the art whilst explaining, with a stick or pieces of long grass. Investments need to be put into educating and training the guides.

### ***Overall site and camp recommendations***

Common recommendations observed at the selected study sites/and for all rock art sites, including do's and don'ts at sites;

- an information brochure needs to be made for each site, stating the times, prices of tours, what to expect along the walk there and about the rock art;
- every site needs to have a sign stating the art is protected by legislation – even if that means that some signs may have to be off-site so as to leave the site

‘pristine’ and if ‘on-site’ they cannot be dug into the ground (their supports) as this damages archaeological deposit;

- sites need rock art etiquette signs stating the do’s and don’ts at a site;
- rubbish bins, to be placed before the route to the rock art site begins;
- sites need viewing space, flow of direction and need to avoid congestion at the site, as this may cause visitors to touch rock surfaces at the site;
- better signage at the camp and marketing of the art without over doing commodification of rock art;
- sites need to be fenced where necessary – to keep animals out of the site;
- the placement of a visitor’s book at a site or at the end of the hike where people can leave their comments instead of at the counter where one pays for entrance at the beginning of the hike or visiting a rock art centre;
- if a site is open to tourism, visitors should be able to easily access the sites without struggling to walk at the site and climbing over rocks;
- to not allow camping at shelters;
- surface management methods (if necessary i.e. drip lines) to be implemented with the necessary permits at sites where the quality of the rock surface is deteriorating at faster rates;
- to implement ground surface management methods, such as flagstones that rest on the ground surface or fire treated boardwalks (avoiding gravel which could stir up dust damaging the rock art);
- undeveloped site locations must be kept anonyms;
- to have interpretive display at sites and at UDP camps to increase the awareness and education of rock art;
- to invest in more training of rock art guides, to engage in, informed storytelling, which will contribute to human capital development than interpretive displays as the different rock art sites;
- parking area to be a distance away from the art, at least a minimum of 200m away from the site;
- to provide information boards to describe what visitors are viewing;
- erect low barriers at sites to prevent visitors touching the art and it is a way to portray the arts importance;

- monitor the site subjectively visually and photographically;
- train guides to work at rock art site and to take part in regular workshops to increase their knowledge of rock art and the San culture and;
- better interaction and correspondence between all parties involved, through organised meetings and updates on any developments or suggestions for the future of rock art.

### ***The future of rock art***

Rock art is part of the national estate and people want to experience it outside the museum environment. In my opinion sites should be open to the public, albeit in a managed and sustainable way. Work by Buckley *et al.* (2000), Mason (2003), Monz (2000) and Whitley (2005) all highlighted that tourism effects varied, enhancing the awareness of rock art but at the same time, increasing deterioration rates at sites. Commodification provides a means of extending the survival of rock art and provides opportunities to enjoy the art – another complexity of tourism (Kusler, 1991). Each individual rock art site needs to have an environmental management plan that includes methods to suit the site’s location, condition and tourism, in order to manage and conserve the sites and paintings (Ouzman, 2001). A site needs to be managed in order to be conserved, but assessments of the site, the rock and art’s conditions needs to be done in order to manage the site effectively. These assessments need to be scheduled at regular, ongoing intervals in order to ensure proper monitoring and to keep in touch with visitor needs and perceptions. Thus, the protection of rock art must take place in three ways; legislation, education and through effective management and sustainable tourism (Deacon, 2007).

The future of rock art lies in the concentrated efforts made by the government, scientific institutions, researchers, tourism operators, non-governmental organisations, landowners and individuals. If all of these groups work together only then will successful conservation of rock art is possible.

### ***Future research opportunities***

- Investigating the common questions that were asked by tourists and how the knowledge exchanged between guide and tourists impacts the tourist’s experience of seeing original rock art.
- Studies should be carried out to measure the impacts, visitor behaviour and the effectiveness of the conservation measures.
- Research could also be done on the different locations of visitor’s books and the impacts it has on the number of people who fill them in and if having a visitor’s book on site really does decrease graffiti at a site.
- Research potential lies in GIS (Geographical Information Systems) in conserving rock

art, being used to generate distribution maps and site positions. Also another means to display the deterioration of paintings over time through digitising photos.

## Conclusion

Throughout this research, informal conversation was held with rock art guides, managers and tourists. Their insight and opinions contributed to the findings discussed in this paper. With each visit to the study sites, changes to the sites were noted from positive and negative physical alterations to general comments and feedback from the rock art guides and reserve managers. With each study site visit, extra knowledge was gained and new findings discovered. These were shared among the site rock art guides and managers of the various study sites contributing possible management solutions and future recommendations. Tourism has its complexities; negatively it can contribute towards increasing the rate of deterioration of the site and art, while positively it can increase the awareness of rock art and gives people the opportunity to view the art. By opening sites for tourism and allowing people to view the art, this will increase people's appreciation for the art and will help them to understand its unique beauty and the significance of this fading heritage that we are still able to see first-hand. Some may disagree with this suggestion, i.e. Levin (1991) as he explains that a historical site is a heritage that should be conserved rather than a commodity to be exploited. The authors disagree with Levin (1991) because in a post-colonial context commodification can assist people to make a living from their heritage. We should use commodification to create awareness of the art and let people view original rock art in its 'authentic' physical/natural setting. There is also a need for ongoing research on the awareness, commodification, opening of sites for tourism as well as the conservation of rock art sites as no standard treatment or diagnosis for rock art conservation exists.

Rock art provides a window into the past. People's love for art and cultural heritage will vary subjectively and objectively and this needs to be accepted. Although this priceless heritage of art should be accessible and appreciated by everyone access to these sites needs to be controlled and sites need to be carefully managed. Rock art sites need to serve dual goals of being places of education, awareness and appreciation whilst simultaneously conserving the art in its physical setting for as long as possible.

## References

- Anati, E., 1993: *World rock art – The primordial language*, studi Camuni, Edizioni del Centro, Capo di Ponte Italy.
- Bednarik, R.G., 1993: Rock art management in Australia, *Pictogram*, 1, 1-5.
- Bertilsson, U., 2002: Rock art at risk, International Council on Monuments and Sites (ICOMOS), Comite International D'art Rupestre/International Rock Art Committee, Accessed November 2008, <http://www.international.icomos.org>.
- Briggs, P., 2006: uKhahlamba-Drakensberg Park: World heritage sites of South Africa, 30'

South Publishers, Johannesburg.

Buckley, R.C., Pickering C.M., & Warnken, J., 2000: *Environmental management for alpine Tourism and resorts in Australia*, International Centre for Ecotourism Research, Griffith University, Queensland, Australia.

Clottes, J., 1997: *ICOMOS Rock Art: A universal cultural message*, International Council on Monuments and Sites, International Council on Rock Art, UNESCO, Paris.

Coulson, D., & Campbell, A., 2001: *African rock art paintings and engravings on stone*, Harry N. Abrams Inc, New York.

Deacon, J., 1993: Management guidelines – for rock art sites in two wilderness area in the Western Cape, Department of Environmental Affairs and Tourism, Stellenbosch.

Deacon, J., 1994: *Some views on rock paintings in the Cederberg*, Department of Environment Affairs, Cape Town.

Deacon, J., 2006: Rock art conservation and tourism, *Journal of Archaeological Method and Theory*, 13, 379-399.

Deacon, J., 2007: A beginner's guide to archaeology, SAHRA and the PHRAs, *The Digging Stick*, 24, 15-16.

Gale, F., & Jacobs, J., 1987: Aboriginal art – Australia's neglected inheritance, *World Archaeology*, 19, 226-235.

George, R., 2007: *Managing tourism in South Africa*, Oxford Southern Africa, Cape Town.

Graff, J., 2006: Saving beauty: Mold and bureaucracy threaten France's Lascaux Cave, *Time*, May, 20, 36-42.

Greenwood, D., 1989: Culture by the pound – an anthropological perspective on tourism as cultural commoditisation, In: Smith, V.L., *Hosts and guests: the anthropology of tourism* (2<sup>nd</sup> Ed), University of Pennsylvania, Philadelphia.

Hall, K., Meiklejohn, I., Arocena, J., Prinsloo, L., Sumner. P., & Hall, L., 2007: Deterioration of San rock art: New findings, new challenges, *South African Journal of Science*, 103, 361-362.

Hedges, K., 1993: Places to see and places to hear: rock art and features of the scared landscape in time and space: Dating and spatial consideration in rock art research in the Australian Rock art research association, Melbourne, Australia, *Occasional AURA publication*, 8,121-127.

Hoerlé, S., 2005: A preliminary study of the weathering activity at the rock art sites of Game Pass Shelter (KwaZulu-Natal, South Africa) in relation to its conservation, *South Africa Journal of Geology*, 108, 297-308.



Hoerlé S., 2006: Rock temperatures as an indicator of weathering processes affecting rock art,

*Earth Surface Processes and Landforms*, 31, 383-389.

Johnson, T., & Maggs, T. M. O'C., 1979: *Major Rock Paintings of Southern Africa*, David Philip. Cape Town.

Kulser, J.A., 1991: Strengthening resource conservation through ecotourism, In: Kusler, J.A. (Ed), *Ecotourism and Resource Conservation*, Madison, Omnipress, vii-xi.

KwaZulu-Natal Heritage Act No. 4 of 2008. *Provincial Gazette*, 225, 19 February 2009.

Leuta, T.C., 2009: *Evaluating the Rate of Rock Art Deterioration in the uKhahlamba-*

*Drakensberg Park, KwaZulu-Natal*, Unpublished Ma Dissertation, University of Pretoria, Pretoria.

Levin, J., 1991: *The Future of Conservation*. *GCI Newsletter*, the Getty Conservation Institute, Los Angeles. 6 (1),

[http://www.getty.edu/conservation/publications/newsletters/6\\_1/future.html](http://www.getty.edu/conservation/publications/newsletters/6_1/future.html).

Lewis Williams, J.D., 1986: The Last testament of the southern San, *South African Archaeological bulletin*, 41, 10-11.

Lewis-Williams, D., 2002: *The Mind in the Cave: Consciousness and the origins of art*, Thames & Hudson, London.

Lewis-Williams, D., & Blundell, G., 1998: *Fragile Heritage, a rock art field guide*, Witwatersrand University Press, Johannesburg.

Lewis- Williams, D., & Dowson, T.A., 1992: *Rock Paintings of the Natal Drakensberg*, uKhahlamba series, No. 5, University of Natal Press, Pietermaritzburg.

Loubser, J.H.N., 1991: The Conservation of Rock Paintings in Australia and its Applicability to South Africa, *Navoring van die Nasionale Museum Bloemfontein*, 7, 113-143.

Loubser, J.H.N., 2001: Management planning for conservation, In: Whitley, D. S., 2001:

*Handbook of rock art research*, Alta Mira Press, California.

Loubser, J.H.N., & Den Hoed, P., 1991: Recording rock paintings: Some thoughts on methodology and techniques. *Pictogram*, 4, 1-5.

MacLellan, L.R., Dieke, U.C., & Kumari, T., 2000: Mountain Tourism and Public Policy in Nepal, In: Godde, P.M., Price, M.F., & Zimmermann, F.M., 2000: *Tourism Development in Mountainous Regions*, CABI publishing, New York.

- 
- Mason, P., 2003: *Tourism Impacts, Planning and Management*, Butterworth Heinemann, London.
- Mazel, A.D., 1982: Principles for conserving the Archaeological resources of the Natal Drakensberg, *The South African Archaeological Bulletin*, 37, 7-15.
- Mazel, A.D., & Watchman, A.L., 2003: Dating Rock Art Paintings in the uKhahlamba-Drakensberg and the Biggarsberg, KwaZulu-Natal, South Africa, *Southern African Humanities*, 15, 59-73.
- Meiklejohn, K.I., 1994: Aspects of the Weathering of Clarens Formation in the KwaZulu-Natal Drakensberg: Implications for the Preservation of Indigenous Rock Art, Unpublished PhD Thesis, University of Natal, Pietermaritzburg.
- Meiklejohn, K.I., 1997: The Role of Moisture in the Weathering of the Clarens Formation of the KwaZulu-Natal Drakensberg: Implications for the Preservation of Indigenous Rock Art. *South African Geographical Journal*, 93, 199-205.
- Meiklejohn, K.I., & Hattingh, P.S., 1995: *Rock Art – Managing Resources and Managing People*, Paper presented at the ROCUSTOS workshop, 5-8 October 1995, University of Pretoria, Pretoria.
- Monz, C., 2000: Recreational Resource Assessment and Monitoring techniques for mountain regions, In: Godde, P.M., Price, M.F., & Zimmermann, F.M., 2000: *Tourism Development in Mountainous Regions*, CABI publishing, New York.
- National Heritage Resources Act, No 25 of 1999: Chapter 1 Part 1, Item 3(1) to (3).
- Ouzman, S., 2001: The problems and potential of developing and managing public rock art sites in southern Africa, *Pictogram*, 12, 4-13.
- Pearse, R.O., 2006: *Barrier of Spears: Drama of the Drakensberg*, Art Publishers, Johannesburg.
- Pedersen, A., 2002: Strategies and solutions to tourism management problems. Chapter 7, UNESCO, Paris.
- Smith, B., 2006: Rock art tourism in southern Africa: problems, possibilities and poverty relief, In: Neville, A., & Bridgeland, J. (Eds), *Of the past, for the future: integrating archaeology and conservation*, The Getty Conservation Institution, Los Angeles, California.
- Solomon, A., 1998: *The Essential, Guide to San Rock Art*, David Philip Publishers, Claremont.

- 
- South African Heritage Resource Agency Regulations (SAHARA), 2000: *Government Notice R548*, Gazette, June 2, 2000.
- Sullivan, H., 1995: Visitor Management at painting sites in Kakadu National Park, In: Ward, G.K., & Ward, L.A., *Management of rock imagery, Occasional AURA Publication*, 9, 82-87.
- UNESCO., 2000: *Report of the 24<sup>th</sup> session of the World Heritage Committee*, 27 November 2000 - 2 December 2000 Cairns, Australia.
- Venter, G., 2011: *Surface preparation and the effects on rock art deterioration*, Unpublished MA Dissertation, University of Pretoria, Pretoria.
- Vinnicombe, P., 1976: People of the eland: Rock paintings of the Drakensberg Bushmen as a reflection of their life and thought, Natal University Press. Pietermaritzburg.
- Vogel, J.C., 1995: The temporal distribution of radiocarbon dates for the Iron Age of southern Africa. *South African Archaeological Bulletin* 50,106–9.
- Wadley, L., Williamson., & Lambard, B.M., 2004: Ochre in hafting in Middle Stone Age Southern Africa: a practical role. *Antiquity*, 78: 661–675.
- Whitley, D. S., 2001: *Handbook of Rock Art Research*, AltaMira Press, Walnut Creek, California.
- Whitley, D.S., 2005: *Introduction to Rock Art Research*, Left Coast Press, California.

---

## A meta-analysis of the tourism and economic growth nexus

**Boopendra Seetanah, Robin Nunkoo, Raja Vinesh Sannasee & Paul Georges Warren Moraghen and Zameelah Rifkha Khan Jaffur'**

*University of Mauritius, Mauritius, [b.seetanah@uom.ac.mu](mailto:b.seetanah@uom.ac.mu)*

*University of Mauritius, Mauritius, [r.nunkoo@uom.ac.mu](mailto:r.nunkoo@uom.ac.mu)*

*University of Mauritius, Mauritius, [rvsan@uom.ac.mu](mailto:rvsan@uom.ac.mu)*

*University of Mauritius, Mauritius, [iwarrenpgm@gmail.com](mailto:iwarrenpgm@gmail.com)*

*University of Mauritius, Mauritius, [zam.kjaffur@gmail.com](mailto:zam.kjaffur@gmail.com)*

**Key words:** meta-analysis, tourism, economic growth, relationship, meta-regression

### Abstract

The existing literature is fraught with empirical studies delineating the impact of the tourism sector on economic growth. However, the results are at best inconclusive. In this regard, the aim of the present study is to investigate the underlying elements influencing the tourism-economic growth nexus within a meta-analysis framework. Such types of study are very scanty in nature and the only existing meta study focuses solely on panel data studies. In the present instance, our study is extended to include time series and cross sectional types of studies also. The results indicate that the relationship between tourism and economic growth is systematically influenced by data characteristics, estimation characteristics and specification characteristics.

### Introduction

Tourism has become one of largest and fastest-growing sectors in the world. According to the World Tourism Organisation (UNWTO), the number of international arrivals worldwide has increased from 25 million in 1950 to 1186 million in 2015 (UNWTO, 2016). For many countries, especially developing and least developed ones, tourism is an important source of foreign currency earnings and plays an essential role in the country's economy by creating jobs and providing further opportunities for the development of other industries. As such, governments are overwhelmingly paying more attention to support and promote tourism as a potential source of economic growth.

Over the past decades, the economic impact of tourism has become a predominant topic in tourism research. There has also been an increase in the number of studies focusing on the tourism and economic growth nexus, also known as the tourism-led growth hypothesis. From the theoretical lens, the relationship between tourism and economic growth can be investigated in three approaches: (i) the short-run analysis based on the Keynesian income multiplier, also called the tourism multiplier, (ii) the Input-Output model, which studies the interrelationship between the tourism sector and other sectors, and (iii) the long-run exogenous or endogenous growth models (Panagiotidis et al, 2012). On the other hand, from the empirical point of view, the Cobb-Douglas function is usually applied to explore the relationship between tourism and economic growth (Brida & Pulina, 2010). Nevertheless, the results on the relationship between tourism and economic growth were mixed and divergent; while most studies revealed a positive relationship between tourism and economic growth, some found a negative relationship and very few even demonstrated a null relationship.

To this end, the aim of this study is to shed light on the tourism and economic growth nexus. In particular, a meta-analysis framework is employed to systematically describe, identify and analyse the variations in the results obtained from the voluminous literature on the relationship between tourism and economic growth. Meta-analysis was traditionally used in medicine to statistically analyse different medical experiments, and henceforth, helping in clarifying controversial issues regarding medicine. This method became popular in the field of economics in the 1980s. Weichselbaumer and Winter-Ebmer (2005) claimed that “a metastudy (...) allows a quantitative assessment of the literature in a way an econometrician would write a survey”. In other words, it allows evaluating the effect of different data characteristics and methodologies on the results reported, and also allows testing hypotheses related to, for example, the sign of a given regression coefficient estimate. Stanley (2001) pointed out that “meta-analysis is a body of statistical methods that have been found useful in reviewing and evaluating empirical results”. He believed that combining the results from a number of independent studies, conducted on a particular topic, through meta-analysis can provide more insight than a listing of individual results. Undertaking a meta-analysis in the context of tourism research are very sparse, except studies from Crouch (1995), Lim (1999), Baaijens et al. (1998), Baaijens et al. (2000), Castro-Nuño et al. (2013) and Peng et al. (2015). The study from Castro-Nuño et al. (2013) was the only one which provided a synthesis of the effect of tourism on economic growth using a meta-analysis framework. However, our study demarcates from the latter in that the analysis has been extended to a global perspective instead of considering only panel data studies.

The remainder of the paper is structured as follows. Section 2 reviews the literature on the effect of tourism on economic growth. This is followed by the illustration of the methodology used in Section 3. Section 4 presents and discusses the findings of the study. Finally, all the conclusions deduced from the study are given.

## **Literature Review**

### ***Research on the tourism and economic growth nexus***

In recent years, there has been an increasing amount of literature published on the tourism-led growth hypothesis (TLGH), which analyses the relationship between tourism and economic growth in both the short-run and long-run. However, most researchers investigating the tourism-led growth hypothesis have only tested its validity within a bivariate context using causality techniques. Very few of them have quantified the relationship between tourism and economic growth in both the short-run and long-run. The present section will review three strands of the literature: firstly, studies and research output which have supported tourism as a promoter of economic growth in both the short-run and long-run; secondly, those studies which have confirmed the validity of the tourism-led hypothesis given certain conditions; and finally, those research output which proved that the tourism-led growth hypothesis does not hold.

### ***Evidence for the tourism-led growth hypothesis***

There has been a number of studies which have confirmed the validity of the tourism-led growth hypothesis in both the short-run and long-run. Both panel and time series investigations have been done within different types of countries and methodology frameworks. For example, Grullón (2013) provided results in favour of the tourism-led growth hypothesis for the Dominican Republic for the period 1991-2012 using the bounds testing approach. Durbarry (2004) confirmed the validity of the tourism-led growth hypothesis for Mauritius using annual data spanning from 1952-1999 and the cointegration technique. Jaforullah (2015) employed the vector autoregressive model and concluded that tourism had a positive effect on the economic growth of New Zealand. Other time series studies which have confirmed the validity of the tourism-led growth hypothesis: Bassil et al. (2015) for Lebanon; Belloumi (2010) for Tunisia; Brida et al. (10) for Uruguay; Brida et al. (2009) for Colombia; Brida and Risso (2010) for South Tyrol; Gautam (2011) and Dhungel (2015) for Nepal; Eeckels et al. (2012) and Kasimati (2016) for Greece; Georgantopoulos (2013) and Ohlan (2017) for India; Ertugrul and Mungur (2015), Husein and Kara (2011) and Gokovali (2010) for Turkey; Kristo (2014) for Albania; Jayathilake (2013) and Srinivasan et al. (2012) for Sri Lanka; and Wang et al. (2012) for China. On the other hand, panel data studies include amongst others: Seetanah (2011) for a panel of island economies, developing economies and developed economies; Fayissa et al. (2008) for Sub-Saharan African countries, Fayissa et al. (2011) for Latin American countries; Gökovalı and Bahar (2006) for Mediterranean countries; Eugenio-Martín et al. (2004) for Latin American countries; Dritsakı (2012) for developed countries (France, Cyprus, Greece, Italy and Spain); Mallick et al. (2016) for Indian States; Kum et al. (2015) for developing countries; and Zuo and Huang (2017) for China provinces.

### ***A conditional relationship***

Gökovalı and Bahar (2006) empirically investigated whether the tourism-led growth hypothesis holds for Mediterranean countries for the period 1987-2000 using a panel data approach, and concluded that the effect of tourism on economic growth was highly dependent upon the estimation techniques used. The same was found by Ajvaz (2015), Mallick et al.

(2016) and Soukiazis and Proença (2008) for Sweden, Indian States and Portugal respectively. Moreover, studies such as Arslantürk and Atan (2012), Dhungel (2015), Georgantopoulos (2013), Jiranyakul (2016), Karki (2012), Kristo (2014), Malik et al. (2010), Massidda and Matatna (2012), Mustafa and Santhirasegaram (2014) and Pavlic et al. (2015) showed that the validity of the tourism-led growth hypothesis and the effect of tourism on economic growth relied upon the time span (long-run or short-run) examined. In addition, other researchers have concluded that the nature of the relationship between tourism and economic growth relied upon the development level or income level of the countries investigated, and to which extent the latter depend on tourism as a driver of its economic growth (see Saleh et al., 2015; Sequeira & Nunes, 2008; Eugenio-Martin et al., 2004; Lee & Chang, 2008; Mello-Sampayo & Sousa-Vale, 2010; Adamou and Clerides, 2010; Alodadi, 2016; Demirhan, 2016; Ekanayake & Long, 2012; Fawaz et al., 2014). Furthermore, some researchers have also argued that the econometric model employed influenced the effect of tourism on economic growth. For example, the findings from the study of Havi and Enu (2013) indicated that the effect of tourism on the economic performance of Ghana was connected to the types of tourism investigated. Du et al. (2014), on the other hand, suggested that standard income factors such as research and development, education and capital per person influenced the impact of international tourism on economic growth. Phiri (2016), Savaş et al. (2012) and Eeckels et al. (2012) concluded that the effect of tourism on economic growth relied upon the number of lags included in the model. Ghartey (2013) also concluded that the number of regressors included while modelling the effect of tourism on economic growth also had an influence on the latter.

### ***Evidence against the tourism-led growth hypothesis***

Most of the studies studying the tourism and economic growth nexus have shown that the tourism-led growth hypothesis was invalid in the short-run. For instance, the findings from the Keskin and Cansiz (2010) showed that in the short-run, the tourism-led growth hypothesis did not hold for Turkey for the period 1950-2008. The same was found by Singh et al. (2010) upon investigating the validity of the tourism-led growth hypothesis in Barbados, Jamaica and The Bahamas; Sriboonjit et al. (2010) for Thailand's economy during the period 1991-2005; Suresh and Sentilnathan (2014) for Sri Lanka; Mishra et al. (2011) for India during the period 1978-2009. However, Kumar (2014) who employed an ARDL approach to explore the tourism and economic growth nexus in Kenya using annual data spanning from 1978-2010 concluded that tourism had a negative effect on growth in the short-run. On the other hand, Palamalai and Kalaivani (2016) provided empirical evidence that the tourism-led growth hypothesis was not valid for a sample of 13 Asia-Pacific nations over the period 1995-2014 using Arellano and Bond's GMM estimation. In a similar vein, Holzner (2011) showed the tourism-led growth hypothesis was not valid for a panel of 134 countries in the long-run.

Sequeira and Campos (2007) (in Matias et al., 2007: 153-163) also found that tourism was not significantly related to economic growth of countries whether the latter were small countries, islands and countries specialised in tourism. Despite that the findings from

Assadzadeh and Nasab (2012) revealed that tourism had a positive effect on Iran's economy during 1968- 2007, it was insignificant.

## Methods

### *Study selection*

The first step of any meta-analysis is to collect the maximum possible number of empirical studies on the topic. As such, a systematic search of the literature has been conducted using Google scholar and journal databases such as Science Direct (<http://www.sciencedirect.com/>), Wiley Online Library (<http://onlinelibrary.wiley.com/>), Taylor and Francis Online (<http://www.tandfonline.com/>) and Springer (<https://link.springer.com/>) with keywords: “tourism”, “economic growth”, “effect of tourism on economic growth” and “tourism-led growth hypothesis” through until 2017. A search has also been carried out on the web sites of research institutes working on the topic and references from existing empirical studies. Pure theoretical papers and those written in languages other than English have been excluded from our search. As such, we have also included master and Ph.D. dissertations, articles from local journals and working papers. The searching process was repeated until no new studies have been found. The last study was added on 15 March 2017. The above search has produced a sample of 364 studies.

After having collected a maximum number of studies on the tourism and economic growth nexus, we proceeded with the selection of studies to be included in our meta-analysis. To have a consistent analysis, four selection criteria have been established for the inclusion of studies in the meta-analysis: **(i)** the study must include a dependent variable describing economic growth; **(ii)** the study must consist of an independent variable measuring tourism; **(iii)** the study must report an empirical estimate measuring the effect of tourism on economic growth and **(iv)** the study must provide information on precision of estimates (*t*-statistics or standard- errors). Our sample was thus reduced to 117 studies with a total of 503 estimates of the effect of tourism on economic growth. All the studies included in the meta-analysis are listed in Table 1. The oldest study in our sample was published in 1994 and the most recent in 2017.



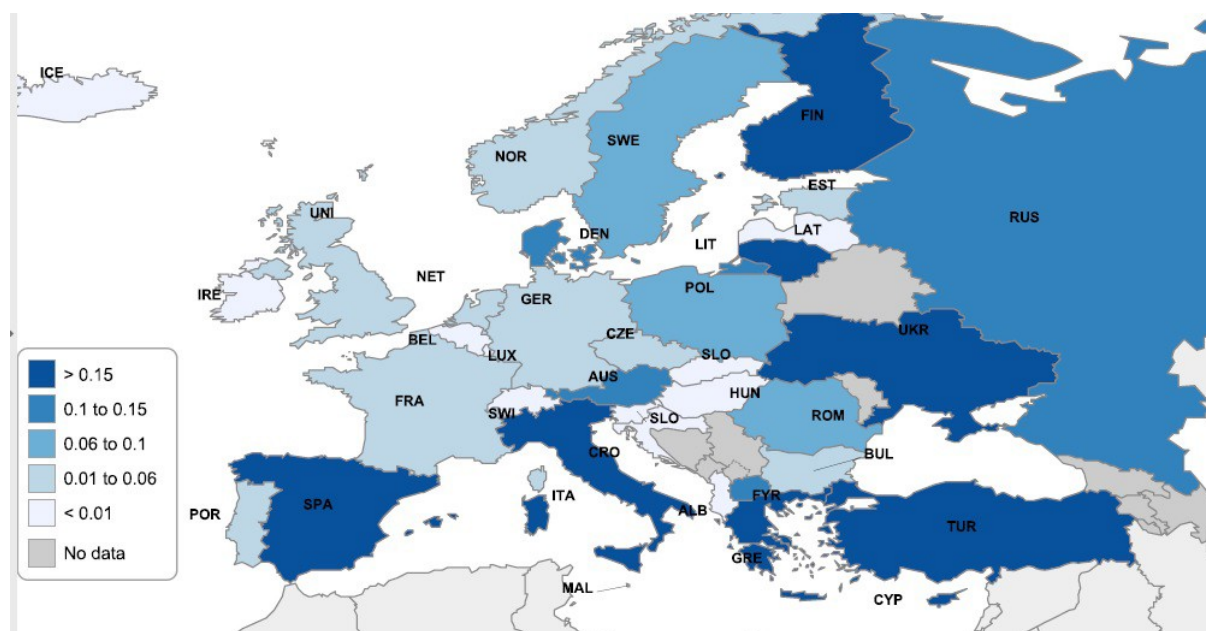
**Table 1: List of studies included in the meta-analysis**

Adamou and Clerides (2010)	Gökovalı (2010)	Ongan and Demiroz (2005)
Ahad (2016)	Grullón (2013)	Paci and Marrocu (2013)
Ajvaz (2015)	Holik (2016)	Palamalai and Kalavani
Alodadi (2016)	Holzner (2011)	(2016) Panagiotidis et al.
Amaghionyeodiwe (2012)	Husein and Kara (2011)	(2012) Paramati et al. (2016)
Apergis and Payne (2012)	Jaforullah (2015)	Pavlic et al. (2015) Phiri
Arslantürk and Atan (2012)	Jalil et al. (2013) Jayathilake	(2016)
Aslam (2016)	(2013)	Po and Huang (2008) Puranti
Assadzadeh and Nasab (2012)	Jiranyakul (2016) Kaplan and	et al. (2011) Rout et al. (2016)
Badri et al. (2014)	Çelik (2008) Karki (2012)	Saleh et al. (2015) Salmani et
Bandula Jyathilake (2013)	Kasimati (2016)	al. (2012) Samimi et al. (2011)
Bassil et al. (2015) Belloumi	Katircioğlu (2010) Keskin and	Savaş et al. (2012) Seetanah
(2010)	Cansiz (2010) Khalil et al.	(2011) Seetanah et al. (2011)
Brida and Risso (2010) Brida	(2007)	Seetanah et al. (2015)
et al. (2008) Brida et al. (2009)	Kristo (2014)	Sequeira and Campos (2007)
Brida et al. (2010) Brida et al.	Kuang and Tsai (2009) Kum et	Sequeira and Nunes (2008)
(2011) Carrera et al. (2007)	al. (2015) Kumar (2014)	Shih and Do (2016)
Cortés-Jiménez (2008)	Kumar and Kumar (2012)	Sica (2007)
Demirhan (2016)	Kumar et al. (2015)	Simnudić and Kuliš (2016)
Deng (2014)	Lashkarizadeh et al. (2012)	Simnudić et al. (2016) Singh
Dhungel (2015) Havi and Enu	Lee and Brahmasrene (2013)	et al. (2010)
(2013) Dritsakis (2012)	Lee and Chang (2008)	Soukiazis and Proença (2008)
Du et al. (2014) Durbarry	Lorde et al. (2011)	Sriboonjit et al. (2010)
(2004) Eeckels et al. (2012)	Mahmoudinia et al. (2011)	Srinivasan et al. (2012)
Ekanayake and Long (2012)	Makochekanwa (2013) Malik	Suresh and Sentilnathan
Ertugrul and Mangur (2015)	et al. (2010) Mallick et al.	(2014) Tang and Abdullah
Eugenio-Martin et al. (2004)	(2016)	(2016) Tang and Abosedra
Fawaz et al. (2014)	Mamipour and Nazari (2014)	(2014) Tang and Tan (2015)
Fayissa et al. (2008) Fayissa	Massidda and Matatna (2012)	Titan et al. (2010) Tiwari
et al. (2009) Fayissa et al.	Mello-Sampayo and Sousa-	(2011)
(2011) Gautam (2011)	Vale (2010)	Vanegas (2012)
Georgantopoulos (2013)	Mishra et al. (2011) Mishra et	Vita and Kyaw (2016) Wang
Getahun (2011)	al. (2016) Modeste (1994)	et al. (2012) Yazdi et al.
Ghartey (2013)	Mustafa and Santhirasegaram	(2015) Yurtseven (2012)
Gökovalı and Bahar (2006)	(2014)	Zuo and Huang (2017)
Ohlan (2017)	Narayan et al. (2010) Odularu	
	(2008)	

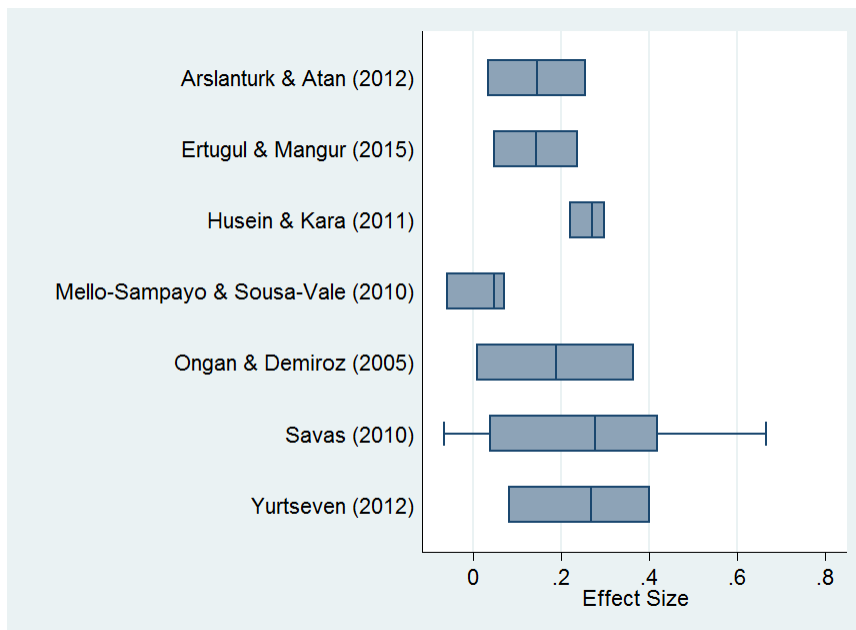
### *Explaining why the estimates of the impact of tourism on economic growth differ in literature*

It can be observed from the theoretical literature and empirical research done on the relationship between tourism and economic growth that studies differ in terms of geographical context, the methodology (data characteristics, estimation methods and model specification), the time span (long-run and short-run), the measurement of the dependent variable (economic growth) and the measurement of the independent variable (tourism). Since in our sample, we have estimates of the tourism and economic growth nexus for almost all European countries, we illustrate in Figure 1 how these estimates differ from one European country to another.

Clearly, the destination country's characteristics play an important role on the effect exerted by tourism on economic growth. The methodology used in the estimation is another factor that may influence the reported estimates. Figure 2 shows how the results vary across studies with different methodologies for the country that was most frequently examined in our sample, Turkey. Therefore, if we want to discover what makes countries benefit from tourism, it is also important to control for method choices employed in the studies.



**Figure 1: Country heterogeneity in the estimates of the impact of tourism on economic growth for Europe**



**Figure 2: Method heterogeneity in the estimates of the impact of tourism on economic growth for Turkey**

Building on the theoretical and empirical studies on the tourism and economic growth nexus, a list of 39 explanatory variables (6 potential determinants of tourism and 31 control variables) are compiled to explain why the estimates of tourism vary from one study to another. Below is a brief description of the six potential determinants of tourism:

*Geographical distance:* The geographical distance from the origin to the destination country can act as a potential determinant of tourism. Indeed, greater distance can affect the tourists' choice of destination country due to transportation cost. This variable has been added to our model due to the unavailability of data on transportation costs and air fares, and to verify whether the effect of tourism on economic growth is affected by the geographical distance between the country of origin and the destination country.

*Relative tourism prices:* This variable has been included in our model to account for the cost of living in the destination country relative to the cost of living in the country of origin.

Following Seetanah et al. (2015), we employ the consumer price index of a destination country adjusted by the US\$ exchange rate to proxy the latter.

*Exchange rate:* The fluctuations of a country's currency usually influence the choice of tourists on their travel destinations (see Webber, 2001). Thus, this variable, measured as the real effective exchange rate of the destination country, is used to verify whether the appreciation and depreciation of the destination country's currency influence the effect of tourism on economic growth.

*Tourism expenditure:* Tourism expenditure usually exerts a positive impact on the economic growth of the destination country since it generates income to the economy of the destination

Innovation and Progress in Sustainable
 

---

country, especially for developing countries, and brings foreign earnings to the country. To measure the tourism expenditure in a destination country, the outbound travel and tourism expenditure is employed to check whether tourism expenditure of the destination country also affects the tourism and economic growth nexus.

*Tourism income:* As highlighted by Seetanah et al. (2015), the income potential of prospective tourists influences their choice to undertake overseas vacations. As such, we use the World GDP per capita to measure the income of tourists, and to verify whether the latter affects the effect of tourism on economic growth.

*GDP per capita:* According to Seetanah et al. (2015), the development level of a destination country is an important component for the attraction of tourists. Following the latter, we use the GDP per capita of the destination country to cater for the development level of the country and to check whether this influences the impact of tourism on economic growth.

Following Irsova and Havranek (2013) and Havranek and Irsova (2011), all potential tourism determinants, with the exception of the geographical distance, are computed at the country level based on values from 2000, the median year of the data used in the studies. Table 2 provides details on the construction of all variables and summary statistics. It also lists all the 31 control variables that we use in our estimation: the data characteristics, specification characteristics, estimation characteristics and publication characteristics of the studies on the tourism and economic growth nexus.

**Table 2: Description and summary statistics of variables**

Variables	Description	Mean	Std. dev
Est	The estimates of the impact of tourism on economic growth.	0.487	5.579
Potential tourism determinants			
Geographical distance	The logarithm of the country's tourist arrivals weighted by the distance of the destination country from the countries of origin of the tourists (kilometers).	7.536	1.900
Relative tourism prices	The logarithm of the consumer price index of the destination country adjusted by US\$	7.461	2.517
Tourism expenditure	The logarithm of the destination country's outbound travel and tourism expenditure (US\$ billion).	15.349	50.91
Exchange rate	The logarithm of the real effective exchange rate of the destination country.	101.885	32.451
GDP per capita	The logarithm of the GDP per capita (constant US\$) of the destination country.	8.916	1.211
Tourism income	The logarithm of the GDP per capita of the country of origin of the tourists, proxied by World's GDP per capita (constant US\$).	9.008	0.041
Control variables			

## Innovation and Progress in Sustainable

## Data characteristics

Panel data	=1 if panel data are used.	0.524	0.500
Time series	=1 if time series data are used.	0.449	0.498
Cross section	The number of cross sections included in the	36.446	78.666
Observation	The number of years used in the study's	4.498	1.353

## Specification characteristics

## Economic growth proxies

GDP	=1 if the GDP is used as a proxy.	0.140	0.347
Real GDP	=1 if the real GDP is used as a proxy.	0.361	0.481
GDP per capita	=1 if the GDP per capita is used as a proxy.	0.171	0.377
Real GDP per capita	=1 if the real GDP per capita is used as a	0.225	0.418

## Tourism proxies

## Monetary variables

International tourism receipts	=1 if international tourism receipts is used as a proxy.	0.148	0.355
Real international tourism receipts	=1 if real international tourism receipts is used as a proxy.	0.028	0.166
Per capita international tourism receipts	=1 if per capita international tourism receipts is used as a proxy.	0.090	0.286
Tourism revenues	=1 if tourism revenues is used as a proxy.	0.228	0.420
Tourism expenditure	=1 if tourism expenditure is used as a proxy.	0.040	0.196

## Non-monetary variables

Number of international tourist arrivals	=1 if number of international tourist arrivals is used as a proxy.	0.105	0.307
Total tourist arrivals	=1 if total tourist arrivals is used as a proxy.	0.057	0.231

Per capita tourist arrivals	=1 if per capita tourist arrivals is used as a	0.053	0.225
Tourism receipts as % of exports	=1 if tourism receipts as a percentage of exports is used as a proxy.	0.045	0.207

Tourism receipts as % of GDP	=1 if tourism receipts as a percentage of GDP is used as a proxy.	0.072	0.258
------------------------------	---	-------	-------

Developing	=1 if the study was conducted in a developing country.	0.702	0.458
------------	--	-------	-------

Long-run	=1 for long-run estimates (short-run estimates are the benchmarks).	0.852	0.355
----------	---	-------	-------

## Estimation Characteristics

Log	=1 if the regression was estimated within a log-log specification.	0.775	0.418
-----	--	-------	-------

## Static estimation methods

OLS	=1 if ordinary least squares (OLS) are used for the estimation of the regression	0.131	0.338
-----	--	-------	-------

Fixed effect	=1 if the fixed effect estimator is used for the estimation of the regression coefficients.	0.120	0.325
--------------	---	-------	-------

## Innovation and Progress in Sustainable

---

Random effect	=1 if the random effect estimator is used for the estimation of the regression coefficients.	0.053	0.225
Pooled OLS	=1 if the pooled OLS is used for the estimation of the regression coefficients.	0.057	0.231
GLS	=1 if the generalised least square (GLS) is used for the estimation of the regression	0.058	0.234
Dynamic estimation methods			
DOLS	=1 if dynamic ordinary least squares are used for the estimation of the regression	0.037	0.190
ARDL	=1 if the autoregressive distributed lag model is used for the estimation of the regression coefficients.	0.062	0.241
GMM	=1 if the generalised method of moments (GMM) is used for the estimation of the regression coefficients.	0.113	0.317
VECM	=1 if the vector error correction model is used for the estimation of the regression	0.068	0.252
ECM	=1 if the error correction model is used for the estimation of the regression coefficients.	0.033	1.795
FMOLS	=1 if the fully modified ordinary least squares method are used for the estimation of the regression coefficients.	0.175	0.380
Publication Characteristics			
Year	The year of publication of the study.	2011	3.165
Crisis	=1 if the study included in its sample the years of the recent economic crisis (2008-11).	0.634	0.482

---

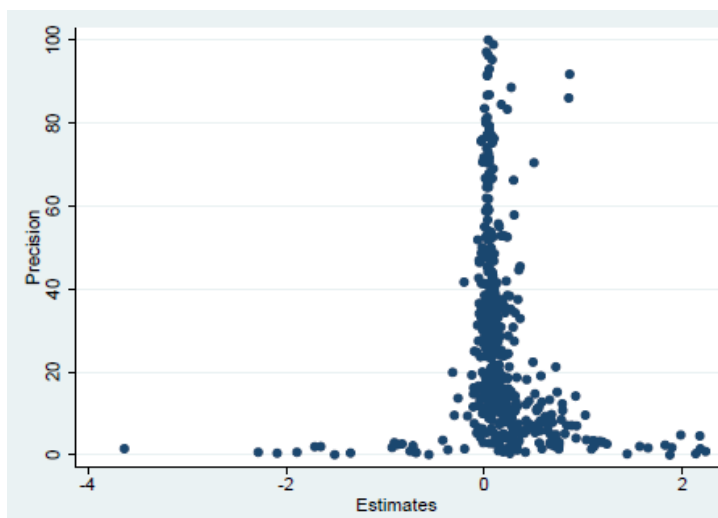
*Source of data:* World Tourism Organization (for the decomposition of the arrivals of tourists in the destination country), World Development Indicators, International Financial Statistics and [www.bruegel.org](http://www.bruegel.org). For country-level variables, we used values for 2000, the median year of the data used in the studies, except for the geographical distance where data was available as from 2011.

---

## Results

### *Publication selection bias*

One important concern when conducting a meta-analysis is the publication selection bias, whereby some estimates of the impact of tourism on economic growth may be more likely to be selected for publication than others. Publication selection in the tourism literature has two potential sources: researchers may report statistically significant results more favourably than insignificant ones and some researchers may be tempted to report a particular direction of the estimates of the impact of tourism on economic growth. The presence of publication bias is usually tested both graphically and formally. The graphical test uses the so-called funnel plot (see Stanley & Doucouliagos, 2010), a scatter plot of the estimates of tourism (on the horizontal axis) against precision (the inverse of the standard error, on the vertical axis). In case of the absence of publication bias in the literature, the funnel plot is symmetrical with most of the precise estimates close to the true effect, while the imprecise estimates dispersed widely. Figure 3 reports the funnel plot for our sample of tourism estimates. Clearly, the funnel plot does not appear to be symmetrical, with the right portion of the graph heavier than on the left one.



**Figure 3: Funnel plot**

Following Stanley (2005), we also use the regression method to test for publication bias: the funnel asymmetry test. The results reported in Table 3 confirm the findings of the funnel plot: the coefficient for publication bias is significant. Thus, we conclude that there is evidence of publication bias in our sample.

**Table 3: Publication bias**

Response variable: Est	Coef.	Std. Err.	p-value
Precision (effect)	-0.003	0.001	0.000
Constant (publication bias)	0.261***	0.032	0.000
Observations	503		

*Note:* \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels respectively.

Rosenthal (1979) introduced the “file drawer” analysis and a formula, known as the fail-safe N, for an estimation of the number of non-significant articles remaining in the file drawers of researchers to deal with publication bias. For our sample, the fail-safe N is 203700. This means that we need to locate and include 203700 'null' studies in order for the combined 2-tailed p-value to exceed 0.050. In other words, there would be need to be 1741.0 missing studies for every observed study for the effect to be nullified. It is clear that the chance we missed such a significant amount of studies is very low. Therefore, we can conclude that the estimates of the impact of tourism on economic growth is not susceptible to publication bias.

### ***Meta-analysis results***

Since the findings from the previous section have shown the existence of heterogeneity in the effect of tourism on economic growth across countries and estimation methods, we thus employ the random-effect meta-analysis method to provide an estimate of the average effect from the literature. Table 4 presents the results of the meta-analyses carried out on the overall estimates, the estimates which differ based on the estimation methods used (static or dynamic) and those which differ based on the proxies used for tourism (monetary or non-monetary variables). From the results, it can also be observed that static methods yield a higher overall effect as compared to dynamic ones. This is in line with Castro-Nuño et al. (2013). Monetary variables are also found to produce a higher overall effect size as compared to non-monetary ones. Moreover, despite a positive weighted mean has been obtained, the range shows that the size of the impact of tourism on economic growth may not be the same across studies.



**Table 4: Meta-analysis results**

Type	No. of studies	Weighted Mean	Range
Overall	117	0.12**	0.11- 0.14
Static	42	0.096**	0.084 - 0.105
Dynamic	96	0.003**	0.002 - 0.003
Tourism proxied by monetary variables	67	0.139**	0.121 - 0.157
Tourism proxied by non-monetary variables	66	0.003**	0.003 - 0.004

*Note: \*\*\*, \*\* and \* indicates significance at the 1%, 5% and 10% levels respectively; Overall, static, dynamic, monetary and non-monetary are related to all estimates, estimates from static estimation methods, estimates from dynamic estimation methods, estimates from monetary variables of tourism and estimates from non-monetary variables of tourism.*

### ***Meta-regression results***

As mentioned previously, the potential determinants and the control variables may explain the heterogeneity of the effect of tourism on economic growth. However, it is not clear which determinants or control variables should be included in our regression. Indeed, a regression with all 39 explanatory variables would certainly inflate the standard errors of the coefficients and contain many redundant variables. This is basically an example of model uncertainty. In order to tackle this issue, we use the Bayesian Model Averaging (BMA) method (see Havranek & Irsova, 2011; Irsova & Havranek, 2013). Table 5 reports the numerical details on the results of the BMA estimation. The posterior inclusion probability (PIP) expresses how likely expresses it is that a variable should be included in the “true” regression. It can be observed that most variables have a PIP lower than 0.1 to one decimal place; therefore these variables do not seem to be important. As such, there are only four of the variables that can be included in the regression: random effect, log, per capita tourist arrivals and the number of cross-sections included in the study. On the other hand, the posterior mean (Post Mean) of the regression coefficients shows the direction of the effect of the variables. As a “frequentist check” to the BMA estimation, we also run a simple OLS regression with the variables that the BMA estimation finds to be relatively important.

**Table 5: Meta-regression results explaining the differences in the impact of tourism on economic growth**

Response variable Est	Bayesian model averaging (BMA)			Frequentist check (OLS)		
	PIP	Post Mean	Post Std.	Coef.	Std. err	p-value
<i>Potential tourism determinants</i>						
Geographical distance	0.029	-0.018	0.023			
Relative tourism prices	0.027	0.000	0.017			
Tourism expenditure	0.029	-0.000	0.000			
Exchange rate	0.025	0.000	0.001			
GDP per capita	0.030	-0.004	0.039			
Tourism income	0.025	-0.006	0.874			
<i>Data characteristics</i>						
Panel data	0.030	-0.007	0.106			
Time series	0.029	0.007	0.108			
Observation	0.065	-0.017	0.078			
Cross section	<b>0.134</b>	<b>-0.000</b>	<b>0.002</b>	<b>-0.008</b>	<b>0.004</b>	<b>0.026**</b>
<i>Specification characteristics</i>						
GDP	0.024	0.000	0.103			
Real GDP	0.025	-0.000	0.087			
GDP per capita	<b>0.063</b>	<b>-0.053</b>	<b>0.257</b>	<b>-0.083</b>	<b>0.668</b>	<b>0.217</b>
Real GDP per capita	0.030	0.011	0.118			
International tourism receipts	0.024	0.001	0.099			
Real international tourism receipts	0.024	-0.003	0.211			
Per capita international tourism receipts	0.025	0.002	0.127			
Tourism revenues	0.026	-0.004	0.095			
Tourism expenditure	0.030	0.021	0.236			
Number of international tourist arrivals	0.033	0.019	0.168			
Total tourist arrivals	0.024	-0.002	0.151			
Per capita tourist arrivals	<b>0.999</b>	<b>4.709</b>	<b>1.046</b>	<b>4.95</b>	<b>1.062</b>	<b>0.000***</b>
Tourism receipts as % of exports	0.035	-0.040	0.279			
Tourism receipts as % of GDP	0.031	-0.019	0.197			
Developing	0.027	0.000	0.091			
Long-run	0.027	-0.011	0.126			
<i>Estimation Characteristics</i>						
Log	<b>0.139</b>	<b>-0.158</b>	<b>0.455</b>	<b>-1.256</b>	<b>0.605</b>	<b>0.038**</b>
OLS	0.025	-0.000	0.110			
Fixed effect	0.047	-0.040	0.242			

## Innovation and Progress in Sustainable

Random effect	<b>0.210</b>	<b>0.047</b>	<b>1.046</b>	<b>2.112</b>	<b>1.058</b>	<b>0.047**</b>
Pooled OLS	0.024	-0.000	0.157			
GLS	0.024	-0.000	0.150			
DOLS	0.025	-0.005	0.194			
ARDL	0.024	0.000	0.095			
GMM	0.027	-0.008	0.132			
VECM	0.024	-0.000	0.142			
ECM	0.025	0.002	0.203			
FMOLS	0.024	0.000	0.095			
<b>Publication Characteristics</b>						
Year	0.026	0.000	0.012			
Crisis	0.025	-0.000	0.087			
<b>No. of observations</b>	503					

*Note: We conduct a frequentist check only with the variables having bold values; \*\*\*, \*\* and \* indicate significance at the 1%, 5% and 10% levels respectively.*

It can clearly be observed from Table 5 that the sign of the coefficient is negative for Cross section, GDP per capita and log and positive for random effect and per capita tourist arrivals. In other words, Cross section, GDP per capita and log specification lower the point estimates of tourism on economic growth while the random effect estimation method and the per capita tourist arrivals lead to higher point estimates of the latter. However, the GDP per capita variable is found to be insignificant within the OLS framework. Based on our findings, we can conclude that the impact of tourism on economic growth is influenced by the data characteristics, the estimations characteristics and the specification characteristics used while modelling. Our results also confirm the findings of Gökovalı and Bahar (2008), Ajvaz (2015) and Soukiazis and Proença (2008) who argued that the effect of tourism on economic growth relied upon the estimation techniques used. Surprisingly, the geographical distance, which is used as a proxy for transport cost is insignificant. This may be due to the use of physical distance instead of costs as pointed out by Abdelati et al. (2006).

## Conclusion

This study uses a meta-analysis framework to investigate the effect of tourism on economic growth. Before proceeding to the analysis, the data set is checked for publication bias. Both the funnel plot and FAT indicate the presence of publication bias. However, the fail-safe N shows that the estimates of the impact of tourism on economic growth is not susceptible to publication bias. Moreover, the results from the random effect meta-analyses confirm the existence of heterogeneity across the literature. In an attempt to explain this heterogeneity, we consider 39 variables as potential drivers of the effect of tourism on economic growth. The BMA model is then employed to reduce modelling uncertainty, and retain the most important determinants. As a robustness check, we also apply the OLS method to the most important determinants. Our findings reveal that the variations in the impact of tourism on economic

## Innovation and Progress in Sustainable

---

growth are due to data characteristics, specification characteristics and estimation characteristics.

## References

- Abdelati, W., Hussain, Q & Kinoshita, Y. (2006). *Republic of Palau: Selected Issues and Statistical Appendix* (No. 06/110). International Monetary Fund.
- Adamou, A., & Clerides, S. (2010). Prospects and Limits of Tourism-Led Growth: The International Evidence. *Review of Economic Analysis*, 2(3), 287-303.
- Ahad, M. (2016). Does Tourism-led Growth Hypothesis Exist in Pakistan? A Fresh look from Combine Cointegration and Causality Approach with Structural Breaks (No. 72430). University Library of Munich, Germany.
- Ajvaz, V. (2015). The contribution of tourism development to economic growth of Sweden: A panel data approach (Master dissertation Lund University).
- Alodadi, A. A. S. (2016). An econometric analysis of oil/non-oil sectors and economic growth in the GCC: evidence from Saudi Arabia and the UAE (Doctoral dissertation, University of Plymouth).
- Amaghionyeodiwe, L. A. (2012). Research note: A causality analysis of tourism as a long-run economic growth factor in Jamaica. *Tourism Economics*, 18(5), 1125-1133.
- Apergis, N., & Payne, J. E. (2012). Research note: Tourism and growth in the Caribbean—evidence from a panel error correction model. *Tourism Economics*, 18(2), 449-456.
- Arslantürk, Y., & Atan, S. (2012). Dynamic relation between economic growth, foreign exchange and tourism incomes: An econometric perspective on Turkey. *Journal of Business, Economics and Finance*, 1(1), 30-37.
- Aslam, A. L. M. (2016). Nexus between Tourism and Gross Domestic Product in Sri Lanka. *International Letters of Social and Humanistic Sciences*, 71, 25-32.
- Assadzadeh, A., & Nasab, M. H. N. (2012). Investigating the relationship between tourism industry and GDP in the Islamic Republic of Iran. *International Review of Business Research Papers*, 8(2), 85-95.
- Baijens, S. R., Nijkamp, P., & Van Montfort, K. (1998). Explanatory Meta-analysis for the Comparison and Transfer of Regional Tourist Income Multipliers. *Regional Studies*, 32(9), 839-849.
- Baijens, S., & Nijkamp, P. (2000). Meta-analytic Methods for Comparative and Exploratory Policy Research: An Application to the Assessment of Regional Tourist Multipliers. *Journal of Policy Modeling*, 22(7), 821-858.
- Badri, A. K., Dizaji, M., & Zeynali, S. (2014). Tourism industry and its impact on economic growth and development. *Journal of Social Issues & Humanities*, 2(4), 187-191.
- Bassil, C., Hamadeh, M., & Samara, N. (2015). The tourism led growth hypothesis: the

Lebanese case. *Tourism Review*, 70(1), 43-55.

Belloumi, M. (2010). The relationship between tourism receipts, real effective exchange rate and economic growth in Tunisia. *International journal of tourism research*, 12(5), 550-560.

Brida, J. G., & Pulina, M. (2010). A literature review on the tourism-led-growth *hypothesis* (No. 2010/17). Centre for North South Economic Research, University of Cagliari and Sassari, Sardinia.

Brida, J. G., & Risso, W. A. (2010). Tourism as a determinant of long-run economic growth. *Journal of Policy Research in Tourism, Leisure & Events*, 2(1), 14-28.

Brida, J. G., Carrera, E. J. S., & Risso, W. A. (2008). Tourism's Impact on Long-Run Mexican Economic Growth. *Economics Bulletin*, 3(21), 1-8.

Brida, J. G., Pereyra, J. S., & Adrián, W. (2009). The Tourism-led Growth Hypothesis: Empirical Evidence from Colombia. *Tourismos: an international multidisciplinary journal of tourism*, 4(2), 13-27.

Brida, J. G., Punzo, L. F., & Risso, W. A. (2011). Research note: Tourism as a factor of growth—the case of Brazil. *Tourism Economics*, 17(6), 1375-1386.

Castro-Nuño, M., Molina-Toucedo, J. A., & Pablo-Romero, M. P. (2013). Tourism and GDP: A Meta-analysis of Panel Data Studies. *Journal of Travel Research*, 52(6), 745-758.

Cortés-Jiménez, I. (2008). Which type of tourism matters to the regional economic growth? The cases of Spain and Italy. *International journal of tourism research*, 10(2), 127-139.

Crouch, G. I. (1995). A Meta-analysis of Tourism Demand. *Annals of Tourism Research*, 22(1), 103-118.

Demirhan, B. (2015). Tourism-Led Growth Hypothesis in Mediterranean Countries: Evidence from a Panel Cointegration and Error Correction Model. *Applied Economics and Finance*, 3(1), 38-53.

Dhungel, K. R. (2015). An Econometric Analysis on the Relationship between Tourism and Economic Growth: Empirical Evidence from Nepal. *International Journal of Econometrics and Financial Management*, 3(2), 84-90.

Dritsakis, N. (2012). Tourism development and economic growth in seven Mediterranean countries: A panel data approach. *Tourism Economics*, 18(4), 801-816.

Du, D., Lew, A. A., & Ng, P. T. (2016). Tourism and economic growth. *Journal of Travel Research*, 55(4), 454-464.

- Durbarry, R. (2004). Tourism and economic growth: the case of Mauritius. *Tourism Economics*, 10(4), 389-401.
- Eeckels, B., Filis, G., & Leon, C. (2012). Tourism income and economic growth in Greece: empirical evidence from their cyclical components. *Tourism Economics*, 18(4), 817- 834.
- Ekanayake, E. M., & Aubrey, E. Long.(2012) Tourism Development and Economic Growth in Developing Countries. *International Journal of Business and Finance Research*, 6(1), 51-63.
- Ertugrul, H. M., & Mangir, F. (2015). The tourism-led growth hypothesis: empirical evidence from Turkey. *Current Issues in Tourism*, 18(7), 633-646.
- Eugenio-Martin, J., Martín Morales, N., & Scarpa, R. (2004). *Tourism and Economic Growth in Latin American Countries: A Panel Data Approach* (No. 2004.26). Fondazione Eni Enrico Mattei.
- Fawaz, F., Rahnama, M., & Stout, B. (2014). An empirical refinement of the relationship between tourism and economic growth. *Anatolia*, 25(3), 352-363.
- Fayissa, B., Nsiah, C., & Tadasse, B. (2008). Impact of tourism on economic growth and development in Africa. *Tourism Economics*, 14(4), 807-818.
- Fayissa, B., Nsiah, C., & Tadesse, B. (2009). Tourism and economic growth in Latin American countries (LAC): further empirical evidence. *Department of Economics and Finance working paper series*.
- Fayissa, B., Nsiah, C., & Tadesse, B. (2011). Research note: tourism and economic growth in Latin American countries—further empirical evidence. *Tourism Economics*, 17(6), 1365-1373.
- Fosu, A. K. (Ed.). (2015). *Growth and institutions in African Development* (Vol. 117). Routledge.
- Gautam, B. P. (2011). Tourism and economic growth in Nepal. *NRB Economic Review*, 23(2), 18-30.
- Georgantopoulos, Andreas G. Tourism expansion and economic development: Var/Vecm analysis and forecasts for the case of India. *Asian Economic and Financial Review* 3(4), 464-482.
- Ghartey, E. E. (2013). Effects of tourism, economic growth, real exchange rate, structural changes and hurricanes in Jamaica. *Tourism Economics*, 19(4), 919-942.
- Gokovali, U. (2010). Contribution of tourism to economic growth in Turkey. *Anatolia*, 21(1), 139-153.
- Gökovalı, U., & Bahar, O. (2006). Contribution of tourism to economic growth: a panel data

approach. *Anatolia*, 17(2), 155-167.

Grullón, S. (2013). Is the tourism-led growth hypothesis valid for the Dominican Republic: results from the bounds test for cointegration and granger causality tests. *European Journal of Business and Management*, 5(25), 1-8.

Havi, E. D. K., & Enu, P. (2013). The impact of tourism on economic performance in Ghana. *European Scientific Journal*, 9(34), 1857-7431.

Havranek, T., & Irsova, Z. (2011). Estimating vertical spillovers from FDI: Why results vary and what the true effect is. *Journal of International Economics*, 85(2), 234-244.

Holik, A. (2016). Relationship of Economic Growth with Tourism Sector. *JEJAK: Jurnal Ekonomi dan Kebijakan*, 9(1), 16-33.

Holzner, M. (2011). Tourism and economic development: The beach disease?. *Tourism Management*, 32(4), 922-933.

Husein, J., & Kara, S. M. (2011). Research note: Re-examining the tourism-led growth hypothesis for Turkey. *Tourism Economics*, 17(4), 917-924.

Irsova, Z., & Havranek, T. (2013). Determinants of horizontal spillovers from FDI: Evidence from a large meta-analysis. *World Development*, 42, 1-15.

Jaforullah, M. (2015). International tourism and economic growth in New Zealand. *Tourism Analysis*, 20(4), 413-418.

Jalil, A., Mahmood, T., & Idrees, M. (2013). Tourism–growth nexus in Pakistan: Evidence from ARDL bounds tests. *Economic Modelling*, 35, 185-191.

Jayathilake, P. B. (2013). Tourism and economic growth in Sri Lanka: Evidence from cointegration and causality analysis. *International Journal of Business, Economics and Law*, 2(2), 22-27.

Jiranyakul, K. (2016). The Validity of the Tourism-Led Growth Hypothesis for Thailand. University Library of Munich, Germany.

Kaplan, M., & Çelik, T. (2008). The impact of tourism on economic performance: the case of Turkey. *The International Journal of Applied Economics and Finance*, 2(1), 13-18.

Karki, D. (2012). Economic Impact of Tourism on Nepal's Economy Using Cointegration and Error Correction Model. Nepal.

Kasimati, E. (2016). Does tourism contribute significantly to the Greek economy? A multiplier analysis. *European Journal of Tourism, Hospitality and Recreation*, 7(1), 55-62.

Katircioğlu, S. (2010). Testing the tourism-led growth hypothesis for Singapore-an empirical



investigation from bounds test to cointegration and Granger causality tests. *Tourism Economics*, 16(4), 1095-1101.

Keskin, A., & Cansiz, H. (2010). Tourism, Turkey and economic development. *Atatürk Üniversitesi İktisadi ve İdari Bilimler Dergisi*, 24(4), 23-46.

Khalil, S., Kakar, M. K., & Malik, A. (2007). Role of Tourism in Economic Growth: Empirical Evidence from Pakistan Economy [with Comments]. *The Pakistan Development Review*, 985-995.

Khoshnevis Yazdi, S., Homa Salehi, K., & Soheilzad, M. (2017). The relationship between tourism, foreign direct investment and economic growth: evidence from Iran. *Current Issues in Tourism*, 20(1), 15-26.

Kristo, J. (2014). Evaluating the Tourism-Led Economic Growth Hypothesis in a Developing Country: The Case Of Albania. *Mediterranean Journal of Social Sciences*, 5(8), 39-51.

Kum, H., Aslan, A., & Gungor, M. (2015). Tourism and Economic Growth: The case of Next 11 Countries. *International Journal of Economics and Financial Issues*, 5(4), 1075-1081.

Kumar, R. R. (2014). Exploring the nexus between tourism, remittances and growth in Kenya. *Quality & Quantity*, 48(3), 1573-1588.

Kumar, R. R. (2014). Exploring the nexus between tourism, remittances and growth in Kenya. *Quality & Quantity*, 48(3), 1573-1588.

Kumar, R. R., & Kumar, R. (2012). Exploring the nexus between information and communications technology, tourism and growth in Fiji. *Tourism Economics*, 18(2), 359-371.

Kumar, R. R., Stauvermann, P. J., Patel, A., Kumar, N., & Prasad, S. (2016). Exploring the nexus between tourism and output in Cook Islands: An ARDL bounds approach. *Social Indicators Research*, 128(3), 1085-1101.

Lashkarizadeh, M., Keshmir, Z., Gashti, H. P., & Shahrivar, R. B. (2012). Evaluation of the relationship between tourism industry and economic growth in Iran. *Asian Journal of Business and Management Sciences*, 1(9), 88-97.

Lee, C.C. and Chang, C.P., 2008. Tourism development and economic growth: A closer look at panels. *Tourism management*, 29(1), 180-192.

Lee, J. W., & Brahmairene, T. (2013). Investigating the influence of tourism on economic growth and carbon emissions: Evidence from panel analysis of the European Union. *Tourism Management*, 38, 69-76.

- Lim, C. (1999). A Meta-analytic Review of International Tourism Demand. *Journal of Travel Research*, 37, 273-284.
- Lorde, T., Francis, B., & Drakes, L. (2011). Tourism services exports and economic growth in Barbados. *The International Trade Journal*, 25(2), 205-232.
- Mahmoudinia, D., Salimi Soderjani, E., & Pourshahabi, F. (2011). Economic Growth, Tourism Receipts and Exchange Rate in MENA zone: Using Panel Causality Technique. *Iranian Economic Review*, 15(29), 129-146.
- Makochekanwa, A. (2013). An analysis of tourism contribution to economic growth in SADC countries. *Botswana Journal of Economics*, 11(15), 42-58.
- Malik, S., Chaudhry, I. S., Sheikh, M. R., & Farooqi, F. S. (2010). Tourism, economic growth and current account deficit in Pakistan: Evidence from co-integration and causal analysis. *European Journal of Economics, Finance and Administrative Sciences*, 22, 21-31.
- Mallick, L., Mallesh, U., & Behera, J. (2016). Does tourism affect economic growth in Indian states? Evidence from panel ARDL model. *Theoretical and Applied Economics*, 23(1), 183-194.
- Mamipour, S., & Nazari, K. (2014). The contribution of tourism development to economic growth in the Iranian provinces. *Journal of International Economics and Management Studies*, 1(1), 99-120.
- Massidda, C., & Mattana, P. (2013). A SVECM analysis of the relationship between international tourism arrivals, GDP and trade in Italy. *Journal of Travel Research*, 52(1), 93-105.
- Matias, A., Nijkamp, P., & Neto, P. (2007). Advances in modern tourism research. *New York: Physica-Verlag*.
- Mello-Sampayo, D. F., & Sousa-Vale, D.S. (2010). *Tourism and Growth in European Countries: An Application of Likelihood-Based Panel Cointegration* (No. ercwp0510). ISCTE-IUL, Business Research Unit (BRU-IUL).
- MESERET, G. (2011). The impact of service trade on the economic growth of Ethiopia: The case of tourism (Doctoral dissertation, aau).
- Mishra, P. K., & Rout, H. B. (2016). Tourism in Odisha: An Engine of Long Run Growth. *Journal of Tourism Management Research*, 3(2), 74-84.
- Mishra, P. K., Rout, H. B., & Mohapatra, S. S. (2011). Causality between tourism and economic growth: Empirical evidence from India. *European Journal of Social Sciences*, 18(4), 518-527.

- Mustafa, A. M. M., & Santhirasegaram, S. (2014). Empirical investigation of the relationship between tourism receipts and sustainable economic growth in Sri Lanka. *Journal of Emerging Trends in Economics and Management Sciences*, 5(7), 131-137.
- Narayan, P. K., Narayan, S., Prasad, A., & Prasad, B. C. (2010). Tourism and economic growth: a panel data analysis for Pacific Island countries. *Tourism economics*, 16(1), 169-183.
- Neves, D. C., Fernandes, A. J., & Pereira, E. T. (2015). Determinants of touristic attraction in Portuguese regions and their impact on GDP. *Tourism Economics*, 21(3), 629-648.
- Odularu, G. O. (2008). Does tourism contribute to economic performance in West Africa?. *Anatolia*, 19(2), 340-345.
- Ohlan, R. (2017). The relationship between tourism, financial development and economic growth in India. *Future Business Journal*, 3(1), 9-22.
- Paci, R., & Marrocu, E. (2014). Tourism and regional growth in Europe. *Papers in Regional Science*, 93(S1), S25-S50.
- Palamalai, S., & Kalaivani, M. (2016). Tourism Expansion and Economic Growth in Asia-Pacific Nations: A Panel Causality Approach. *IUP Journal of Applied Economics*, 15(2), 53-84.
- Panagiotidis, T., Panagiotou, T., & Mussoni, M. (2012). *Tourism Led Growth: Evidence from Panel Cointegration Tests* (No. 12-74). The Rimini Centre for Economic Analysis.
- Paramati, S. R., Alam, M. S., & Chen, C. F. (2016). The Effects of Tourism on Economic Growth and CO2 Emissions A Comparison between Developed and Developing Economies. *Journal of Travel Research*, 1-13.
- Pavlic, I., Svilokos, T., & Tolic, M. S. (2015). Tourism, real effective exchange rate and economic growth: Empirical evidence for Croatia. *International Journal of Tourism Research*, 17(3), 282-291.
- Peng, B., Song, H., Crouch, G. I., & Witt, S. F. (2015). A Meta-analysis of International Tourism Demand Elasticities. *Journal of Travel Research*, 54(5), 611-633.
- Phiri, A. (2016). Tourism and economic growth in South Africa: Evidence from linear and nonlinear cointegration frameworks. *Managing Global Transitions*, 14(1), 31-53.
- Po, W. C., & Huang, B. N. (2008). Tourism development and economic growth—a nonlinear approach. *Physica A: Statistical Mechanics and its Applications*, 387(22), 5535-5542.
- Rosenthal, R. (1979). The "File Drawer Problem" and Tolerance for Null Results. *Psychological Bulletin*, 86(3), 638-641.

Saleh, A. S., Assaf, A. G., Ihalanayake, R., & Lung, S. (2015). A panel cointegration analysis of the impact of tourism on economic growth: Evidence from the Middle East

region. *International Journal of Tourism Research*, 17(3), 209-220.

Samimi, A. J., Sadeghi, S., & Sadeghi, S. (2011). Tourism and economic growth in developing countries: P-VAR approach. *Middle-East Journal of Scientific Research*, 10(1), 28-32.

Savaş, B., Beşkaya, A., & Şamiloğlu, F. (2012). Analyzing the impact of international tourism on economic growth in Turkey. *Uluslararası Yönetim İktisat ve İşletme Dergisi*, 6(12), 121-136.

Seetanah, B. (2011). Assessing the dynamic economic impact of tourism for island economies. *Annals of Tourism Research*, 38(1), 291-308.

Seetanah, B., Padachi, K., & Rojid, S. (2011). *Tourism and economic growth: African evidence from panel vector autoregressive framework* (No. 2011, 33). Working Paper//World Institute for Development Economics Research.

Seetanah, B., Sannasse, R., & Rojid, S. (2015). The impact of relative prices on tourism demand for Mauritius: An empirical analysis. *Development Southern Africa*, 32(3), 363-376.

Sequeira, T. N., & Maças Nunes, P. (2008). Does tourism influence economic growth? A dynamic panel data approach. *Applied Economics*, 40(18), 2431-2441.

Shih, W., & Do, N. T. (2016). Impact of Tourism on Long-Run Economic Growth of Vietnam. *Modern Economy*, 7(03), 371-376.

Sica, E. (2007). Does Tourism Affect Economic Growth? The Experience of Southeast Asian and Pacific Countries. *The IUP Journal of Applied Economics*, 6(3), 79-95.

Simnudić, B., & Kuliš, Z. (2016). TOURISM AND ECONOMIC GROWTH IN MEDITERRANEAN REGION: DYNAMIC PANEL DATA APPROACH. *Acta*

*Economica et Turistica*, 1(2), 177-196.

Simundic, B., Kulis, Z., & Seric, N. (2016). Tourism and economic growth: an evidence for Latin American and Caribbean countries.

In Faculty of Tourism and Hospitality Management in Opatija. Biennial International Congress. Tourism & Hospitality Industry (p. 457). University of Rijeka, Faculty of Tourism & Hospitality Management.

Singh, D. R., Wright, A. S., Hayle, C., & Craigwell, R. (2010). Is the tourism-led growth thesis valid? The case of the Bahamas, Barbados, and Jamaica. *Tourism Analysis*, 15 (4), 435-445.

- Soukiazis, E., & Proença, S. (2008). Tourism as an economic growth factor: a case study for Southern European countries. *Tourism Economics*, 14(4), 791-806.
- Sriboonjit, J., Chaovanapoonphol, Y., Wiboonpongse, A., Calkins, P., & Sriboonchitta, S. (2010). Economic Determinants of Long-Term Equilibrium in Malaysian Tourist Arrivals to Thailand: Implications for Tourism Policy. *International Journal of Intelligent Technologies and Applied Statistics*, 3(4), 421-435.
- Srinivasan, P., Kumar, P. S., & Ganesh, L. (2012). Tourism and economic growth in Sri Lanka: An ARDL bounds testing approach. *Environment and Urbanization Asia*, 3(2), 397-405.
- Stanley, T. D. (2001). Wheat from chaff: Meta-analysis as quantitative literature review. *The Journal of Economic Perspectives*, 15(3), 131-150.
- Stanley, T. D. (2005). Beyond Publication Bias. *Journal of Economic Surveys*, 19(3), 309-345.
- Stanley, T. D., & Doucouliagos, H. (2010). Picture this: a simple graph that reveals much about research. *Journal of Economic Surveys*, 24(1), 170-191.
- Suresh, J., & Sentilnathan, S. (2014). "Relationship between Tourism and Economic Growth in Sri Lanka", "Economic Issues in Sri Lanka" compiled by Dr. S. Vijayakumar, 115- 132.
- Tang, C. F., & Abosedra, S. (2014). Small sample evidence on the tourism-led growth hypothesis in Lebanon. *Current Issues in Tourism*, 17(3), 234-246.
- Tang, C. F., & Nathan Abdullah, A. S. (2016). Can inbound medical tourism boost Malaysia's economic growth?. *Tourism and Hospitality Research*, 1-9.
- Tang, C. F., & Tan, E. C. (2015). Does tourism effectively stimulate Malaysia's economic growth?. *Tourism management*, 46, 158-163.
- Tiwari, A. K. (2011). Tourism, Exports and FDI as a Means of Growth: Evidence from four ASIAN Countries. *The Romanian Economic Journal*, 14(40), 131-151.
- UNWTO (World Tourism Organization of the United Nations). (2016). Tourism highlights. Retrieved March 2, 2017 from <http://www.e-unwto.org/doi/pdf/10.18111/9789284418145>
- Vanegas, S. (2012). Tourism in El Salvador: Cointegration and causality analysis. *Tourism Analysis*, 17(3), 311-323.
- Wang, L., Zhang, H., & Li, W. (2012). Analysis of Causality between Tourism and Economic Growth Based on Computational Econometrics. *JCP*, 7(9), 2152-2159.
- Webber, A. G. (2001). Exchange rate volatility and cointegration in tourism demand. *Journal*

*of Travel research*, 39(4), 398-405.

Weichselbaumer, D., & Winter-Ebmer, R. (2005). A meta- analysis of the international gender wage gap. *Journal of Economic Surveys*, 19(3), 479-511.

Yurtseven, Ç. (2012). International tourism and economic development in Turkey: a vector approach. *Afro Euroasian Studies*, 1(2), 37-50.

Zuo, B., & Huang, S. (2017). Revisiting the Tourism-Led Economic Growth Hypothesis: The Case of China. *Journal of Travel Research*, 1-12.

---

## **Collaborative knowledge production development and action design between university researchers and local stakeholders in food tourism: a study of the practical value of tacit knowledge sharing**

**Yukari Higuchi & Yasuhiro Yamanaka**

*Graduate School of Environmental Science, Hokkaido University, Japan*

[y.higuchi@ees.hokudai.ac.jp](mailto:y.higuchi@ees.hokudai.ac.jp)

*Faculty of Environmental Earth Science, Hokkaido University, Japan,*

[galapen@ees.hokudai.ac.jp](mailto:galapen@ees.hokudai.ac.jp)

\*Acknowledgement: The authors would like to express their gratitude to the stakeholders of Kamikawa food tourism who worked jointly together with the authors during the research, and also to Ass. Prof Gregory Trencher for his insightful comments. Thanks also to Taylor Bearden for proofreading.

**Key words:** food tourism, trust, tacit knowledge sharing, co-creation, embeddedness

### **Introduction**

Increasingly, literature has depicted food tourism as a powerful contributor to the ‘triple bottom line’ of economic, social, and environmental sustainability in rural communities (e.g. Sidali et al., 2015; Sims, 2009; Everret & Aitchson, 2008). When it is adeptly managed with proper knowledge, food tourism represents an alternative means of local development. It has the potential to strengthen a community’s identity, enhance appreciation of the environment, and encourage the regeneration of local heritage and the economy. Thus far, however, there has been limited research about the emerging role of university researchers in bolstering the food tourism industry.

Multidisciplinary academic researchers can help stakeholders secure their regional identity in a sustainable way through the development of a food tourism industry (Everret & Aitchson, 2008). Hoarau and Kline (2014) argue that a co-creational practice between academic researchers and tourism practitioners has great potential to achieve innovation outcomes; however, knowledge sharing between these two parties is not without complication. In many cases, tourism stakeholders do not have enough resources to invest in building an enduring relationship with the research community (Cooper, 2015). In addition, it is difficult for

academic researchers to build an embedded relationship with tourism stakeholders, which is an indispensable component of the co-creational practice, ensuring it is both effective and enduring (Higuchi & Yamanaka, 2017).

Embeddedness, a social exchange system, occupies an important role in co-creational practices between researchers and tourism stakeholders (Higuchi & Yamanaka, 2017). In embedded relationships, knowledge transfer/absorption becomes more voluntary, detailed, tacit, and holistic, while joint problem-solving arrangements are strengthened (Koskinen et al., 2003; Uzzi, 1997). Exchange of such tacit knowledge that is not easily valued monetarily is often the trigger of innovation outcomes (Uzzi, 1996). Embeddedness results from frequent and close interaction, which generates a mutual sense of trust. The recipient of tacit knowledge transfer will more accurately disclose his/her level of understanding in an embedded relationship. This better enables the supply-side to better prepare for the subsequent knowledge transfer (Gohoshal, 1994).

Embeddedness plays a key role in overcoming cultural barriers between researchers and tourism stakeholders, which further ensures the long-term viability of the relationship. Successfully building embedded relationships, however, requires university researchers to exhibit a specific set of conditions: good communication skills, which encouraging smooth dialogue with tourism stakeholders; business sense, which helps the researchers to understand the tourism industry; recognition of the important role played by tacit knowledge; and strong non-pecuniary motivation to assume the challenge of supporting the tourism industry through the knowledge-sharing process (Higuchi & Yamanaka, 2017). These conditions are challenging, but necessary to create innovation outcomes.

### *Aim*

This study forms part of a project at the Graduate School of Environmental Science at Hokkaido University (GSES). Here, researchers – including the authors of this paper – have endeavoured to illuminate how their interventions may affect the innovation process towards making Hokkaido’s tourism industry more sustainable, and how their initiative may improve joint-problem arrangements with local stakeholders. This study specifically started in April 2016, and is ongoing. It focuses on the development of food tourism in the Kamikawa region of Hokkaido, northern Japan. This paper is an interim report about the first eight months (April to December 2016) of the GSES researchers’ involvement in co-creating new value in the food tourism industry with Kamikawa stakeholders. This report aims to articulate how the early co-creation process between GSES researchers and Kamikawa stakeholders was achieved, focusing on the importance of tacit knowledge sharing and mutual trust.

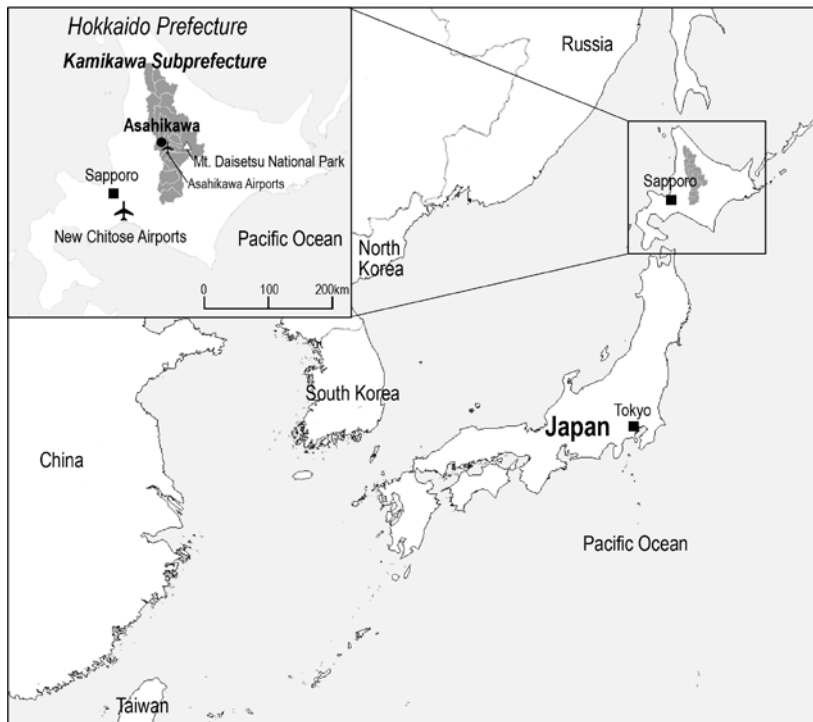
### *Description of the study subjects*

#### *The Kamikawa region in Hokkaido prefecture*

Hokkaido is the largest and northernmost prefecture in Japan. Because of abundant food production and a rich natural environment, Hokkaido has consistently been one of the top five



destinations in Japan for both domestic and international tourists. International tourism alone increased 30% annually over the past five years (Hokkaido Bureau of Economy, Trade and Industry: Retrieved on February 2, 2017 from [http://www.mlit.go.jp/singikai/kokudosin/hokkaido/kikaku/2/images/shiryu\\_5.pdf](http://www.mlit.go.jp/singikai/kokudosin/hokkaido/kikaku/2/images/shiryu_5.pdf)). The Kamikawa region is one of six sub-prefectures within the Hokkaido prefecture, and is located in the northern middle of Hokkaido Island. The area has a suitable climate and geography for farming. Rich water resources originating from Mt. Daisetsuzan fertilize the vast Kamikawa basin, and the inland climate with a wide range of temperatures makes agricultural products rich in taste.



**Figure 1. Location of the Kamikawa destination in relation to the Japanese Archipelago and Hokkaido region. Source: the author.**

In contrast to the increasing tourism interest in Hokkaido, the Kamikawa region still faces significant challenges such as depopulation and an aging society. Only the Shiribeshi region – that includes Sapporo, the capital city of Hokkaido, and Niseko, a world-famous ski resort – has overcome these fundamental demographic issues. Unlike the Shiribeshi region that has repeated the direct benefits of development for tourism, the Kamikawa region has not historically been a tourism destination. Per an estimate by the Ministry of Land, Infrastructure, Transport and Tourism (Retrieved on February 2, 2017 from <http://www.mlit.go.jp/common/001055744.pdf>), the population of Kamikawa will decrease by about 30% between 2000 and 2025. Communities in Kamikawa are facing the resultant economic shrinkage resulting from depopulation.

### ***Kamikawa Food Story***

The Kamikawa General Subprefecture Bureau (KGSB) acted in response to depopulation in the region, which would conclusively reduce the viability of agriculture and food-related

industries. ‘Kamikawa *Tabemonogatari* (food story)’ is a campaign that KGSB designed to promote food tourism in the region (Retrieved on December 1, 2016 from <http://www.kamikawa.pref.hokkaido.lg.jp/ss/srk/kamitabe.htm>). KGSB is one of 14 subordinate bodies of the Hokkaido Government. Recent changes in the structure of the Hokkaido Government empowered this local organization, and provided funding, to develop a local policy for food-related industries in the region. Staff members in the new Department of Food Promotion immediately established an official website, ‘Kamikawa Food Story,’ to distribute information about agriculture and Kamikawa food tourism to the general public.

This task necessitated that staff members interact with many farmers, chefs, and other food-related sector employees. They were deeply impressed by the industry’s efforts to create quality products and to deliver quality services, as they learned the stories behind the industry and its products. They designed the Kamikawa Food Story website to evoke emotion in the viewer, providing the audience with information on products and services, while also sharing stories and producer profiles in a narrative format. The initial response to the website was positive, and the content appealed to the public. KGSB staff and local stakeholders were delighted, which resulted in a concerted effort to develop closer and more enduring links between the two groups. Regardless of the singular success of KGSB’s Kamikawa Food Story website, the prevailing effect on the tourism market remains small, simply because a local government website is not a tourist resource.

### ***Graduate School of Environmental Science (GSES)***

GSES is a graduate school specialized in addressing environmental issues through a variety of scientific disciplines. The graduate school, one of the first schools of its kind in Japan, was established by Hokkaido University in 1977. GSES has further enhanced scientific literacy and pro-environmental attitude amongst local citizenry by transferring scientific knowledge to the public through outreach activities. Faculty members and students have employed a variety of outreach tactics, and have collectively honed their knowledge sharing processes by networking with practitioners in the City of Sapporo, the Hokkaido Coca-Cola Bottling Co., Ltd., and local environmental professionals. GSES researchers have been involved in a variety of co-creational practices with tourism stakeholders in several regions of Hokkaido, which has resulted in a deeper understanding of the current tourism industry.

Although the department is still characterized by disciplinary basic research in environmental sciences, some faculty members have fostered the multidisciplinary networking, breaking with tradition in order to forge partnerships with off-campus organizations and enterprises. By organizing a variety of cross-industry exchange programs, they have fostered a proactive and barrier-eliminating attitude between business practitioners and academic researchers. A representative example of this is the long-term relationship between GSES and Hoshino Resorts Tomamu, one of the leading tourism enterprises in the world. (Higuchi & Yamanaka, 2017).

### **Methods**

### ***Data collection methods***

This case study started in April 2016 and is ongoing. Therefore, this paper presents only an interim report about the results of the first eight months (April to December 2016) of the GSES researchers' involvement in the co-creation process to generate value in the food tourism industry. The primary field data collection method was ongoing semi-structured interviews with stakeholders in the Kamiawa food tourism industry. Other data collection methods were participant observation by the authors in shared practices with the local food industry stakeholders and the authors' observation documented in a personal journal. A questionnaire was also administered to a small number of the local key stakeholders to gain further insights. In advance of the semi-structured interviews, questions were generated by reviewing a wide range of public reports and websites relating to Kamikawa food tourism. International literature on food tourism, gastronomy tourism, culinary tourism, sustainable tourism, environmental education, social capital including embedded relationships, and action research was also widely consulted.

### ***Sample respondents***

The interviews were conducted through face-to-face meetings, telephone calls, or e-mail exchanges during the study. The sample of interviewees consisted of 17 key stakeholders. These were purposely selected based on their assumed knowledge of Kamikawa food tourism, Hokkaido tourism, and Kamikawa food production and supply. Respondents included two officials from KGSB, two officials from the Bureau of Air Transportation, Hokkaido Government, one official from the Civil Aviation Bureau of Ministry of Land, Infrastructure and Transport, one official from the Hokkaido Bureau of Economy, Trade and Industry, one manager from the local agricultural cooperative, and ten members from Club Sarcelle, a network of food-related practitioners (including three restaurant owners, one agricultural product distributor, and six farm owners). Multiple interviews with these 17 key respondents enabled the authors to better understand individual perspectives about the development of a food tourism economy, and the links between practitioners and the food tourism industry.

### ***Interview topics***

The interviews were structured by topic, and semi-structured to allow the respondents to talk freely about the subject. The interview topics for government staff focused on the status of tourism and food, the government's related policies, associated urgent issues, network activities, and the future outlook. The topics for the restaurant owners, the farmers, and the distributor differed. These focused on current efforts toward the development of food tourism, network activities, associated expectations and difficulties, and their concerns about the future.

### ***Participant observation***

In addition to the interviews, the authors participated in the meetings and gatherings between

GSES and Kamikawa stakeholders. The most prominent example was the forum that KGSB, Club Sarcelle, and GSES jointly held on October 30, 2016. The purpose was to capture the progress of GSES's involvement in co-creation with Kamikawa stakeholders. A total of 135 local supporters of Kamikawa food tourism participated in this forum.

### *Analysis of interview data*

The research process resulted in interview transcripts, observation journals, and affiliated notes. Data was organized into discrete codes reflecting patterns and ideas that frequently emerged in the interview conversations. These codes included the status of food tourism, co-creation practice, shared practice, tacit knowledge, explicit knowledge, learning arena, new value, innovation process and outcome, social bonding and capital, challenge and difficulty, and incentive and motivation. The analysis has not been fully completed yet since the research is ongoing. However, through codifying work that sought to identify influential factors, the authors identified several issues/problems that have a relatively strong impact on the development of food tourism in Kamikawa.

### *Questionnaire on GSES's involvement*

A short and simple questionnaire survey on GSES's involvement was distributed to the main local stakeholder members who organized the October 2016 forum. The purpose of the survey was to learn whether stakeholders affirmatively accepted GSES's involvement. The questionnaire includes the following 14 questions (Figure 2.).

Q1. What is your occupation?  
Government personnel  
Restaurant-related business  
Agricultural producer  
Other

**Before the forum**  
Please tell us what impressions you had about academic researchers before the forum.

Q2. Did you perceive researchers to be distant and different from you?  
Strongly agree Agree Did not know Disagree Strongly disagree

Q3. Did you think that they would be equipped to facilitate the discussion about shared practice?  
Strongly agree Agree Did not know Disagree Strongly disagree

Q4. Did you think that researchers would explain things in a way that was easy to understand?  
Strongly agree Agree Did not know Disagree Strongly disagree

**During the preparation period for the forum**

Q5. Overall, were you satisfied with the collaboration with the GSES researchers?  
Very satisfied Satisfied Somewhat satisfied Not satisfied Very dissatisfied

Q6. How do you think GSES researchers contributed during the collaboration? Please check all that apply.  
They increased our breadth of understanding by contributing new knowledge.  
They facilitated our discussion.  
They helped us to achieve a consensus.  
They enhanced our interest to acquire new knowledge.  
Other

Q7. Were GSES researchers' wording and explanation easy for you to understand?  
Strongly agree Agree Did not know Disagree Strongly disagree

**During the forum**

Q8. Do you think that the forum was productive?  
Strongly agree Agree Did not know Disagree Strongly disagree

Q9. Do you think that the researchers' presentation before the panel discussion, and their commentary during the free discussion, contributed positively to the forum?  
Strongly agree Agree Did not know Disagree Strongly disagree

**After the forum**

Q10. Now, do you perceive researchers to be distant and different from you?  
Strongly agree Agree Do not know Disagree Strongly disagree

Q11. Now, do you think that they are equipped to facilitate a discussion about shared practice?  
Strongly agree Agree Do not know Disagree Strongly disagree

Q12. Now, do you think that researchers explain things in a way that is easy to understand?  
Strongly agree Agree Do not know Disagree Strongly disagree

**In the near future**

Q13. If you could work with academic researchers again in the future, would you choose to do so?  
Strongly agree Agree Do not know Disagree Strongly disagree

Q14. In a future collaboration, how would you like the academic researchers to participate?  
Help to shape the composition of the forum or workshop.  
Serve as a keynote speaker in the forum or workshop.  
Lecture to a small group of local stakeholders.  
Interact with local stakeholders on an ongoing basis.  
Other

**Figure 2. Survey of local Kamikawa food tourism stakeholders on GSES's involvement**

## Findings

### *The early stage of GSES's efforts to address knowledge need analysis*

GSES researchers' initial knowledge need analysis (May to August, 2016) in the Kamikawa regions began with KGSB's referral to several farm and restaurant owners. The KGSB staff

member who was involved in the creation of the Kamikawa Food Story website was not sure whether GSES researchers would establish a successful relationship with either farmers or chefs. She was concerned that the industry practitioners would be intimidated by the researchers' candid and forthright manner that seems to be valid only in research communication. So, she repeatedly but politely affirmed to GSES researchers that good listening skills were essential for successfully overcoming communication barriers and paradigmatic differences between academic researchers and tourism practitioners. It was assumed that neither farmers nor chefs would be accustomed to dealing with scholars.

“I was afraid GSES researchers' manner might be a detriment to our relationship with farmers and chefs. They tend to be shy, self-conscious and not straightforward about approaching others. We've invested lots of time and energy before building a good relationship...” (KGSB staff)

Based on her response, it was clear that most of the local people still considered university researchers to be highly strange, almost like visitors from another planet. Abiding by this advice, GSES researchers advanced their knowledge acquisition agenda cautiously, ensuring they carefully dealt with local stakeholders.

GSES successfully established a good relationship with the members of Club Sarcelle, a network of food-related practitioners including restaurant owners, distributors of agricultural products, farm owners, and sommeliers. This owed to KGSB's considerate advice. Although the network activity of Club Sarcelle had not been very active despite their 15-year history, the key members just began to challenge several collaborative projects, inspired by KGSB's efforts for vitalizing food tourism. For example, one of the members, a French chef, tried to create a novel plate of sweets by collaborating with a producer of red bean that is one of typical Kamikawa's agricultural products.

“When I opened my restaurant 20 years ago, it was not easy to find an agricultural producer who could grow products in the way I liked. But, now the circumstances have changed. I am enjoying challenging new recipes together with collaborative farmers” (French restaurant owner & chef)

The GSES researchers met the key members at the right time, and thus could cultivate cooperation from them relatively easily.

“When GSES researchers visited my café for the first time, I was a bit nervous, but felt delighted that they had an interest in our activity... We enjoyed chatting, and then we realized that two hours had passed” (Café owner & patisserie)

By frequently interacting through face-to-face meetings, email, SNS, and telephone, the key Club Sarcelle members and GSES researchers exchanged a variety of ideas about food, the food market, the distribution of Kamikawa's products, and regional development. The leader of Club Sarcelle mentioned that these frequent interactions facilitated trust building,

exchanging detailed information that could not be obtained through publicly issued materials. This means the exchange of tacit knowledge that is not easily valued monetarily and often becomes the trigger of innovation outcomes in a value co-creation practice (Uzzi, 1996; Hoarau & Kline, 2014). Soon, the relationship between individual members of Club Sarcelle, KGSB, and GSES evolved to be even closer based on mutual trust and tacit knowledge sharing toward an effective co-creation of new value to the Kamikawa food tourism.

KGSB staff introduced some leading farm owners to GSES. They shared interesting perspectives and stories about challenges faced in their industry. This excited GSES researchers, and reinforced that there is tremendous potential for the development of Kamikawa food tourism. Many of the farm owners in Hokkaido sell all their products to the regional agricultural unions. In this case, the producers do not have to hold unsold stock, but they cannot decide the price by themselves. The effect on the producer thus depends entirely on the market conditions. Although it is stable sale platform, the producers do not have an opportunity to get a direct feedback from consumers, nor share the challenge of growing new crops. The farm owners whom GSES researchers met, however, are different than most farmers, as they sell part of their products directly to consumers. A variety of feedbacks from consumers have encouraged these leading farmers to improve the quality of their products and find a new distribution route.

GSES researchers identified that there was a common emphasis between the staff of KGSG, the members of Club Sarcelle, and the leading farmers. They each insisted on the inclusion of more wealthy people from neighbouring Asian countries, especially from Hong Kong and Taiwan, into their businesses. For the past five years, they had witnessed the rapid increase of independent Asian travelers and business people in many parts of the region. However, although they realized that this increase would directly relate to their business, since they did not know how to properly receive and accommodate international tourists, they did not capitalize on the opportunity. Furthermore, GSES researchers found that they had never jointly discussed finding a solution to this matter. This was because they thought that the preparation for international tourists was not their responsibility, but the government's task. GSES researchers suggested them that improving infrastructure is the government's task, but there are some things they should do by themselves, for example, acquiring cultivating a command of English language and providing the latest information in English. One of the Kamikawa respondents reached out to the GSES's advice as follows:

“We are tied up with routine tasks, and extremely busy surviving in the small region. It is not easy to depict a large vision... We need some help especially in international matters. Discussion with GSES researchers is exciting although I was reluctant at the beginning” (Farm owner)

GSES researchers visited some of the tourism-related government agencies to ask about the status of infrastructure to support international tourists and to obtain information on the profile of potential international visitors to the region. This was part of GSES's knowledge need analysis trying to articulate how an effective capture of international tourists would be

achievable. As a result, they learned that, although the government agencies had made great efforts to prepare tourist infrastructure, it was far from adequate, even in Sapporo, the capital city. Surprisingly, it was found that the government agencies had never surveyed on travel decision-making factors in countries of origin for overseas tourists. They only had very limited information gathered within Hokkaido. This fact motivated GSES researchers to visit Hong Kong and Taiwan to conduct a research on the perspectives of those people there regarding Hokkaido and its food.

### ***Research on perspectives of the people in Hong Kong and Taipei***

One GSES researcher visited Hong Kong and Taipei from July to August 2016 to conduct three research activities about the Japanese food. Firstly, to understand consumption patterns in Hong Kong and Taiwan, she explored the extent to which food produced in Japan was sold at supermarkets and also examined what kind of food stuff was dominantly sold at the major wholesale markets. Her primary finding was that Japanese food products were viewed as premium quality items overall. Despite the comparatively high prices, they sold relatively well. Secondly, she interviewed four local Japanese food importers to inquire about the current state of their businesses, and local consumption habits. Each respondent told the researcher that the market for food produced in Hokkaido could expand, since the name 'Hokkaido' has substantial marketing potential. They noted, however, that people from Hokkaido generally lack international business acumen. Although they indeed imported food products that originated in Hokkaido, due to the inefficiency of the producers, they imported most of the product via Tokyo.

The researcher coded the data, including whether it was made in Japan, its status in marketplaces in Hong Kong or Taipei, public awareness about the product, prospects or concerns as voiced by the distributors, relative popularity with consumers, and preferences of buyers based on social class. GSES' third research activity was to widely distribute a questionnaire in both Hong Kong and Taipei. The questionnaire was first circulated in September 2016. It consists of 30 questions about perceptions and attitudes toward food safety, food shopping, and tourism destination decision-making. It was distributed to a wide range of people through the local project collaborators' personal and professional networks. In Hong Kong, specifically, distribution networks included the Chinese University, the University of Hong Kong, the Hong Kong Polytechnic University, and Hong Kong Jockey Club, while random distribution occurred at the Sogo department store and Tsim Sha Tusi east shopping center. In Taipei, the local collaborator only distributed the questionnaire to her personal network. So far, about 750 responses have been successfully collected, and distribution is ongoing. GSES researchers expect that eventually more than 1,000 responses will be recorded.

### ***Sharing the research results with stakeholders***

After the research trip to Hong Kong and Taipei, GSES researchers shared the interview and observation findings with the Kamikawa food tourism stakeholders. Leading farmers –



especially the relatively younger generation – expressed increased interest in the details of the research results. This was because they thought that they would be able to collaborate with GSES researchers on how to build the local identity of Kamikawa food production by sharing information about potential consumers’ perspectives. GSES also informally shared this information with certain government officials, which encouraged cooperation between government personnel and researchers.

### ***Holding a joint forum***

On October 30, 2016, KGSB, Club Sarcelle, and GSES jointly held a forum in a hotel ballroom, inviting a total 135 local stakeholders in Kamikawa food tourism, including farmers, food distributors and processors, a sommelier, an Asahikawa City councilor, and local residents. The forum consisted of three parts. Firstly, a buffet luncheon was held and 15 chefs offered unique dishes made with local ingredients. Subsequently, on stage, a panel discussion convened on the topic of defining food tourism. Finally, there was an open discussion with the attendees. As the result of conducting a questionnaire to the local organizer groups, the forum appeared to be a success.

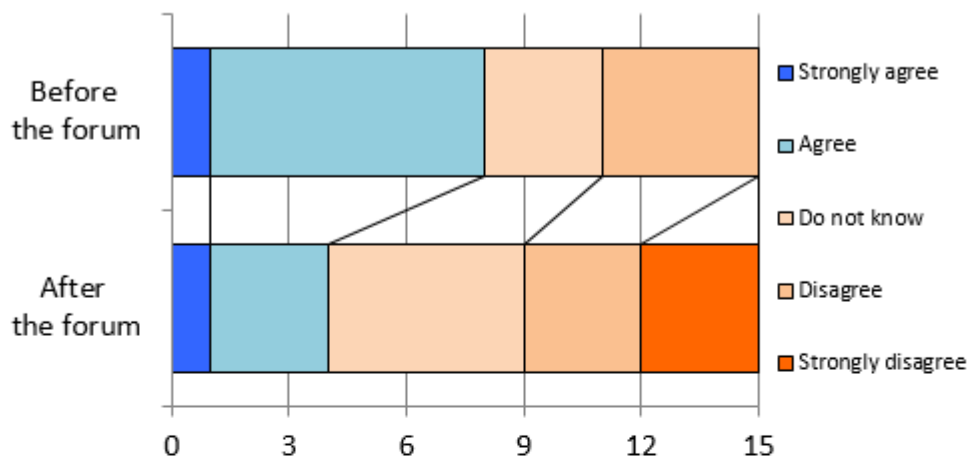
However, while preparing for the forum, a variety of problems arose. A total of 32 actors from KGSB, Club Sarcelle, and GSES participated in the first meeting on October 2, 2016. GSES researchers thought that they were invited as neutral observers, and so they patiently waiting for the participants to generate discussion between stakeholders. Unfortunately, though, most participants remained silent during the meeting. Only the two the key members of Club Sarcelle endeavored—as organizers—to enliven the atmosphere. After the meeting, GSES researchers received feedback by email from the participants. Some participants had straightforward questions that were easily answered, while others presented biased scenarios and difficult questions, sometimes simply seeking a request for approval for his/her opinion. Although many of the participants were quiet during the meeting, they nonetheless harbored strong opinions, which were readily shared later. In general, stakeholders were unaccustomed to expressing ideas in public. GSES researchers were challenged by this problem, and immediately consulted with four key organizers including KGSB’s staff members. This was not an easy scenario to mitigate, nor was there a precedent set or an established means of overcoming it. The Kamikawa food tourism industry had just been conceived, and coordinating interests between owners of small businesses and other stakeholders was very difficult. Ironically, GSES researchers faced obstacles as fundamental as explaining terminology like “sustainable food tourism.”

### ***Survey on GSES’ involvement***

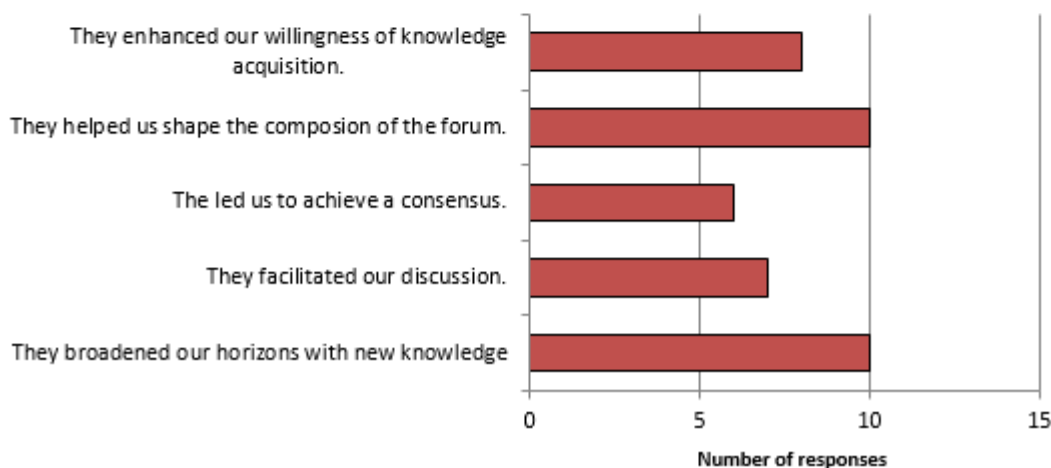
Between September and December 2016, GSES researchers endeavored to create avenues for mutual learning. They met as many key stakeholders in Kamikawa food tourism as possible. Researchers attended small networking meetings to exchange knowledge and experience, intending to co-create a logical next step in the development of Kamikawa’s food tourism industry. In December 2016, GSES surveyed the key local stakeholders about the perceived

effectiveness of co-creating with GSES researchers. GSES' involvement appeared to be favorably accepted by the stakeholders. Partial results are shown as follows (Figure 3):

**Do you perceive that academic researchers are far away and different from you?**



**Through the collaboration, what do you think GSES researchers contributed to?**



**Figure 3. Partial results from the questionnaire administered to key stakeholders in the food tourism industry in the Kamiakawa region**

The largest difference between responses indicating a respondent’s opinion before and after the forum is regarding stakeholders’ perception of academic researchers. After several co-creational sessions, the stakeholders developed a feeling of closeness to the researchers, as is shown in Figure 3. The top responses to the question about GSES’ contribution were “broadened our horizons with new knowledge” and “helped us shape the composition of the forum.” Furthermore, 100% of the respondents answered that they would like to work together with GSES researchers again in the near future (33.3% responded “absolutely yes” and 66.7% responded “yes”).

### *Discussion*

The results reveal that mutual trust between researchers and local stakeholders is essential for university researchers to effectively participate in innovation processes toward more sustainable tourism. Mutual trust between GSES researchers and Kamikawa stakeholders was strengthened through frequent interaction. Tacit knowledge transfer, encouraged by mutual trust, became more detailed, which further improved the collaborative attitude of the stakeholders. Results also indicate that, as tacit knowledge sharing advances, the usability of knowledge offered by GSES researchers also increases. Considering these aspects together, this ongoing study validates that trust can act as a governance mechanism by facilitating the extension of benefits to partners, and inviting the receiving party to reciprocate when an appropriate situation arises (Morales, 2005).

For Hokkaido, which faces profound problems such as depopulation and an aging society, it is important to urgently revitalize agriculture that is the district's key industry. This would be achievable by promoting food tourism and the associated food-related industries. With advanced agricultural techniques and abundant natural resources, Kamikawa is among the most active regions tackling this challenge in Hokkaido. This paper endeavors to illuminate the early stage of GSES researchers' attempt to lead the Kamikawa region's food tourism industry toward sustainability.

### *Obtaining trust: building a governance mechanism for co-creation*

Gohoshal (1994) argues that a feeling of trust results from frequent and close interaction, and trust in mutual good-faith encourages the recipient to more accurately disclose the current level of his/her understanding. In order to conduct a detailed knowledge need analysis, GSES researchers frequently visited the key Kamikawa stakeholders to establish trust and to better understand their needs. Initially, this approach was superior to interacting with local stakeholders by delivering an overwhelming amount of scientific knowledge, while emphasizing its validity and applicability. To accurately assess the knowledge need of the stakeholders, GSES researchers had to listen to fundamentally understand the experiences, values, and professional inferences of stakeholders, all of which are tacit knowledge. Tacit knowledge is knowledge that we have, and know we have, but nonetheless cannot easily put into words (Polanyi, 2002, p.60). By carefully listening to the reported problems, GSES researchers impressed to the key stakeholders that GSES would be a good long-term partner and knowledge source to co-create new value for the Kamikawa food tourism industry. GSES also emphasized that the co-creational relationship was not a one-way knowledge transfer from researcher to local stakeholder, but would be a reciprocal relationship. Kamikawa would provide GSES with various arenas for education and research in return. This reciprocal and close relationship was the foundation of tacit knowledge sharing. This foundation would be a valuable resource for future innovation outcomes, as reciprocal tacit knowledge sharing with local stakeholders would ultimately improve the usability of information offered by GSES.

### ***Reaching the first common research question through detailed information sharing***

Koskinen et al. (2003) argue that detailed information transfer requires face-to-face interaction, altruistic motives, and participating experts, to occur. GSES researchers were equipped with these three conditions and thus extrapolated the common knowledge need between different groups of Kamikawa stakeholders. This mutual knowledge need became the first common research question to be explored by GSES researchers. All local government officials, restaurateurs, and farmers emphasized that they believed the inclusion of the relatively wealthy neighboring Asian countries—especially Hong Kong and Taiwan—was essential to a thriving Kamikawa food tourism industry. Surprisingly, however, they had never discussed this amongst stakeholders, nor cooperated with each other to achieve this in the region. GSES used its neutral position to establish a common research subject between stakeholders. The researchers immediately started exploring the perspectives that people in Hong Kong and Taipei have on Hokkaido and its food-related industries. Thus far, the proactive approach by GSES has been welcomed by the stakeholders.

### ***Difficulty in constructing arenas for mutual learning***

Although GSES researchers shared scientific knowledge and research results with stakeholders, the methods and the extent to which knowledge should be shared were unclear. This was particularly apparent during the preparation period for the joint forum between KGSB, Club Sarcelle, and GSES. GSES researchers were not in agreement about how to answer questions posed by chefs or farmers. Though the chefs and farmers had learned a substantial amount about sustainability and related fields, from the perspective of the researchers, their knowledge was often biased. Though it may be argued that local heritage and identity are essential to the development of a sustainable food tourism industry, scientific knowledge should be included as much as is realistic. However, the stakeholders are not like students on a campus, and are instead busy working in their own practices and disciplines.

Even GSES researchers were not confident about how sustainable development should be cultivated, considering the myriad of factors involved. This problem remains unsolved, but co-creational practices between GSES researchers and Kamikawa stakeholders have significant potential to mediate mutual learning. Despite a lack of confidence in these findings, the results of the questionnaire conducted after the forum indicate that the GSES researchers' involvement was positive and accepted by local stakeholders.

### **Conclusion, contribution and limitations**

This study is ongoing, and therefore it is difficult to confidently produce any conclusion or key argument. However, the study thus far has confirmed that tacit knowledge sharing, mutual trust, detailed knowledge transfer/absorption, and joint problem-solving have significant roles in building embeddedness in co-creational practice. These findings may be applicable to other research or different scenarios in the tourism industry.

This paper also raises an important issue about the academic concept of sustainable

development in food tourism being vague, even to researchers. Interestingly, although this inhibits clear communication of the concept across sectors, it also presents an opportunity for mutual learning between researchers and stakeholders.

An analysis of GSES' questionnaire conducted in Hong Kong and Taipei is expected soon, and may yield additional interesting results.

## References

- Cooper, C. (2015). Managing tourism knowledge. *Tourism Recreation Research*, 40(1), 107-119.
- Everett, S. & Aitchison, C. (2008). The Role of Food Tourism in Sustaining Regional Identity: A Case Study of Cornwall, South West England. *Journal of Sustainable Tourism*, 16(2), 150-167.
- Gohoshal, S., Korine, H., & Szulanski, G. (1994). Interunit communication in multinational corporations. *Management Science*, 40, 96-110.
- Higuchi, Y. & Yamanaka, Y. (2017). Knowledge sharing between academic researchers and tourism practitioners: a Japanese study of the practical value of embeddedness, trust and co-creation. *Journal of Sustainable Tourism, Latest Articles*. 1-18
- Hoarau, H., & Kline, C. (2014). Science and industry: Sharing knowledge for innovation. *Annals of Tourism Research*. 46, 44-61.
- Koskinen, K. U., Pihlanto, P., & Vanharanta, H. (2003). Tacit knowledge acquisition and sharing in a project work context. *International Journal of Project Management*, 21(4), 281-290.
- Morales, A. C. (2005). Giving firms an "E" for effort: Consumer responses to high-effort firms. *Journal of Consumer Research*, 31(4), 806-812.
- Polanyi, M. (2002). *Personal Knowledge: Towards a Post-Critical Philosophy*. London: Routledge.
- Sidali, K. L., Kastenhofer, E., & Bianchi, R. (2015). Food tourism, niche markets and products in rural tourism: combining the intimacy model and the experience economy as a rural development strategy. *Journal of Sustainable Tourism*, 23(Nos. 8-9), 1179- 1197.
- Sims, R. (2009). Food, place and authenticity: local food and sustainable tourism experience. *Journal of Sustainable Tourism*, 17(No. 3), 321-336.
- Uzzi, B. (1996). The source and consequence of embeddedness for the economic performance of organizations: the network effect. *American Sociological Review*, 61(4), 678- 698.

Uzzi, B. (1997). Social structure and competition in interfirm networks: the paradox of embeddedness. *Administrative Science Quarterly*, 42(1), 35-67.

---

## **Responsible tourism and innovation practices by tourism enterprises in the Western Cape**

**Irma Booyens and Christian M. Rogerson**

*University of Johannesburg, South Africa; South Africa; [ibooyens@hsrc.ac.za](mailto:ibooyens@hsrc.ac.za)*

*University of Johannesburg, South Africa; [crogerson@uj.ac.za](mailto:crogerson@uj.ac.za)*

Acknowledgement: An earlier version of this paper titled: Responsible Tourism in the Western Cape, South Africa: an Innovation Perspective was published in *TOURISM: An International Interdisciplinary Journal* (December 2016) by the authors.

**Key words:** Tourism innovation; responsible tourism; environmentally-friendly practices, social innovation

### **Introduction**

Responsible tourism incorporates economic, environmental and social imperatives in accordance with ‘sustainable tourism’ notions (Booyens & Rogerson, 2016a). This research argues that tourism firms need to innovate in order to be economically competitive, as well as implement environmentally and socially responsible practices to achieve sustainability.

Innovation is critical at tourism enterprise level to enhance competitive advantage and performance and correspondingly to ensure business survival in the contemporary global environment (Tigu et al, 2013; Williams, 2014; Omerzel, 2016). Arguably, innovation in tourism should not only be concerned with tourism enterprise level economic viability, but also with the environmental and social sustainability of host destinations and communities (cf. Hall, 2009; Weeden, 2013; Brookes et al., 2014). This said, it is observed that whilst tourism innovation is a growing topic of inquiry across tourism and hospitality studies, questions about innovation in relation to sustainability in tourism are neglected (Hall, 2009; Hjalager, 2014; Saarinen, 2014).

In South Africa, responsible tourism is regarded as a guiding framework for tourism development and is supported by several national tourism policy frameworks (Rogerson, 2013; Hoogendoorn & Rogerson, 2015). Rogerson (2013:344) notes that South Africa was the first country in the world to formally adopt ‘responsible tourism’ as a national policy



framework.

The emphasis in the local context is on responsible tourism development focused on economic sustainability and environmental responsibility in addition to pro-poor tourism development centred on poverty alleviation and community development (Spenceley, 2008; Booyens, 2010, Frey & George, 2010; Rogerson, 2013). The *White Paper on the Development and Promotion of Tourism in South Africa* (Republic of South Africa, 1996) stress environmental protection, the promotion of nature-based tourism activities, the protection of local communities and resources from exploitation, and the accrual of the benefits of tourism (i.e. income streams and upliftment opportunities) to local communities. The *Responsible Tourism Guidelines* (Department of Environmental Affairs and Tourism, 2002) encourages tourism enterprises to grow their businesses, whilst providing social and economic benefits to local communities and respecting the environment. In addition to the mentioned guidelines, the *National Minimum Standard for Responsible Tourism* (Department of Tourism, 2011) emphasises that the competitiveness of the national tourism economy can be enhanced by responsible tourism business practices which provides a vital link to the concept of innovation. Responsible tourism is an important imperative in the Western Cape Province of South Africa. The City of Cape Town has embraced responsible tourism principles and it is observed that local policies mirror the national policy perspectives (City of Cape Town, 2013). The City signed the *Cape Town Declaration* in 2002 after the Earth Summit in Johannesburg (City of Cape Town, 2002). During 2009, the City of Cape Town adopted the *Responsible Tourism Policy and Action Plan* (City of Cape Town, 2009). The Responsible Tourism Partnership, with industry stakeholders, was formed subsequently to support the promotion and implementation of responsible tourism practices in Cape Town (Booyens & Rogerson, 2016a).

This paper reflects on innovation in relation to responsible tourism based on empirical findings of a Western Cape study concerned with innovation in the tourism sector. This paper specifically analyses the responsible tourism practices and their innovation activities in relation to economic competitiveness, and environmentally friendly and socially responsible practices. Our analysis addresses an investigatory gap around the nexus of innovation and responsible tourism within African scholarship through an examination of South Africa where responsible tourism is a guiding framework for national tourism development yet only limited research investigations have been undertaken in this regard (Hoogendoorn & Rogerson, 2015).

This paper is structured as follows. Section 2 considers the concept of responsible tourism, and the relationship between responsible tourism and innovation. The methods follow in Section 3. The findings *vis-à-vis* responsible tourism practices and innovation practices in terms of responsible tourism by tourism enterprises in the Western Cape are outlined in Section 4. A discussion follows in Section 5 and a conclusion is offered in Section 6.

### ***On Responsible Tourism***

---

The concept of responsible tourism is embedded in debates on sustainability in tourism which have received extensive attention in tourism studies (Spenceley, 2008; Lorant, 2011; Leslie, 2012; Saarinen, 2014). Responsible tourism is often intertwined with notions of ‘eco’, ‘alternative’, ‘new’, ‘smart’ and ‘green’ tourism; and with discourses on poverty alleviation and pro-poor benefits through tourism (Spenceley, 2008; Booyens, 2010; Fennell, 2012; Scheyvens, 2012; Sharpley, 2013; Weeden, 2013). What these debates have in common is an emphasis on minimising the adverse impacts of tourism on the environment, promoting conservation practices, ensuring that tourism is economically sustainable, and maximising the social or pro-poor benefits of tourism.

Farmaki et al. (2014:11) contend: “Although sustainable and responsible tourism are based on similar pillars – aiming at environmental protection, social welfare and local economic benefits – responsible tourism shifts responsibility towards individuals, organisations and businesses”. In this light, the ‘ethical’ behaviour of tourists, tourism enterprises and other role-players in the tourism industry emerge as key considerations. This underscores the need to understand responsible tourism both from a consumption and production perspective (Saarinen, 2014).

Ethical tourists are generally more aware of the social and environmental impacts of tourism and interested in actively engaging with nature and host communities (Farmaki et al., 2014; Natrátil et al., 2016). With regard to ethical business behaviour by tourism enterprises, the need to mainstream responsible tourism business practices is highlighted (Weeden, 2013; Brookes et al., 2014). Nevertheless, the concept of responsible tourism should not merely be regarded as a marketing tool, a method for ‘green-washing’, or as a niche market but instead should be viewed as a broad-based approach towards sustainable development (Iraqi, 2014; Farmaki et al., 2014; Saarinen, 2014; Rahman et al., 2015). In addition, the focus needs to be extended beyond the economic or ‘tourism first’ outlook to incorporate social development and environmental protection imperatives (Hall, 2009; Koščak et al., 2014; Saarinen, 2014). Indeed, scholars underscore the need for ‘more than a surface approach’ towards sustainability and suggest that the ‘mainstreaming responsible tourism’ is essential to ensure real benefits (Fennell, 2012; Weeden, 2013). Accordingly, the attention of such an approach should be on achieving broad-based support for responsible tourism practices by various role players in a tourism system whilst minimising any adverse impacts of tourism on communities and the environment, maximising positive social and environmental impacts, and enhancing the competitiveness of tourism firms and destinations.

The relationship between innovation and responsible tourism is considered next. Innovation is broadly defined as the application of new knowledge or the combination of existing knowledge to develop new or significantly improved products, services, processes, organisational methods, marketing practices and/ or the capturing of new markets (cf. Organisation for Economic Co-operation and Development, 2005). Tourism entities are considered to be innovative in terms of responsible tourism if they exhibit economically sustainable behaviour by introducing innovations or significant improvements to their

---

products, processes or business practices in order to maintain their competitiveness and/ or enhance their socially or environmentally sustainable practices. Accordingly, enterprises which take up responsible tourism practices for the first time and/ or introduce significant improvements to current practices within a given reference period are counted as innovative (cf. Booyens & Rogerson, 2016a,b).

## **Methods**

There are few examples of broad-based, cross-sectoral inquiry into tourism innovation since most studies either focus on particular cases of innovation or investigate innovation in a given tourism sector such as accommodation (Booyens & Rogerson, 2016b). The strength of the Western Cape research is its approach to capture innovation *across* tourism sectors in the province. The research consisted of a cross-sectional innovation survey of tourism enterprises in based on the Oslo Manual (Organisation for Economic Co-operation and Development, 2005) - a significant international source which offers guidelines for collecting firm level innovation data. The manual can be used as a starting point to measure innovation in tourism (Williams, 2014). This said, there is a need to adapt existing approaches for understanding and measuring innovation in tourism (Camisón & Monfort-Mir, 2012). In this South African study, the Oslo Manual innovation definition and typology was applied, but adapted using certain questions from the Community Innovation Survey questionnaire for a sector-specific tourism innovation survey. The Oslo Manual delineates four specific types of innovation, namely product (or service), process, organisational and marketing innovations. For this study, a fifth category of environmental innovation and a sixth 'other' (open-ended) category were added to identify further innovation categories in tourism (cf. Booyens & Rogerson, 2016a, b).

This was an exploratory study which employed mix-methods. The research consisted of a cross-sectional survey of tourism enterprises ( $N=156$ ) regarding their innovation activities. In addition to analysing innovation at tourism enterprise level, the approach was extended to examine innovation at both the destination and tourism system levels. A set of qualitative interviews was included with actors in the regional tourism system ( $N=11$ ). In terms of the sample selection, enterprises and other respondents were identified purposively. A semi-structured questionnaire was used for the enterprise level survey. Qualitative interview schedules were employed for the tourism system level interviews.

### ***Responsible tourism and innovation in the Western Cape***

This section considers the overall responsible tourism practices by tourism enterprises. This is succeeded by deliberations on economic, environmental and social innovations.

### ***Responsible tourism practices***

Responsible tourism practices include economic, social and environment imperatives as mentioned. Table 1 outlines practices by tourism establishments, and other role-players in the tourism system towards achieving these imperatives. In other words, these are typical activities which responsible tourism establishments and destinations will engage in.

**Table 1: Responsible Tourism Practices**

---

#### *Economic*

*Manage tourism enterprises towards achieving productivity, efficiency and competitiveness*

*Develop new tourism products for niche markets*

*Promote collaborative marketing initiatives*

*Promote greater collaboration between the different players in the tourism industry*

*Enhance local economic linkages and value chains*

*Promote the procurement of local goods and services for the tourism industry Attract investors to invest in the tourism industry*

*Enhance institutional effectiveness and cohesion Enhance tourism infrastructure*

---

#### **Economic & Social**

*Empower local communities by providing skills training and mentoring to ensure community ownership and management of tourism products*

*Empower local communities through community-owned and -managed tourism initiatives*

*Ensure access to funding and business development support in order to promote the development of tourism SMEs*

*Promote the recruitment of locals in the tourism industry*

*Promote the training of employees by private business and provide linkages to national programmes and support*

---

#### **Environmental**

*Ensure responsible land-use planning*

*Ensure the protection and conservation of biological diversity*

*Develop a sustainable system for national resource utilisation by local communities*

*Manage environmental resources sustainably (water and energy)*

*Manage waste effectively*

*Reduce pollution including greenhouse gas emissions*

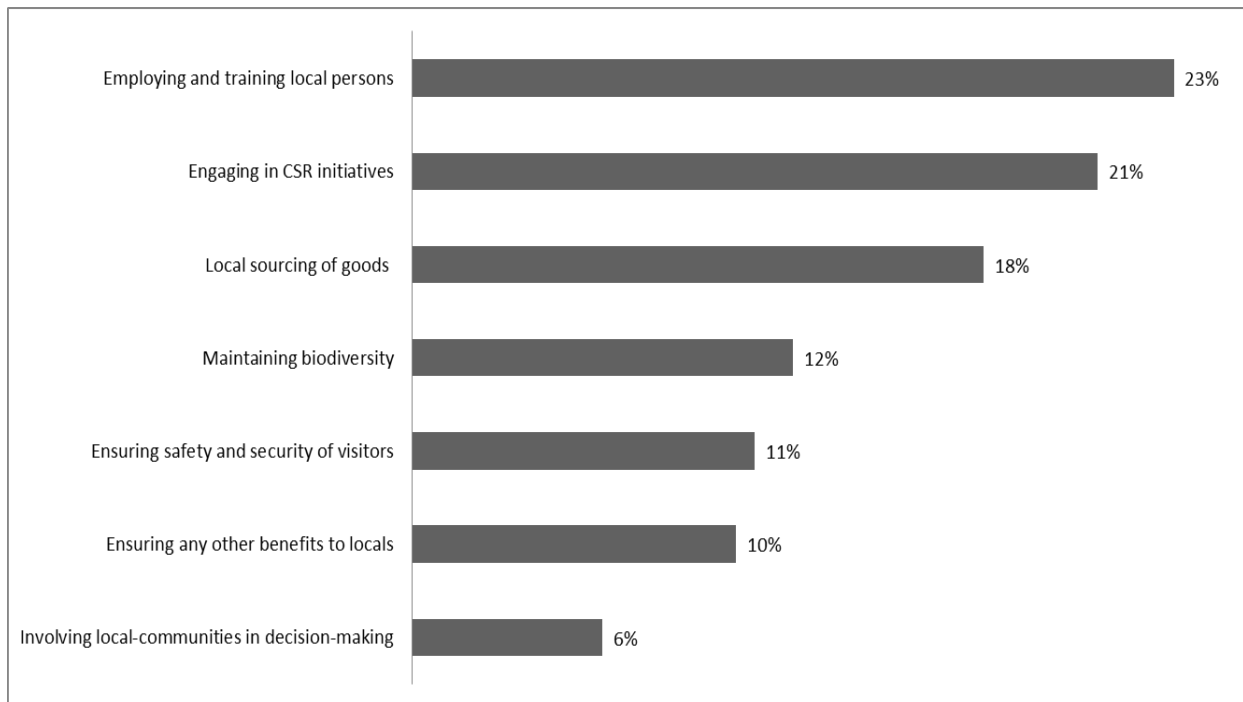
*Provide mechanisms and increase capacity for environmental monitoring, compliance and enforcement*

---

*Source: Authors*

The Western Cape investigation considered responsible tourism practices in which tourism establishments engaged in. Figure 1 shows the prevailing responsible tourism practices by tourism firms in the Western Cape. Tourism establishments mainly employed and trained local persons (23% of total responses), engaged in Corporate Social Responsibility (CSR) activities (21% of total responses) and sourced local goods in the form of food, beverages,

materials and services (18% of total responses). Tourism enterprises were also involved practices concerned with maintaining biodiversity, ensuring visitor safety, and maximising benefits to locals. Involving locals in decision-making, however, was the least established practice (6% of total responses).



**Figure 1: Responsible practices by tourism enterprises Source: Authors' figure (firm level survey)**

These practices were regarded as innovations when 'new or significantly improved' during the period under review. Employing and training locals are associated with organisational innovation, CSR practices which included involvement in various social upliftment programmes links with social innovation, and maintaining biodiversity links with environmental innovation.

The overall levels of innovation relate to the economic outlook of tourism establishments to remain competitive and sustainable as discussed next. This is followed findings in relation to environmental and social innovations in tourism as particular examples of responsible tourism innovation.

### ***Overall innovation: an economic outlook***

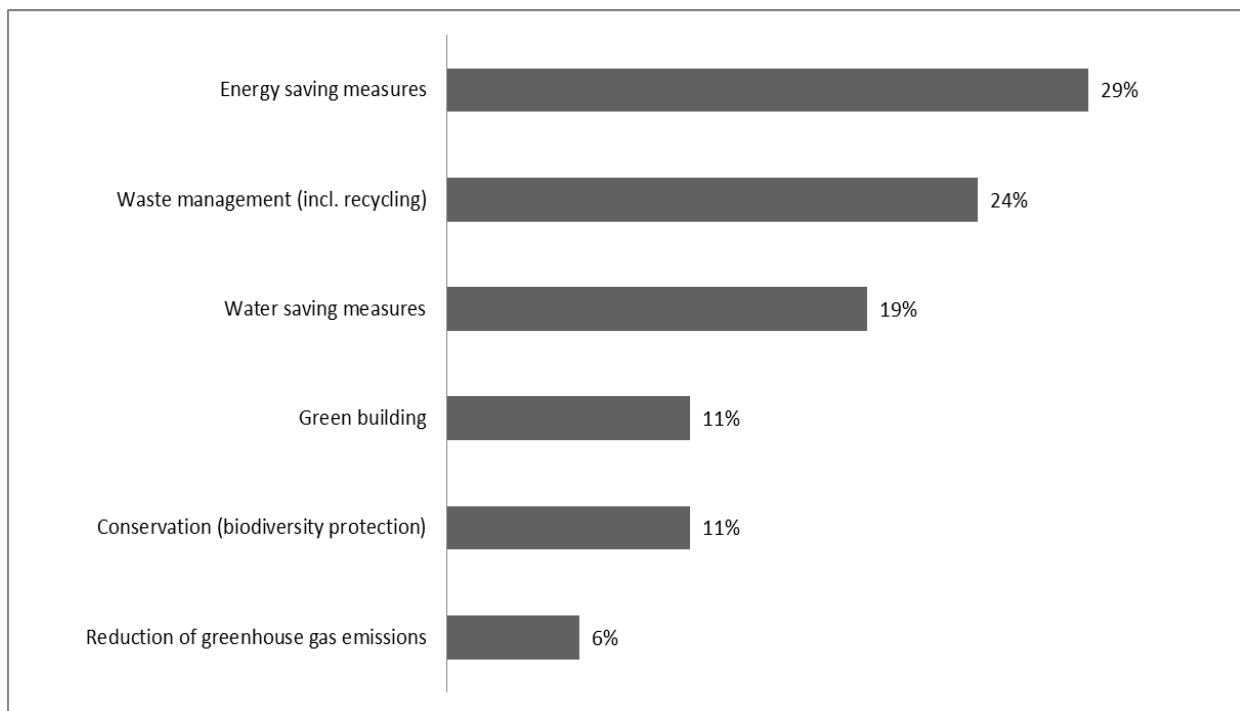
The Western Cape research determined that innovation is prevalent with up to 60% of tourism enterprises engaged in innovation. These are enterprises which have implemented new or significantly improved products (or services), processes or business practices (which include responsible tourism practices) during the period under review. It should be emphasised that the vast majority of tourism innovations in the Western Cape are incremental rather than novel. In other words, only a quarter of tourism firms surveyed

introduced innovations that can be considered as novel (i.e. new-to-market; first in South Africa; and world-first innovations). The remainder of enterprises merely introduced incremental improvements (or upgrades) rather than ‘new’ developments or developments that are only new to their own enterprises.

### ***Environmental innovations***

This research reveals that tourism firms in the Western Cape are dynamic in terms of environmental innovations with the category being the third most prevalent innovation type (Booyens & Rogerson, 2016 a,b). It is observed further that accommodation sector has the highest prevalence of environmental innovation. The majority of environmentally-friendly practices (i.e. innovations, upgrades and extant practices) consist of energy saving, waste management and water saving measures, followed by conservation, green building and the reduction of carbon footprint (Figure 2). Energy saving measures, typically, comprise the use of solar panels and geysers, heat pumps, gas, water saving lights and wind turbines. Waste management measures consist of recycling, the safe disposal of hazardous waste, dry toilet systems, bio-digesters, and worm farms to make compost from kitchen waste. Water saving measures include grey water systems, rain water tanks, and methods to minimise water usage.

Further practices are purifying water to reduce use of bottled water, using recycled and recyclable products, creating systems for environmental management, printing less, and establishing vegetable gardens. Beyond these measures there are examples of local tourism entities (private, public and non-profit) which are energetically involved in conservation and maintaining biodiversity. Their efforts focus on minimising the impact of their operations on the environment, especially in the case of attractions, activities and accommodation establishments operating in protected areas. Firms plant indigenous gardens to create habitats for supporting bird and animal life, remove invasive alien plant species, clean rivers, and participate in environmental awareness programmes. Several local tourism transport enterprises use fuel efficient and low emissions vehicles to reduce their carbon footprint.



**Figure 2: Environmentally-friendly practices by tourism enterprises, Source: Authors' figure (firm level survey)**

It is observed that environmental innovations mostly are non-technological and incremental in nature. This said, a few examples of technological innovation in the form of process innovation, which go hand-in-hand with environmental innovation, are identified. An example is the Table Mountain Aerial Cableway (a major attraction in Cape Town) which makes use of technological processes to enable their environmental practices. Yet an historic hotel in Cape Town only makes use of simple, non-technological systems for monitoring resource management as cutting-edge technology is too costly for adoption by this hotel. This finding aligns with Rogerson and Sims (2012) who demonstrate that the age of hotels in South Africa can be a limiting factor in its environmental practices. In this regard, new-build hotels have the advantage of installing new, cutting-edge systems for environmental management. One good practice example is Cape Town's Hotel Verde. Further examples of green building follow. The V&A Waterfront is undertaking green building projects, and eco-building at the Grootbos Private Nature Reserve is an example of award-winning responsible tourism by a small nature-based accommodation establishment.

### ***Social innovations***

Evidence of social innovation amongst tourism establishments and Non-profit Organisations (NPOs) are observed. Social innovations are new or significantly improved product (or service), process or practice to ensure social benefits (cf. Booyens & Rogerson, 2016b). Importantly a distinction must be drawn between social innovation and CSR. Social innovation is regarded as new and improved initiatives towards ensuring social benefits and affecting social change over and above tourism enterprises giving *ad hoc* donations or

participation in community initiatives. Social innovation often comprises continuous social initiatives which are considered part of core activities of entities that see themselves as responsible tourism operators. In fact, social innovation is, in most cases, driven by motivations of entrepreneurs and owners to be ethical, do the ‘right’ thing or ‘make a difference’.

Western Cape examples of social innovation include museums facilitating skills development and education programmes; one voluntourism operator focused on nature conservation as well as the provision of medical care, education, skills development in impoverished areas as part of their core mandate; and, a craft centre establishing outreach programmes for skills development in arts and crafts. A further example is Open Africa which uses a route network to stimulate economic development through tourism towards alleviating poverty in rural parts of Africa.

It is observed that social innovation is in most cases implemented by entities whose main motivation is not a profit orientation as indicated by Harrison et al. (2010). NPOs typically use tourism as an avenue for income generation to achieve their environmental or social objectives and often operate as voluntourism operators (see Brookes et al., 2014; Sujarittanonta, 2014).

Furthermore, the findings of this study are in line with Westley and Antadze (2010:4) who emphasise: “Social innovation does not necessarily involve a commercial interest, though it does not preclude such interest. More definitively, social innovation is oriented towards making a change at the systemic level”.

## **Discussion**

A core finding of this research is that innovation, even if mostly incremental, is widespread in the tourism industry of the Western Cape, and of consequence for the competitiveness of dynamic tourism enterprises and the regional tourism economy (cf. Booyens & Rogerson, 2016b). This is in line with authors who argue that innovation is significant for the long-term competitiveness of tourism firms and destinations (Thomas & Wood, 2014; Williams, 2014; Omerzel, 2016). In relation to responsible tourism, it is imperative of firms to be economically sustainable and maintain a competitive advantage (Department of Environmental Affairs and Tourism, 2002). Responsible tourism principles encourage firms to grow their businesses and be competitive in order to sustain employment and their income generation benefits for local economies. It is, however, underlined that responsible tourism also entails environmental, social and structural innovation imperatives as discussed next.

A further contribution is the observation that tourism enterprises in the Western Cape is actively engages in responsible tourism practices. Responsible tourism practices pertaining to employing locals, engaging in CSR and procuring locally are the most widespread. In



addition, tourism establishments actively innovate in terms of introducing environmentally-friendly practices. A 2008 study observed low levels of responsible tourism evidence in the Cape Town tourism industry (Frey & George, 2010). They identify that business owners are not investing time and money in changing their management practices, despite positive attitudes to responsible tourism. The findings this investigation suggests that there has been a larger uptake of environmental practices in Cape Town and the Western Cape in recent years. However, further investigation is warranted to measure the extent of the increased uptake of responsible tourism practices by tourism firms in the region. It appears that the activities of the City and the province in order to promote responsible tourism have contributed to increased awareness and uptake of responsible tourism in Cape Town (cf. Booyens & Rogerson, 2016a).

Environmental issues in tourism mostly concern ecotourism and nature-based products, conservation practices, and business practices to reduce the impact of tourism firms on the environment in relation to resource usage (water and energy) and waste management (Spencely, 2008; Fennell, 2012; Weeden, 2013; Brookes et al., 2014; Sujarittanonta, 2014). In particular, discourse on environmental innovation in tourism feature energy conservation, water conservation, nature conservation and waste management practices by tourism firms, mostly hotels and accommodation establishments (Chan, 2011; Rahman et al., 2012; 2015; Rogerson & Sims, 2012; Manganari et al., 2016; Navrátil et al., 2016). The findings of this investigation show that tourism firms in the Western Cape predominantly take the form of energy saving measures, waste management, and water saving measures. Instances of active conservation, biodiversity protection, green building and a reduction in greenhouse gas emissions are further identified. Tourism enterprises are also engaged in carbon offsetting whereby they buy carbon credits to counterbalance their negative impacts – a practice which is prevalent in tourism transport industry especially by enterprises like airlines (Page, 2009). Jacob et al. (2010) observes that environmental innovations are mainly process innovation and therefore technological in nature. This investigation, however, illustrates that environmental innovations by tourism firms in the Western Cape are most cases non-technological and incremental in nature.

A small number of tourism enterprises, comparatively, engage in what is identified as social innovation. It is suggested that social innovation in tourism is more than CSR initiatives, although certain authors propose that CSR as is a core element of responsible tourism (Frey & George, 2010; Brookes et al., 2014; Eraqi, 2010; 2014; Farmaki 2014). This investigation identifies that social innovation in tourism is in most cases linked to utilitarian motives whereby passionate entrepreneurs and owners are driven by what they consider to be ethical. This confirms that social innovation is linked to social entrepreneurship whereby entrepreneurs are concerned with meeting social needs or address social issues (cf. Eraqi, 2014; Gardiner & Scott, 2014; Park et al., 2014; Sloan et al., 2014). Sloan et al. (2014:51) explain that social entrepreneurship as a ‘means to of fostering socio-economic development’ in tourism. This is linked to social innovation when new or approved products, services, measures or procedures are introduced which “simultaneously meet

social needs (more effectively than alternatives) and create new social relationships or collaborations” (Hubert 2010:24), and therefore benefit the welfare of individuals and communities (Gault, 2010). Following this line of argument, social innovations by tourism firms spread to other individuals or organisations as a result of deliberate strategy or simply through diffusion (Westley & Antadze, 2010). However, on rare occasions social innovation can have a lasting or revolutionary impact on social problems (*ibid.*).

## Conclusion

This paper detailed innovation in relation to economic competitiveness, environmental practices and social responsibility drawn from a study on innovation by tourism enterprises in the Western Cape, South Africa. Core findings are distilled. An imperative of responsible tourism is the need for tourism enterprises to be economically sustainable in order to maintain a competitive advantage and grow their businesses enabling them to create employment opportunities and income generation benefits for local economies. This research determines that tourism enterprises in the Western Cape are dynamic innovators although most innovations are incremental in nature. The innovative behaviour of tourism enterprises enhances their competitiveness and economic sustainability. Environmental innovations are prevalent and mostly entail energy saving measures, waste management and water saving measures. Evidence of social innovations is identified. However, the proportion of social innovation is relatively small in comparison to other types of innovation identified (cf. Booyens & Rogerson, 2016b). It is highlighted that social innovation is related to social entrepreneurship, utilitarian (or ethical) motivations, and responsible business practices by tourism firms.

Policy considerations following from the findings include enhancing the existing regulatory environment for responsible tourism in South Africa, strengthening the systematic relationships around responsible tourism, and encouraging and stimulating more social innovation in tourism. The promotion of networking is important to ensure access to knowledge and inter-firms collaboration to enhance innovation and spread benefits. From a broader perspective we contend that innovation is an avenue to effect wider benefits and meaningful environmental and social change in tourism. For this to be realised, however, more energetic actions are required from various role players in the local tourism system in order to embed an innovation outlook in the responsible tourism discourse.

## References

- Booyens, I. (2010). Rethinking township tourism: Towards responsible tourism development in South African townships. *Development Southern Africa*, 27(2), 273–287.
- Booyens, I. & Rogerson, C.M. (2016a). Responsible tourism and innovation: insights from

- 
- the Western Cape Province, South Africa. *Tourism: an International Interdisciplinary Journal*, 64 (4), 385-396.
- Booyens, I. & Rogerson, C.M. (2016b). Tourism innovation in the Global South: evidence from the Western Cape, South Africa. *International Journal of Tourism Research*, 18, 515- 524.
- Brookes, M, Altinay, L. & Ringham, K. (2014). Successful implementation of responsible business practice. *Worldwide Hospitality and Tourism Themes*, 6(1), 77-84.
- Camisón, C. & Monfort-Mir, V.M. (2012). Measuring innovation in tourism from the Schumpeterian and the dynamic-capabilities perspectives. *Tourism Management*, 33(4), 776-789.
- Chan, E.S.W. (2011). Implementing environmental management systems in small- and medium- sized hotels: obstacles. *Journal of Hospitality and Tourism Research*, 35(1), 3-23.
- City of Cape Town (2002). *Cape Town Declaration on Responsible Tourism*. Cape Town: City of Cape Town.
- City of Cape Town (2009). *Responsible Tourism Policy and Action Plan for the City of Cape Town*. Cape Town: City of Cape Town.
- City of Cape Town (2013). *Tourism Development Framework 2013-2017*. Cape Town: City of Cape Town.
- Department of Environmental Affairs & Tourism (2002). *National Responsible Tourism Guidelines for South Africa*. Pretoria: Department of Environmental Affairs & Tourism.
- Department of Tourism (2011). *National Minimum Standard for Responsible Tourism*. Pretoria. Department of Tourism.
- Eraqi, M.I. (2010). Social responsibility as an innovative approach for enhancing competitiveness of tourism business sector in Egypt. *Tourism Analysis*, 15(1), 45-55.
- Eraqi, M.I. (2014). Responsible tourism management as an integrated approach for enhancing standards of living of local people in Egypt. *International Journal of Services and Operations Management*, 17(1), 17-34.
- Farmaki, A., Constanti, P. Yiasemi, I. & Karis, P. (2014). Responsible tourism in Cyprus: the rhetoric and the reality. *Worldwide Hospitality and Tourism Themes*, 6 (1), 10 – 26.
- Fennell, D. (2012). Tourism ethics needs more than a surface approach. In T.V. Singh (Ed), *Critical Debates in Tourism* (pp. 188-198). Bristol: Channel View.

- Frey, N. & George, R. (2010). Responsible tourism management: the missing link between business owner's attitudes and behaviour in the Cape Town tourism industry. *Tourism Management*, 31, 621-628.
- Gardiner, S. & Scott, N. (2014). Successful tourism clusters: passion in paradise. *Annals of Tourism Research*, 46, 171-173.
- Gault, F. (2010). *Innovation Strategies for a Global Economy: Development, Implementation, Measurement and Management*. Cheltenham: Edward Elgar.
- Hall, C.M. (2009). Tourism firm innovation and sustainability. In S. Gössling, C.M. Hall & D.B. Weber (Eds.), *Sustainable Tourism Futures* (pp. 282-298). New York: Routledge.
- Harrison, D., Klein, J. & Browne, P.L. (2010). Social innovation, social enterprises and services. In F. Gallouj & F. Djellal (Eds), *The Handbook of Innovation in Services: a Multi- disciplinary Perspective* (pp. 197-220). Cheltenham: Edward Elgar.
- Hjalager, A.M. (2014). Disruptive and sustaining innovation: the case of rural tourism. In G.A. Alsos, D. Eide & E.L. Madson (Eds), *Handbook of Research on Innovation in Tourism Industries* (pp. 56-83). Cheltenham: Edward Elgar.
- Hoogendoorn, G. & Rogerson, C.M. (2015). Tourism geography in the global South: new South African perspectives. *South African Geographical Journal*, 97(2), 101-110.
- Hubert, A. (2010). *Empowering people, driving change: social innovation in the European Union*. Available: [ec.europa.eu/bepa/pdf/publications\\_pdf/social\\_innovation.pdf](http://ec.europa.eu/bepa/pdf/publications_pdf/social_innovation.pdf). [Accessed 21 November 2012].
- Jacob, M., Carmen, F. & Eugeni, A. (2010). Environmental innovation as a competitiveness factor in the Balearic Islands. *Tourism Economics*, 16(3), 755-764.
- Koščak, M. Colarič-Jakše, L-M. & Veljokvič, B. (2014). The quest for excellence and a socially responsible approach in the planning process for sustainable tourism development: a case study of Slovenia. *Tourism: An International Interdisciplinary Journal*, 62(2), 189-200.
- Leslie, D. ed. (2012). *Responsible Tourism: Concepts, Theory and Practice*. Wallingford: CABI.
- Lorant, D. (2011). *Tourism ecology: towards a responsible, sustainable tourism future*. Worldwide Hospitality and Tourism Themes, 3(3), 210-216.
- Manganari, E. E., Dimara, E., & Theotokis, A. (2016). Greening the lodging industry: Current status, trends and perspectives for green value. *Current Issues in Tourism*, 19(3), 223- 242.

- 
- Navrátil, J., Pícha, K. & White Baravalle Gilliam, V.L. (2016). The interest of visitors to protect natural areas in 'green' accommodation. *Tourism: An International Interdisciplinary Journal*, 64(2), 159-174.
- Omerzel, D.G. (2016) A systematic review of research on innovation in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 28 (3), 516-558.
- Organisation for Economic Co-operation and Development (2005). *Oslo Manual: Guidelines for collecting and interpreting innovation data*. Paris: OECD.
- Page, S.J. (2009). *Transport and Tourism: Global Perspectives*. Harlow: Pearson.
- Park, J., Kim, H.J. & McCleary, K.W. (2014). The impact of top management's environmental attitudes on hotel companies' environmental management. *Journal of Hospitality and Tourism Research*, 38 (1), 95-115.
- Rahman, I., Reynolds, D., & Svaren, S. (2012). How "green" are North American hotels? An exploration of low-cost adoption practices. *International Journal of Hospitality Management*, 31, 720–727.
- Rahman, I., Park, J., & Chi, C. G. Q. (2015). Consequences of "greenwashing" Consumers' reactions to hotels' green initiatives. *International Journal of Contemporary Hospitality Management*, 27(6), 1054-1081.
- Republic of South Africa (1996). *White Paper on the Development and Promotion of Tourism in South Africa*. Pretoria: Government Printer
- Rogerson, C.M. (2013). Responsible tourism and local linkages for procurement: South African debates and evidence. *African Journal for Physical, Health Education, Recreation and Dance*, 19 (Supplement 2), 336-355.
- Rogerson, J.M. & Sims, S.R. (2012). The greening of urban hotels in South Africa: evidence from Gauteng. *Urban Forum*, 23, 391-407.
- Saarinen, J. (2014). Critical sustainability: Setting the limits to growth and responsibility in tourism. *Sustainability*, 6(11), 1-17.
- Scheyvens, R. (2012). Pro-poor tourism: is there value beyond the rhetoric? In T.V. Singh (Ed), *Critical Debates in Tourism* (pp. 124-131). Bristol: Channel View Publications.
- Sharpley, R. (2013). Responsible tourism: Whose responsibility? In A. Holden & D. Fennell (Eds.), *The Routledge Handbook of Tourism and Environment* (pp. 382-391). London: Routledge.

- 
- Sloan, P. Legrand, W. & Simons-Kaufmann, C. (2014). A survey of social entrepreneurial community-based hospitality and tourism initiatives in development countries: a new business approach for industry. *Worldwide Hospitality and Tourism Themes*, 6(1), 51-61.
- Spenceley, A. (ed) (2008). *Responsible Tourism: Critical Issues for Conservation and Development*. London: Earthscan.
- Sujarittanonta, L. (2014). Voluntourism product development and wildlife conservation in Thailand. *Worldwide Hospitality and Tourism Themes* 6(1), 40-50.
- Thomas, R. & Wood, E. (2014). Innovation in tourism: re-conceptualising and measuring the absorptive capacity of the hotel sector. *Tourism Management*, 45, 39-48.
- Tigu, G., Iorgulescu, M. & Răvar, A.S. (2013). The impact of creativity and innovation in the hospitality industry on customers. *Journal of Tourism Challenges and Trends*, 6(1), 9-34.
- Weeden, C. (2013). *Responsible Tourist Behaviour*. London: Routledge.
- Westley, F. & Antadze, N. (2010). Making a difference: strategies for scaling social innovation for greater impact. *The Innovation Journal: The Public Sector Innovation Journal*, 15(2), 3-21.
- Williams, A.M. (2014). Tourism innovation: products, processes and people. In A.A. Lew, C.M. Hall & A.M. Williams (Eds.), *The Wiley Blackwell Companion to Tourism* (pp. 168-177). Chichester: Wiley Blackwell.

## **A Structural Model Predicting Tourists Behavioural Intentions towards Ecotourism**

**Robin Nunkoo, Viraiyan Teeroovengadum, Boopen Seetanah and Robin Sannasse**

*University of Mauritius, Mauritius, [r.nunkoo@uom.ac.mu](mailto:r.nunkoo@uom.ac.mu)*

*University of Mauritius, Mauritius, [v.teeroovengadum@uom.ac.mu](mailto:v.teeroovengadum@uom.ac.mu)*

*University of Mauritius, Mauritius, [b.seetanah@uom.ac.mu](mailto:b.seetanah@uom.ac.mu)*

*University of Mauritius, Mauritius, [rvsan@uom.ac.mu](mailto:rvsan@uom.ac.mu)*

\*Acknowledgement: We would like to thank the WTO for providing us with the necessary research funds.

**Key words:** Ecotourism, Behavioural Intentions, Sustainable Tourism, Mauritius, Structural Equation Modelling

### **Abstract**

The contribution of the tourism sector towards the development of host nations is undeniable in that it provides several benefits such as creation of employment, generation of added value and tax revenue, and boosting of inward foreign direct investment. Yet, tourism does also have negative environmental, economic and socio-cultural effects and it is also true that tourism can have a negative impact on the physical environment, economic, and socio-cultural landscape of host nations. This is particularly true for the case of SIDS. Due to their distinct characteristics and vulnerabilities, SIDS are most affected by the change in climatic conditions. And in this regard, Mauritius is no different. Fortunately, the island's successive governments have embarked on a series of policy measures aimed at fostering green initiatives with the ultimate objective of greater sector sustainability, one of which the promulgation of an eco-tourism sub-sector. However, despite their best efforts, there is the wide-held belief that the eco-tourism sector is yet to take off with a number of supply side factors being viewed as major constraints to the promulgation of same.

As such, the aim of the present study is two-fold. Firstly, through a review of the existing regulations and legal frameworks and through discussions with various sector stakeholders, delineate the various supply side factors hindering the expansion of an eco-tourism sub-sector and propose remedial measures accordingly. Secondly, through the use of the survey method, our research attempts to delineate the various demand driven factors

fostering the behavioural intention of tourists towards eco-tourism. Using data from the survey, this study engages in deeper statistical analysis through the use of a structured equation modeling in an attempt to identify and quantify the various factors influencing the adoption of eco tourism practices. The results show that consumers' ecotourism attitude positively influence ecotourism intention, ecotourism interest, and willingness to pay a premium to participate in ecotourism activities. The results also indicate that consumers' ecotourism interest would positively predict their intention towards ecotourism. Furthermore, consumers' environmental attitudes did not positively predict ecotourism intention. As regards the supply side impediments, discussions with stakeholders reveal that the main constraints to promoting an eco-tourism sub-sector include firstly, lack of finance with respect to the fostering and conservation of eco-sites; lack of a holistic approach for the strategic orientation of the sector; lack of educational and sensitization programmes and the prioritization of return on investment when making investment decisions in the sector; the island's topography is not conducive to fostering eco-tourism; and finally a lack of inter-institutional communication, collaboration and coordination amongst the various tourism stakeholders. To that end, several measures are proposed including a more holistic approach to the sector, the promulgation of a branding exercise, fostering greater private public partnership to increase funding opportunities, promoting greater interplay between the different tourism stakeholders, incentivizing tourism businesses to seek certification and finally providing training programmes to stakeholders and embarking on sensitization campaigns to foster the integration of the local community.

## **Introduction**

The contribution of the tourism sector towards the economic development of nations has been well documented in the literature. From direct benefits which include creation of employment, generation of added value and tax revenue, boosting of inward foreign direct investment as well as generation of much needed foreign exchange to wider spillovers through skills diffusion as well as other related spillover benefits, the potential benefits which can be engendered by the tourism sector have been clearly spelt out in the literature (for e.g. see Sinclair (1998) for a comprehensive review).

And the above is particularly true for the case of Mauritius. The prevalence of the tourism sector towards the economic development of the island is undeniable. Today, the tourism sector is considered as the second pillar of the economy, approximating 18% of GDP and tourists' earnings nearing Rs 4.5 billion in the year 2013. Tourist arrivals for the year 2014 were 1,038,968 and total passenger arrivals were essentially by air (99%) by air and 1% by sea. And various factors have served to generate such an increase in revenue and tourist numbers. The element of trust as an element inducing first time visitors and repeat tourists (Sannasee and Seetanah (2014); infrastructure (Khadaroo and Seetanah (2007, 2008); and marketing promotion expenditure (Seetanah and Sannasee (2014) have been identified as some of these delineating elements.



Yet, tourism does also have negative environmental, economic and socio-cultural effects and it is also true that tourism has had a negative impact on the physical environment, economic, and socio-cultural landscape in Mauritius. Indeed, over the past twenty years or so, a number of issues have cropped up, including inefficient use of resources (water, energy, etc.); generation of a large amount of waste; coastal and marine degradation; Damage to the physical environment (land, sea, beaches); and loss of biodiversity.

And in this regard, one of the biggest challenges for a Small Island Development State (SIDS) such as Mauritius therefore relates to its capacity to ensure sustainable development in the tourism industry, hence its long-term competitiveness. Managing tourism in a sustainable way involves instilling appropriate policies and measures to optimise benefits while mitigating its negative impact on the society, culture and environment. The aim of sustainable tourism therefore is to ensure that development brings a positive experience for local people, tourism businesses and tourists themselves.

As a result and very much aware that the current tourism trend and policy focus which is presently principally geared towards beach tourism is not sustainable in the long-term, the government has, since the turn of the new millennium, embarked on a series of policy measures aimed at fostering green initiatives with the ultimate objective of greater sector sustainability. These include amongst others the National Tourism Development Plan (2000), the Environment Protection Act (2002), the Tourism Authority Act (2006) and further enacted in 2008, the Hotel Development Strategy (2008) and finally the Tourism Sector Strategy Plan (2009-2015).

More interestingly and of greater relevance to the current paper, the above Acts and Plans has led to the fostering of the eco-tourism concept in Mauritius which was further reinforced by the Mauritius Ile Durable (MID) concept which was launched in 2008 under the long-term vision for sustainable development and which was principally geared towards making Mauritius as a world model of sustainable development. In a similar vein, additional measures which were also initiated included amongst others a Blue Flag Programme and an Eco-Label scheme.

However, one can argue that, despite their very best intentions, successive governments have been unable to propound an integrated eco-tourism plan and that the above-mentioned measures are at best piecemeal in nature. To make matters worse, one can even contend that there is no record of any assessment of existing eco-tourism sites on the island, let alone the absence of any study reviewing the existing regulations (if any) governing the conservation/protection of same.

Given the above, the objective of the present study is two-fold. Firstly, through a review of the existing regulations and legal frameworks and through discussions with various sector stakeholders, assess the relevance and prevalence of same towards fostering ecotourism. This should also permit to uncover any supply side constraints which may or could have hampered the benefits to be had from exploiting these sites and propose remedial measures

accordingly. Secondly, through the use of the survey method, delineate the various demand driven factors fostering the behavioural intention of tourists towards eco-tourism.

## **Review of the Literature**

### *Related Literature Concept of Ecotourism*

The concept of “ecotourism” was first introduced during the international environmental protection conference in Mexico in 1986 (Wang, 2010). Since then, it has gained persistent attention in the tourism industry (Weaver & Lawton, 2007), and has been recognized as a sustainable way by many governments to develop and enhance their economy (Weaver, 2011) to the extent that nowadays ecotourism is often cited as the fastest growing phenomenon within the global tourism industry (Wood, 2013; Buckley 2004).

Over the last few decades, there have been a considerable number of debates with respect to the definition of ecotourism and how to conceptualize it (Pipinos and Fokiali 2009). The context in which ecotourism is defined may differ since it is perceived differently by different stakeholders and with different interests. From a tourist’s perspective, ecotourism may mean a new experience or a change in consumption; from a planner’s point of view, ecotourism is a way of exploiting new opportunities in the industry; whilst from a tourist attraction perspective, ecotourism is a way of management (Wang, 2010).

Freedman (1995) defines “ecotourism as a segment of the travel industry which appeals to the environmentally conscious and which has a low impact on the surrounding area while contributing to the local economy”. Ceballos-Lascuráin (1996) viewed it as a responsible way of travel in which local features are appreciated and special attention is paid to minimizing negative impact from visitors. It is generally understood as nature or culture based travel activities that enhance public environmental awareness, respect and conserve local resource and culture, and minimized tourism impact, empower local residents, generate income for the economy and share the benefits among the population (Weaver, 2011; Honey, 2008).

Even though, over the years, there have been different conceptualizations of the term ecotourism, researchers agree that the core dimensions of ecotourism definitions are almost the same (Bjork 2000). Fennell (2002) studied 85 definitions of ecotourism and the words that were mostly encountered were nature areas, conservation, culture, and benefits to locals, education, and sustainability. Likewise, Diamantis (1998) found that the three common elements in the most widely used definition of ecotourism are nature-based environment, environmental education, and sustainable management.

The above definition touches upon multiple characteristics of ecotourism. Although there is no agreed definition of ecotourism in the literature, the study considers the development of ecotourism to be based on the following premise: to respect nature, follow ecological rules, travel to natural areas with traditional cultures to allow tourists to enjoy the phenomenon of nature; it must also reflect the fact that ecotourism has certain

educational connotation. Ecotourism educates and increases awareness of the importance of natural and cultural conservation among local residents and tourists; it must reinforce responsibilities of local community to protect and conserve local resources and environment by increasing local benefits; and finally it needs to complement economic, social, ecological development in order to enhance ecological sustainability.

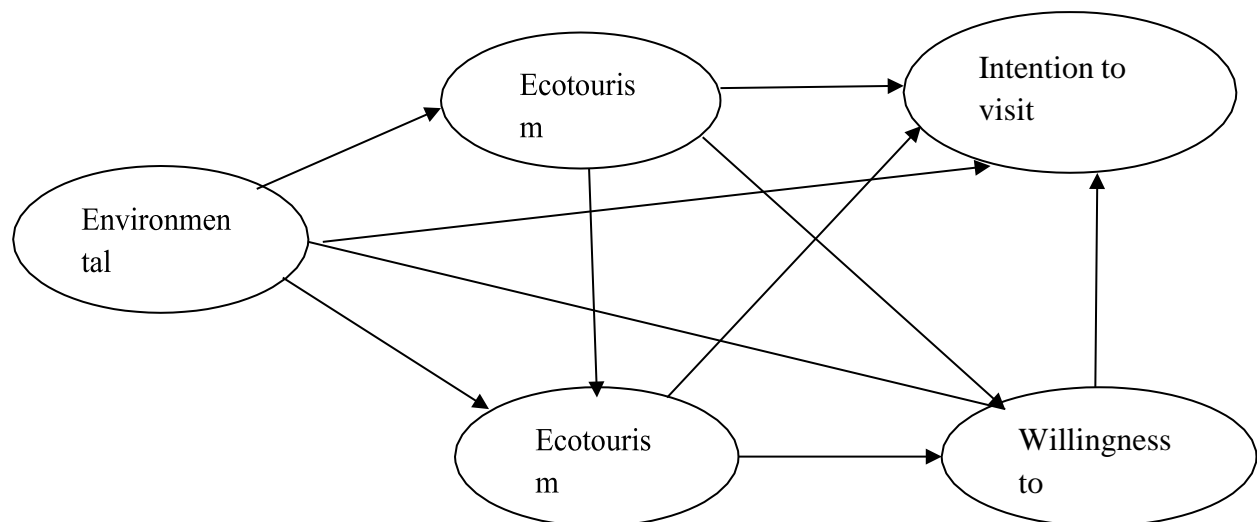
Ecotourism activities are generally understood as being of a non-consumptive nature and have a low-impact on the environment (Weaver, 2012). As a result, and to be able to maximise the impact of and benefits to be had from the promulgation of eco-tourism, it is therefore crucial to determine the current and future intentions of tourists in visiting ecotourism sites to ensure that the latter act responsibly and in a manner that can only serve to fulfill the set out objectives of the supply side stakeholders. Therefore, determining the factors that influence tourism intention towards ecotourism is also fundamental and this is explored in the subsequent sections.

### ***Behavioural Intention towards Ecotourism***

Behavioral intention of the tourists may be termed as intentions generated post the tourism process (Liu et al. 2013). In this regard, Parasuraman, Zeitham & Berry (1985) concluded that consumers' behavioral intentions comprise of their intention to revisit the holiday destination and to recommend the same destination to others, thereby further indicating their perceptions, satisfaction and loyalty to the tourism destination (Bigne, Sanchez & Sanchez, 2001). As a consequence, most of the studies employed consumers' revisit intentions and willingness to recommend as measurement factors of tourists' behavioral intentions and tourist loyalties (Liu et al. 2013).

The ecotourism intention literature is fraught with studies which have linked attitude to behavioural intention since attitude is a predisposition to evaluate destination as satisfactory or dissatisfactory (Solomon et al., 2006). This is supported by the theory of reasoned action (TRA) developed in the 1960's which view attitude as an important determinant of behavioral intention, which further predicts the individual behaviour (Ajzen & Fishbein, 1980). Moreover, some eco-tourists may develop their interest towards a destination based on how safe the destination is, their advertisements, its service quality and the provision of environment friendly products.

Integrating these concepts together, Figure 1 presents the model being tested. It establishes a model of intention towards ecotourism, which suggests that intention to visit ecotourism sites is influenced by ecotourism attitude and interest of the individual. And that ecotourism attitude and interest is further influenced by environmental attitude. Overall, environmental attitude, ecotourism attitude, ecotourism interest and ecotourism intention is further considered to influence willingness to pay a premium to participate in ecotourism activities.



**Figure 1. The Proposed Model of Intention to Participate in Ecotourism Activities in Mauritius**

### *Hypothetical Constructs*

#### *Impact of Ecotourism Attitude on Ecotourism Intention and Ecotourism Interest*

Attitudes are personal tendencies to do something after reflecting and weighting on the final outcome as being favourable or unfavourable (Eagly and Chaiken, 1993). Attitude can further be decomposed into three significant components: the cognitive, the affective and the behavioural component. The cognitive component is based on an individual's knowledge, beliefs, perceptions, regarding for example environmental values which one acquires through experiences in one's life. It is the cognitive attitude of an individual that in turn has a direct influence on the individual behaviour (Ajzen and Fishbein, 2000; Moutinho, 1993, p.19). The affective or emotional component consists of emotions and sentiments which are aroused by just the mere thought of visiting an ecotourism site. The behavioural component relates to all the precise and clear behaviours toward ecotourism. These are behaviours and decisions relating to money management, family balance which should be differentiated by spending intentions (Cosma and Pattarin, 2012). For the purpose of this study, attitudes will be treated as respondents' particular feelings (affective) and perceptions (cognitive) towards the stated questions relating to ecotourism.

Understanding individuals' attitudes towards ecotourism are vital since it is precisely such attitudes which will determine their intention and final decision towards their holiday destination. In this vein, many authors have propounded that individuals who have positive attitude and interest toward ecotourism are attracted to destinations where natural environment and culture are conserved and opportunities for learning and experiencing are

provided (e.g. Hall (1992) and Jefferson (1995)). A high correlation between attitudes, behavioral intention and the subsequent behavior has also been established (Lai & Nepal, 2006; Vaske & Donnelly, 1999).

Accordingly, at industry level, understanding tourism's attitude will help eco-tourist companies to change or create consumer attitude to alter the belief of their companies by introducing environmental attributes or by highlighting their eco-label (Moutinho, 1993). At a macro level, management principles may help operators devise more efficient and appropriate management strategies to harmonize conservation of local resources as well as economic development of the area, leading ultimately to a smooth running of ecotourism (Lai & Nepal, 2006).

The study by Hines, Hungerford and Tomera (1987) employed a meta-analysis in an attempt to understand which variable(s) (e.g., attitude, knowledge of issue, knowledge of action strategies, locus of control, and among others) appear(s) to be the most powerful predictor of consumers' environmental behaviour. The results revealed that attitude is the most influential predictor variable of consumers' green consumption behaviour intentions. Thus, one may contend that consumers' ecotourism intention and interest are the outcome variables, which are positively related by consumers' favorable attitudes toward ecotourism.

Zhang and Lei (2011), in their attempt to assess the factors that contributed towards residents' participation intention in ecotourism management, proposed a structural relationship between their participation intention, environmental knowledge, and their attitude towards ecotourism among others. Their findings demonstrated that the residents' environmental knowledge would positively affect their attitudes towards ecotourism and that would directly and indirectly establish the intention of the participant. Similarly, Shieh, Lin, Ho and Wang (2012) used a case study analysis in order to explore the attitudes and behaviour intentions of Taoyuan, China towards pond ecotourism sustainable development. Their study analysed two dimensions of psychological philosophies namely how these influenced attitudes and behaviour intentions of ecotourists towards their choice and the results have proved to be significantly influential. In the same context, in terms of moderating effects, it was noted that in certain situations, attitudes were affected by the inclusion or exclusion of subjective norm and perceived difficulty could generate worse or better behavioural intention.

As such, given the above, the following hypothesis is proposed:

Hypothesis 1a: Ecotourism attitude will positively influence ecotourism intention.

Hypothesis 1b: Ecotourism attitude will positively influence ecotourism interest.

### ***Relationship between Ecotourism Interest and Ecotourism Intention***

The third relationship under scrutiny in the present pertains to the relationship between ecotourism interest and ecotourism intention. The economics literature has long recognized consumers as being rational in that they buy to satisfy their interest and needs.

With respect to travelling, some tourists may look at fulfilling their “sense of belonging needs” by ensuring that they will meet new people on their travel. On the other hand, others who regard travelling as a “self-actualization need” will ensure that they learn the language of the country before travelling, or opt for ecotourism activities (Chon et al, 2000). Every individual needs differ and so will their interest.

For a long time, the sun, sea and sand concept was the centre of attention of tourists (Ayala, 1996) but over the last decade or so, there has been a radical shift in consumer interest for ecofriendly products and technologies, and ever since, the demand for nature-base travels is growing. Such a change in mindset and behavior has led tour operators and travelling agencies to accentuate their emphasis on ecotourism activities to foster for the ever growing ecotourist needs and interests. As a result, several new activities are being accommodated. From bird watching, whale watching, geological tourism (Weaver, 2001) to wildlife viewing, trekking, and visiting national park or protected area (Wight, 1996) and learning about other cultures are all important features of ecotourism activities.

Over the past decade, a new component of tourism literature has proceeded to determine the motivations of tourist to engage in different ecotourism activities and nature-based experiences<sup>1</sup>. Their results have provided some tentative evidence for a stronger pro-environmental behaviour in ecotourists as opposed to mass tourists. And more recently, Perkins and Grace (2009) examined a tourist’s interest in visiting different holiday types and their reasons for their choices. The study found a fundamental difference between the motivations for choosing ecotourism destinations and the motivations for choosing more typical holidays.

For instance, those who have selected the beach or luxury resorts reported their main motivations to be factors such as enjoying the moment, having fun, relaxing all these reasons may be considered as self-centered. On the other hand, respondents who were more interested in ecotourism perceived their holidays as opportunities to experience and travel in undisturbed nature, to learn more about nature, all in a view of protecting the environment. These results provided further evidence of a stronger pro-environmental behaviour among those interested in ecotourism experiences.

The above discussion clearly demonstrates that eco tourists intend to visit an ecotourism destination not merely because of their desire to relieve from stress but also because of their interest in viewing the wildlife, visiting undisturbed areas, learning about the environment and promoting conservation of the environment (Blamey 1997; Juric, Cornwell, and Mather 2002) also finally to quench their quest to reinforce the bonds with family and friends (Poupineau and Pouzadoux, 2013). Therefore, consumers’ ecotourism interest is likely to increase their intention to participate in ecotourism activities. As such, the following hypothesis is proposed:

Hypothesis 1c: Ecotourism interest will positively influence ecotourism intention.

***Impact of Environment Attitude on Ecotourism Attitude, Ecotourism Interest,***

### ***Ecotourism Intention and Willingness to pay a premium.***

As per the existing literature, there exists no standard terminology for “environment attitude”. This concept has often been touted as being similar to the concepts of “environmental consciousness”, “environmental awareness”, and “environmental affection” (Qi et al.). Although the literal meanings are different, their core meanings are rather similar, since they all refer to values involved towards protecting the environment. Those values consist of the continuum of improving human life and society, respecting all forms of lives and ensuring that everyone has equal rights (Edwards, Davies, and Hussain 2009; Dunlap et al. 2000; Luck 2003). Moreover, in a view of categorizing environmental attitude, Kaiser et al. (1999) segregated the concept into three dimensions: environmental knowledge, environmental values, and ecological behavior intention. Lu et al. (2004) on the other hand propounded that environmental attitudes constitute of four dimensions namely environmental protection, environmental resource, environmental study, and environmental sustainability.

### ***Environmental Attitude and Ecotourism Attitude***

Knowledge and self-consciousness of environmental issues is usually considered a prerequisite to environmental concern (Zhang & Lei, 2012). Various studies have found that as individuals become increasingly aware of environmental protection, they promote positive attitude towards environmental issues (Wanga, 2013) and even refuse any short term economic behavior (Wang, 2010). Lee and Moscardo (2005) provide evidence that awareness of in-resort environmental practices and satisfying experiences in ecotourism holidays could reinforce tourists’ positive attitude towards the environment. Adetola and Adediran (2014), in their study on indigenous communities’ attitude towards sustainable ecotourism development in Olumirin waterfall, Nigeria, found that the majority of communities are aware of the term ‘ecotourism’ and that they display a positive attitude towards ecotourism activities in Olumirin. Even though Higham et al., (2004) did not completely adopt a segmentation study, but instead made use of the same scale to discern the environmental values of visitors to ecotourism operations in New Zealand, yet their results identified three main dimensions of environmental values among visitors, namely ‘Balance of Nature’, ‘Human Nature’ and ‘Limits to Growth’ which helped to foster the link between the ecotourists and their attitude to ecotourism.

In addition, the popularization of ecological education and environmental values should also be considered among the various tourism stakeholders. Studies that have focused on students’ understanding of environmental science are associated with their environmental stances (Zhang

& Lei, 2012; Tikka, Kuitunen, & Tynys, 2000); community leaders with environmental knowledge derives positively attitudes towards conservation ((Zhang & Lei, 2012); Increasing local residents’ and government environmental knowledge effectively promote positive attitudes towards ecotourism and conservation of the local environment (Aipanjiguly,

---

Jacobson, & Flamm, 2003, Zang & Lei, 2012)

### ***Environmental Attitude and Ecotourism Interest***

Zografos and Allcroft (2007), in their study delineating the likelihood of ecotourism development in Scotland through the use of a market segmentation methodology, identified four segments of values from the application of the New Ecological Paradigm (Dunlap *et al.*, 2000) on a range of anthropocentric and ecocentric values. However, their results indicated that ecotourism products are not restricted to ecocentric segments given that biodiversity protection is prioritised by all segments at a different intensity to its importance. Additionally, the study also identified that visitor's interest for a Scottish ecotourism experience was mainly centered on biodiversity conservation and less on exhaustible resources. At the same time, providing facilities for wildlife sightseeing, hill walks and relaxation activities were also regarded as being important. Thus, environmental values can be adopted as a method to segment potential visitor groups with different trip characteristics. With the same objective of investigating the relationship between environmental attitudes and outdoor recreation interests, Bjerke *et al.* (2006) attempted to measure environmental attitudes using a shortened version of the New Ecological Paradigm (NEP) scale. Their results suggested that significant differences in environmental attitudes exist between appreciative and consumptive tourists.

In the same context, Uysal *et al.* (1994) study, through the application of the New Environmental Paradigm (Dunlap *et al.*, 1978) to differentiate the environmental consciousness of visitors to a US Virgin Islands National Park, demonstrated that trip instead of demographic characteristics are more related to environmental concerns. Similarly, Blamey and Braithwaite (1997) adopted the approach of segmenting the potential Australian ecotourism market based on their social values, where 17 items of the Social Values Inventory (Braithwaite & Law, 1985) were used to measure the endorsement of national greatness, reward for individual effort, economic equality, among others. Their study exemplified that social values are of utmost importance to understand ecotourists and their preferences.

### ***Environmental Attitude and Ecotourism Intention***

Researchers have also laid special emphasis on the individual's environmental values that are highly influential in the development of ecotourism behaviour (Wood 2002; Kasim *et al.* 2014)) and hence important when deciding upon their holiday destinations (Hayombe *et al.* 2012; Zhang & Lei, 2012). Qi, Zhang and Yang used a fourth dimension model to measure environmental attitudes and to analyse its relationship with the behavior intentions of tourists in natural heritage sites. Their results from the structural equation model showed that environmental affection and knowledge had a significant and positive effect on environmental behavior intention of tourists; environmental morality also had a significant influence, though the extent of the magnitude was lower; and environmental responsibility showed no significant influence on tourists' environmental behavior intention. In relation to



behavioural intentions, those identified as ecotourists were more likely to purchase local products, conserve the local environmental quality, willing to propagate publicity about the wetlands, but also group together with local conservation associations that display a positive relation between environmental responsibility and sustainable behaviour. Likewise, Lück (2000) also suggested that environmental values are important for ecotourism travel choice and behaviour, and that ecotourist lifestyle characteristics may be significant in obtaining a better insight into these values.

In short, knowledgeable and environment conscious individuals might be more likely to show positive attitudes, interest and intention towards ecotourism. As such, harmonising and unifying the ecological link between human beings and the nature is crucial. This may also lead environment friendly individuals to be more willing to pay a premium for ecotourism products and services.

Based on the preceding discussion, the following hypotheses are developed for the proposed model:

Hypothesis 2a: Environment Attitude will positively influence consumers' ecotourism attitude.

Hypothesis 2b: Environment Attitude will positively influence consumers' ecotourism interest.

Hypothesis 2c: Environment Attitude will positively influence consumers' ecotourism intention.

Hypothesis 2d: Environment Attitude will positively influence consumers' willingness to pay a premium for ecotourism products and services.

***Relationship between Willingness to pay a premium and Ecotourism Attitude, Ecotourism Interest, Ecotourism Intention***

The last major construct included in this study pertains to consumers' willingness to pay a premium for ecotourism. Travelling involves a considerable investment and as such it involves committing a large amount of money to something reasonably unknown; thus relating to high risk taking. In this regard, the quality of the travel is usually signaled by its price and it is most unsurprising to denote that consumers view eco-friendly products as more expensive than the conventional ones (Chang, 2011, p.20). For instance, a night in an eco-lodge may be more expensive than in a regular hotel because the lodge required a relatively higher level of investment towards construction and equipment to ensure good quality and protection of the environment.

However, even though consumers may have a strong interest and favorable attitudes towards environment values and concerns, many may not act upon these values when it comes to the purchase of relatively higher prices pro-environmental activities (Epler Wood; Holden and Sparrowhawk, 2002). The work of Young *et al.* (2009) highlighted

that there existed a gap between what individual thought and said when it comes to environment concern and their real consumption habits.

Till date, there is no consensus as to whether consumers are willing to pay extra for ecotourism products and services. While some prior empirical findings revealed that consumers are willing to pay on average around 5% more for eco-friendly products (Schwartz 1990; Speer 1997), others have suggested that a group of consumers are willing to pay as much as 20% or more (Worldwide 1997). And more recently, according to a survey conducted by Pirani and Secondi (2011, p.69), approximately 75% of the respondents have argued that they were willing to pay more for eco-friendly products. However, in another survey for Belgium (2011), the same authors have found that consumers were not willing to pay more than 27% price premium. Therefore, consumers have a positive attitude towards ecological product up to a certain point and that transforming consumer attitude into purchasing behaviour is a slow process.

On the other hand, there is also evidence of the decreasing gap between attitude and behaviour theory. In Hudson and Richie's (2004) work, a strong correlation between the tourists' willingness to pay for eco-friendly skiing products and the cost of the holiday, as well as between level of income and level of environmental conscience have been identified. Similarly, Lu et al., (2014), in their study of Italian travelers found that individuals' materialistic value is negatively related to their ecotourism attitude, ecotourism interest, ecotourism intention, and willingness to pay a premium for ecotourism products and services. In addition, their findings also revealed individuals' ecotourism attitude have a positive influence on ecotourism intention, ecotourism interest, and willingness to pay a premium for ecotourism products and services. Eco-tourists choose their destination in accordance with the quality of products and services offered. They are willing to pay extra if the product or service bring a real benefit to them and will help them protect the environment. Therefore, providing a high value product and services with the objective of protecting the environment and meeting the interest of tourism is very important.

In line with the above literature and Ajzen's (1991) classic theory of planned behavior, consumers' willingness to pay a premium for ecotourism should be positively predicted by consumers' ecotourism attitude and interest, as only those who are interested in or motivated by will be willing to pay higher premium to protect the environment. In a similar vein, Peterson (1988) conceptualized "willingness to pay" as 'one's intention to pay a certain amount of money for engaging in a leisure activity or attaining any other public goods' (Lu et al. 2014). Hence, the willingness to pay a higher premium for eco-products and services directly demonstrates one's intention towards participating in ecotourism activities. As such, the last three hypotheses of proposed framework are:

Hypothesis 3a: Ecotourism attitude will positively influence consumers' willingness to pay a premium for ecotourism.

Hypothesis 3b: Ecotourism interest will positively influence consumers' willingness to pay a premium for ecotourism.

Hypothesis 3c: Consumers' willingness to pay a premium for ecotourism will positively influence ecotourism intention.

## **Methodology**

### ***Survey Instrument and Data Collection***

For measures of ecotourism interest, this study utilized eight items of Ecotourism Interest scale developed by Juric, Cornwell, and Mather (2002) as presented in Table 1. These eight items were measured on a seven-point Likert-type scale ranging from very important (7) to not at all important (1). As for the measurement of ecotourism attitude, five statements that were measured on the seven-point semantic differential scale were adopted from Lam and Hsu's (2006) study. As presented in Table 1, the ecotourism intention was measured by four items adopted from Lam and Hsu's (2006) study. These items were measured on a five-point Likert type scale ranging from Strongly Agree (5) to Strongly Disagree (1). Willingness to pay a premium was measured with five items that were adopted from Bang et al.'s (2000) study measuring consumers' willingness to pay more for renewable energy (Table 1). These five statements were measured on a five-point Likert-type scale ranging from strongly agree (5) to strongly disagree (1). Items to measure environmental attitudes were borrowed from Nunkoo and Gursoy (2012). The items are presented in Table 1.

The study relies on primary data collected from tourists visiting the island of Mauritius. Data collection took place between May to September 2015 at popular tourist sites located in different parts of the island. Tourists were randomly approached and were asked if they were willing to participate in the survey. The questionnaire was self-administered and was immediately collected after completion. A total of 512 usable questionnaires were collected.

## **Data Analysis**

### ***Descriptive Statistics***

#### ***Intention to visit an ecotourism site***

Intention to visit an ecotourism site consisted of four indicators: (1) there is a likelihood that I will visit an ecotourism site in Mauritius (2) I want to visit an ecotourism site in Mauritius (3) I intend to visit an ecotourism site in Mauritius (4) I will visit an ecotourism site in Mauritius during my visit. Descriptive statistics were computed for each indicator as well as for the overall intention to visit an ecotourism site. All the items were measured on a 5 point Likert scale, where 1 represented "Strongly Disagree", 2 represented "Disagree", 3

represented "Neutral", 4 represented "Agree" and 5 represented "Strongly Agree".

**Table 1 Intention to visit an Ecotourism site**

	<b>M</b>	<b>SD</b>	<b>S</b>	<b>K</b>	<b>SD</b> (%)	<b>D</b> (%)	<b>N</b> (%)	<b>A</b> (%)	<b>SA</b> (%)
There is a high likelihood that I will visit an ecotourism site in Mauritius	4.0 1	.837	-.893	1.06 2	1.0	4.5	14.9	51.5	28.2
I want to visit an ecotourism site in Mauritius	4.0 5	.793	-.794	.930	.6	3.5	15.1	52.3	28.6
I intend to visit an ecotourism site in Mauritius	3.9 4	.808	-.745	.865	.8	4.3	18.0	53.7	23.1
I will visit an ecotourism site in Mauritius during my visit	3.9 8	.822	-.745	.850	1.0	3.3	19.0	50.4	26.3
<b>Intention to visit an ecotourism</b>	3.99	.702	-.805	1.553	-	-	-	-	-

*M: Mean; SD: Standard Deviation; S: Skewness; K: Kurtosis; SD: Strongly Disagree; D: Disagree; N: Neutral; A: Agree; Strongly Agree*

The skewness (-0.805) and kurtosis (1.553) values for the construct indicated that there was no issues of non-normality. The sampled tourists reported an average score of 3.99 ( $SD = 0.702$ ) regarding their intention to visit an ecotourism site. This rating indicates that the respondents have a quite likely to visit an ecotourism site in Mauritius.

#### *Willingness to pay for visiting ecotourism destinations*

Willingness to pay was measured using five indicators: (1) How willing would you be to go on a more expensive holiday in order to reduce pollution? (2) How willing would you be to financially support ecotourism projects? (3) How willing would you be to pay more for your holiday if you knew the added cost paid for a better environment? (4) How willing would you be to pay more for your holiday today in exchange for possibly better tourism experiences in the future? (5) How willing would you be to pay more for ecotourism as opposed to "regular" tourism? All the items were measured on a 5 point Likert scale, where 1 represented "Not Willing at All", 2 represented "Somewhat Willing", 3 represented "Neutral", 4 represented "Willing" and 5 represented "Very Willing".

**Table 2 Willingness to pay for visiting ecotourism destinations**

	M	SD	S	K	NW A (%)	SW (%)	N (%)	W (%)	VW (%)
How willing would you be to go on a more expensive holiday in order to reduce pollution?	3.3 5	1.0 9	- .457	- .514	6.6	16. 2	25.4	39.5	12.3
How willing would you be to financially support ecotourism projects?	3.4 4	.98 9	- .434	- .504	2.5	17. 8	24.0	44.5	11.1
How willing would you be to pay more for your holiday if you knew the added cost paid for a better environment?	3.4 9	1.0 0	- .536	- .483	2.5	18. 2	18.9	48.2	12.1
How willing would you be to pay more for your holiday today in exchange for possibly better tourism experiences in the future?	3.5 7	.99 2	- .785	.101	3.7	13. 1	18.2	52.4	12.5
How willing would you be to pay more for ecotourism as opposed to “regular” tourism?	3.4 9	1.0 2	- .574	- .285	3.9	14. 9	22.4	45.4	13.4
<b>Willingness to pay for visiting ecotourism destinations</b>	3.47	.839	-.499	-.103	-	-	-	-	-

*M: Mean; SD: Standard Deviation; S: Skewness; K: Kurtosis; NWA: Not Willing at All; SW: Somewhat Willing; N: Neutral; W: Willing; VW: Very Willing*

The skewness (-0.499) and kurtosis (-0.103) values for the construct indicated that there was no issues of non-normality. The sampled tourists reported an average score of 3.47 ( $SD = 0.839$ ) regarding their willingness to pay for visiting an ecotourism. This rating indicates that the respondents have a moderate level of will to pay for visiting eco-friendly places in Mauritius.

#### *Interest in ecotourism activities*

## Innovation and Progress in Sustainable

Interest in ecotourism activities was measured using eight indicators: (1) Wilderness and undisturbed nature (2) Tropic forests and indigenous bush (3) National parks (4) Lakes and streams (5) Oceanside (6) World heritage status areas (7) Learning about nature (8) Photographing landscape and wildlife. Descriptive statistics were computed for each indicator as well as for the overall level of interest for ecotourism activities. All the items were measured on a 5 point Likert scale, where 1 represented "Not at All Important", 2 represented "Somewhat Important", 3 represented "Neutral", 4 represented "Important" and 5 represented "Very Important".

**Table 3 Interest in ecotourism activities**

	M	SD	S	K	NAI (%)	SI (%)	N (%)	I (%)	VI (%)
Wilderness and undisturbed nature	4.1	.962	-1.10	.770	1.4	7.6	10.2	40.4	40.4
Tropic forests and indigenous bush	4.0	.988	-.939	.335	1.6	8.8	13.0	41.7	35.0
National parks	4.1	.929	-1.11	1.06	1.6	5.5	12.1	41.5	39.3
Lakes and streams	4.0	.925	-1.11	1.12	1.6	6.3	10.8	45.3	36.1
Oceanside	4.3	.812	-1.18	1.18	.2	4.3	8.2	39.5	47.7
World heritage status areas	3.9	.969	-.884	.393	1.8	6.5	17.2	40.0	34.5
Learning about nature	4.1	.888	-1.01	.919	1.2	3.9	14.7	40.6	39.6
Photographing landscape and wildlife	4.1	.819	-.894	.639	.4	3.5	13.3	43.6	39.1
<b>Interest in ecotourism activities</b>	<b>4.11</b>	<b>.680</b>	<b>-.671</b>	<b>.168</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>

*M: Mean; SD: Standard Deviation; S: Skewness; K: Kurtosis; NAI: Not at All Important; SI: Somewhat Important; N: Neutral; I: Important; VI: Very Important*

The skewness (-0.671) and kurtosis (0.168) values for the construct indicated that there was no issues of non-normality. The sampled tourists reported an average score of 4.11 ( $SD = 0.680$ ) regarding their interest in ecotourism activities. This rating indicates that the respondents believe that ecotourism activities are important, thus demonstrating a quite high level of interest towards these type of activities.

#### *Attitude towards Ecotourism*

Attitude towards ecotourism was measured using five indicators: (1) Not enjoyable:

## Innovation and Progress in Sustainable

Very enjoyable (2) Negative: Positive (3) Boring: Fun (4) Unpleasant: Pleasant (5) Unfavourable: Favourable. Descriptive statistics were computed for each indicator as well as for the attitude towards ecotourism. All the items were measured on a 5 point Likert scale.

**Table 1 Attitude towards Ecotoursim**

	M	SD	S	K	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)
Not enjoyable :Very enjoyable	4.3 2	.732	-.823	.170	-	1.6	11.1	41.2	46.1
Negative : Positive	4.3 9	.670	-.728	-.219	-	.4	9.3	41.2	49.1
Boring : Fun	4.2 7	.761	-.748	.050	.2	1.0	14.7	39.6	44.4
Unpleasant:Pleasant	4.3 5	.729	- 1.04 9	1.39 2	.4	1.0	9.7	41.3	47.6
Unfavourable :Favourable	4.2 6	.783	-.997	1.16 7	.6	1.6	12.5	41.8	43.4
<b>Attitude towards Ecotourism</b>	4.32	.609	-.522	-.519	-	-	-	-	-

The skewness (-0.522) and kurtosis (-0.519) values for the construct indicated that there was no issues of non-normality. The sampled tourists reported an average score of 4.32 ( $SD = 0.609$ ) regarding their attitude towards ecotourism. This rating indicates that the respondents tend to have a positive attitude towards ecotourism.

*Attitude towards the Environment*

Attitude towards ecotourism was measured using five indicators: (1) In competition with the natural environment: in cooperation with the natural environment. (2) Detached from the natural environment : connected to the natural environment(3) Indifferent about the natural environment: very concerned about the natural environment(4) Not at all protective of the natural environment: very protective of the natural environment(5) Superior to the environment: Inferior to the environment (6)Not at all passionate toward the environment: Very passionate toward the environment (7) Not respectful toward the natural environment: Very respectful toward the environment (8) Independent of the natural environment: Dependent on the natural environment (9) Disinterested in the natural environment: An advocate of the natural environment (10)Wanting to utilize the natural environment: Wanting to preserve the natural environment (11) Emotionless thinking about the natural environment: Nostalgic about the natural environment. Descriptive statistics were computed for each indicator as well as for the attitude towards the environment. All the items were measured on a 5 point Likert scale.

**Table 2 Attitude towards the Environment**

	<b>M</b>	<b>SD</b>	<b>S</b>	<b>K</b>	<b>1</b> (%)	<b>2</b> (%)	<b>3</b> (%)	<b>4</b> (%)	<b>5</b> (%)
In competition with the natural environment: in cooperation with the natural environment.	4.13	.785	-.753	.716	.6	1.8	16.1	46.9	34.6
Detached from the natural environment: connected to the natural environment.	4.22	.763	-.823	.722	.4	1.6	13.4	44.9	39.8
Indifferent about the natural environment: very concerned about the natural environment	4.19	.772	-.804	.832	.6	1.2	15.0	45.3	38.0
Not at all protective of the natural environment : very protective of the natural environment	4.12	.836	-.712	.212	.6	2.4	19.1	40.7	37.3
Superior to the environment : Inferior to the environment	3.86	.933	-.369	-.528	.8	5.5	29.9	34.3	29.5
Not at all passionate toward the environment : Very passionate toward the environment	4.10	.826	-.686	.270	.6	2.4	19.1	42.8	35.2
Not respectful toward the natural environment : Very respectful toward the environment	4.23	.778	-.812	.341	.2	2.2	13.6	42.1	41.9
Independent of the natural environment : Dependent on the natural environment	4.09	.823	-.552	-.290	.2	2.8	20.2	41.5	35.4
Disinterested in the natural environment : An advocate of the natural environment	4.07	.811	-.576	.129	.6	1.6	21.3	43.3	33.3
Wanting to utilize the natural environment : Wanting to preserve the natural environment	4.26	.777	-.807	.223	.2	1.8	14.1	40.1	43.8
Emotionless thinking about the natural environment : Nostalgic about the natural environment	3.97	.871	-.354	-.613	.4	3.0	28.2	36.3	32.1
Attitude towards the Environment	4.11	.580	-.098	-.819	-	-	-	-	-

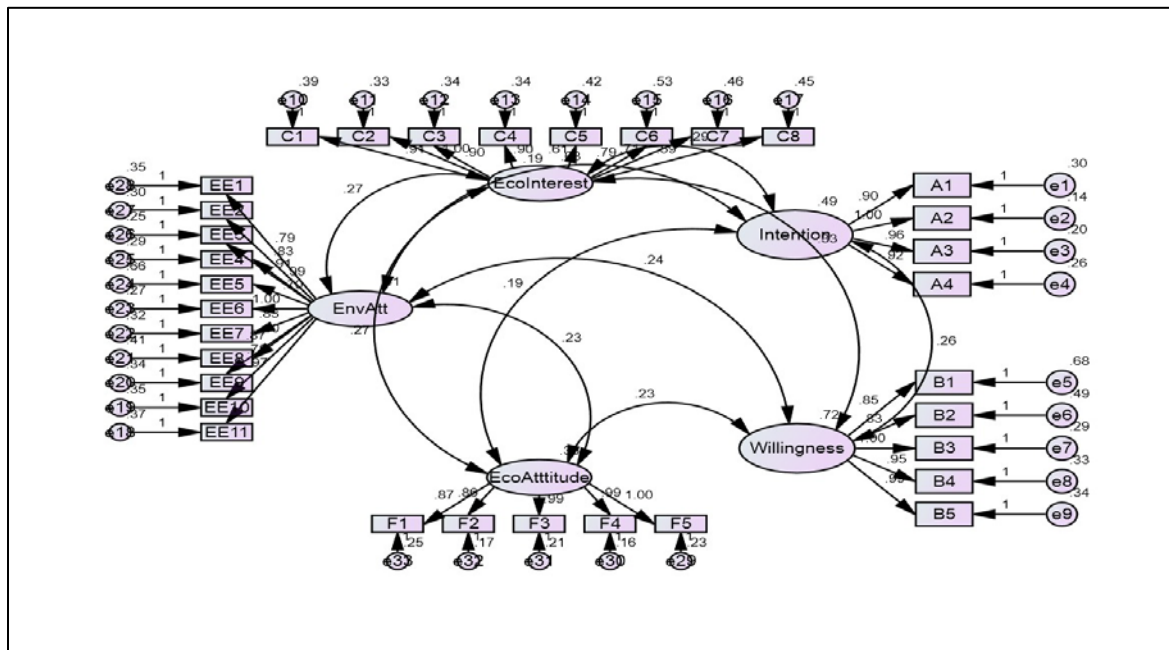


The skewness (0.580) and kurtosis (-0.098) values for the construct indicated that there was no issues of non-normality. The sampled tourists reported an average score of 4.11 ( $SD = 0.580$ ) regarding their attitude towards the environment. This rating indicates that the respondents tend to have a positive attitude towards the environment.

*Modelling Process: Confirmatory Factor Model (Measurement Model)*

The structural model and hypothesized paths were tested using the maximum likelihood method of estimation, together with the two-staged process as recommended by Anderson and Gerbing (1988) using the LISREL structural equation analysis package. Several indices to evaluate the overall fit of the measurement and structural models were used. First, chi-square statistic with its associated  $p$  value was used to determine model fit. Other fit indices used were the goodness-of-fit index (GFI), non-normed-fit-index (NNFI), comparative-fit-index (CFI), incremental-fit-index (IFI), and the critical  $N$  statistic. Values of GFI, NNFI, CFI, and IFI range from 0 to 1 with a value close to 1 indicating a good model fit. A value of 200 or greater is also suggested as an indication for adequate model fit for the critical  $N$  statistics. The parsimony goodness of fit index (PGFI) and the parsimony normed fit index (PNFI) were also used to measure the parsimony of the model. Value of the PGFI and PNFI ranges from 0 to 1, with a value greater than 0.7 indicating a good model fit (for a detailed discussion of model fit indices, see Hu & Bentler, 1995; Nunkoo & Ramkissoon, 2012).

As recommended by Anderson and Gerbing (1988), a confirmatory measurement model that specifies the posited relations of the observed variables to the underlying constructs, with the construct allowed to intercorrelate freely was tested. Unidimensionality of each construct in the model was tested before the overall measurement model was evaluated (Anderson & Gerbing, 1988). Constructs with unacceptable fits were re-specified by deleting indicators that failed to preserve unidimensionality (Anderson & Gerbing, 1988). Table 1 presents the remaining items after the above steps were performed. The measurement model was then reformulated and tested using confirmatory factor analysis. The adequacy of the individual items and composites were verified by means of reliability and validity. Composite reliability, indicator reliability, and average variance extracted (AVE) were used as reliability measures. Figure 1 shows the measurement model being tested.



**Figure 5. The Confirmatory Factor Model**

Table 6 shows that the composite reliability of all constructs exceeded the acceptable level of 0.7 and the AVE for each factor exceeded the acceptable level of 50%. The measurement model was further tested for its validity by assessing discriminant and convergent validity. Discriminant validity was tested by calculating the difference between one model that allowed the correlation between the constructs (with multiple indicators) to be constrained to unity (i.e., perfectly correlated), and another model that allowed the correlations to be free (Anderson & Gerbing, 1988). This was carried out for one pair of constructs at a time. The first model was the constrained model where the correlation parameter was constrained between each pair of constructs to 1.0. The second model was the unconstrained model where the correlation parameter between two constructs was not manipulated (not fixed at 1.00). Afterwards, a  $\chi^2$  difference test on the values obtained for the constrained and unconstrained models was performed (Anderson & Gerbing, 1988). Results indicated a significantly lower  $\chi^2$  value for the unconstrained (free) model, indicating that discriminant validity was achieved (Anderson & Gerbing, 1988). Convergent validity is the overlap between alternative measures that are intended to measure the same construct, but that have different sources of undesired variation (Judd, Smith, & Kidder 1991). Examining the standardized confirmatory factor analysis estimates is one commonly used method to assess convergent validity in structural equation modelling (Marsh & Grayson, 1995). Convergent validity was assessed from the measurement model by determining whether each indicator's estimated pattern coefficient on its posited underlying construct factor was significant (Anderson & Gerbing, 1988). Statistically significant large factor loadings indicate convergent validity. Results indicated that all of the estimated pattern coefficients on their posited underlying construct factors were significant at the 0.05 significance level (i.e., each had a  $t$  value  $> +1.96$ ), indicating that convergent validity was achieved.

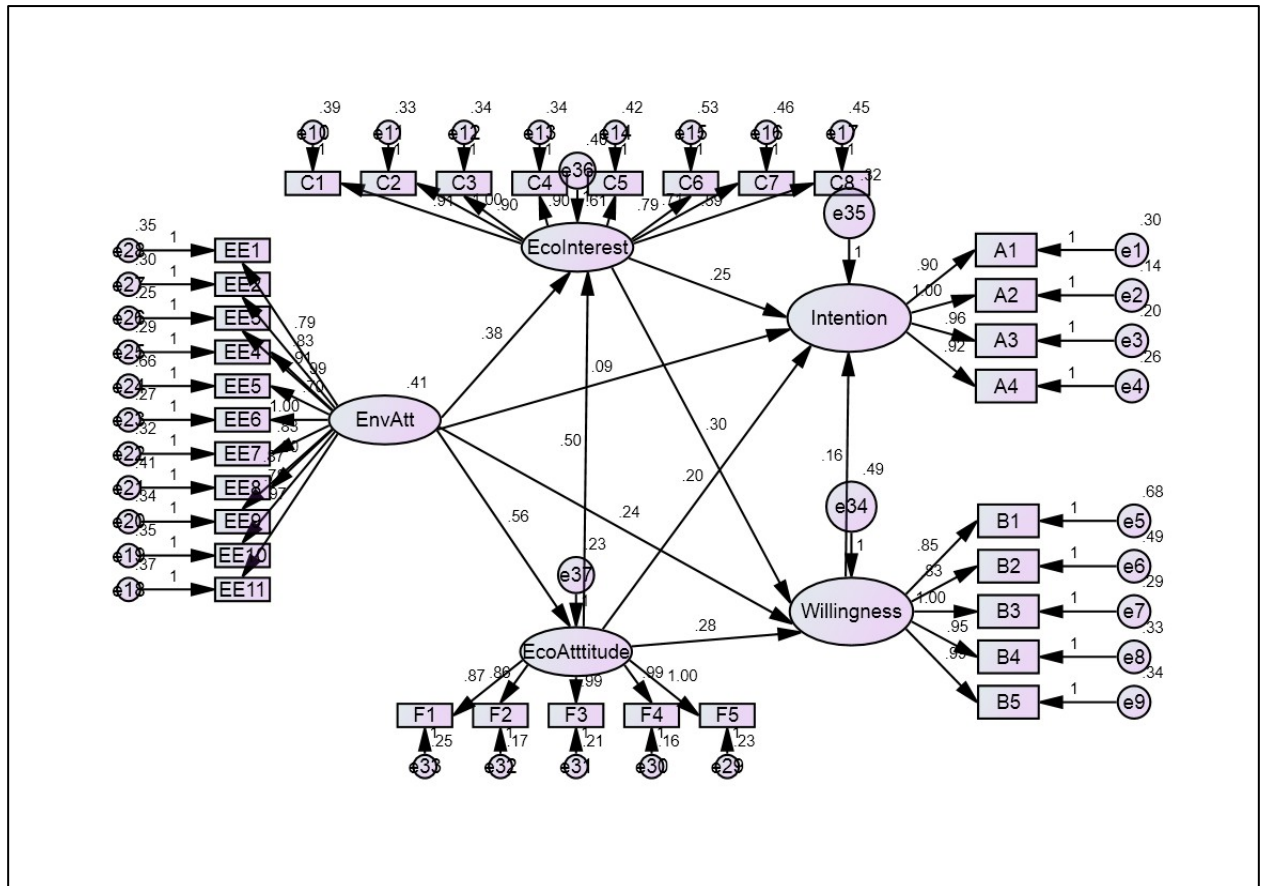


**Table 6 Properties of the Measurement Model**

<b>Variables and Indicators</b>	<b>SL</b>	<b>t-value</b>	<b>AVE</b>
<b>Intention to visit ecotourism sites</b>		0.887	0.664
There is a high likelihood that I will visit an ecotourism site in Mauritius	.754	20.083	
I want to visit an ecotourism site in Mauritius	.881	-	
I intend to visit an ecotourism site in Mauritius	.831	23.238	
I will visit an ecotourism site in Mauritius during my visit	.787	21.431	
<b>Willingness to Pay</b>		0.879	0.595
Go on a more expensive holiday in order to reduce pollution?	.657	15.929	
Financially support ecotourism projects?	.708	17.571	
Pay more for your holiday if you knew the added cost paid for a better environment?	.843		
Pay more for your holiday today in exchange for possibly better tourism experiences in the future?	.813	21.235	
Pay more for ecotourism as opposed to “regular” tourism?	.819	21.418	
<b>Interests in ecotourism activities</b>		0.886	0.496
Wilderness and undisturbed nature	.770	19.222	
Tropic forests and indigenous bush	.818	-	
National parks	.775	19.381	
Lakes and streams	.784	19.704	
Oceanside	.599	14.037	
World heritage status areas	.626	14.786	
Learning about nature	.615	14.459	
Photographing landscape and wildlife	.565	13.108	
<b>Environmental attitude</b>		0.905	0.467
in competition with the natural environment VS in cooperation with the natural environment.	.715	16.794	
detached from the natural environment VS connected to the natural environment.	.644	14.876	
indifferent about the natural environment VS very concerned about the natural environment	.687	16.025	
not at all protective of the natural environment VS very protective of the natural environment	.622	14.307	
superior to the environment VS inferior to the environment	.683	15.922	
not at all passionate toward the environment VS very passionate toward the environment	.775		
not respectful toward the natural environment VS very respectful toward the environment	.480	10.779	
independent of the natural environment VS dependent on the natural environment	.761	18.086	
disinterested in the natural environment VS an advocate of the natural environment	.756	17.956	
wanting to utilize the natural environment VS wanting to preserve the natural environment	.698	16.344	
emotionless thinking about the natural environment VS nostalgic about the natural environment	.647	14.976	
<b>Ecotourism attitudes</b>		0.886	0.610
Not enjoyable VS Very enjoyable	.778	-	
Negative VS positive	.827	19.631	
Boring VS fun	.792	18.677	
Unpleasant VS pleasant	.784	18.458	
Unfavorable VC favorable	.719	16.667	

**Structural Equation Model and Path Relationships**

Given that the confirmatory factor model (measurement model) was both reliable and valid, the structural model was tested (Figure 2). Results indicated that the structural model exhibited good fit to the data as follows: CMIN/DF = 2.20; IFI = 0.94; TLI: 0.93; CFI = 0.94; RMSEA = 0.048.



**Figure 6. The structural model of the study**

Results indicated that nine of the 10 hypotheses proposed were supported. Findings of the path relationships are provided in Table 7 below.

**Table 7 Path Relationships**

Path relationships	Values	Results
Willingness to pay → Intention	.190	Supported
Ecotourism interests → Intention	.289	Supported
Ecotourism attitudes → Intention	.169	Supported
Environmental attitudes → Intention	.081	Rejected
Ecotourism interests → Willingness to pay	.280	Supported
Ecotourism attitudes → Willingness to pay	.199	Supported
Environmental attitudes → Willingness to pay	.180	Supported
Ecotourism attitudes → Ecotourism interests	.377	Supported
Environmental attitudes → Ecotourism interests	.304	Supported
Environmental attitudes → Ecotourism attitudes	.595	Supported

As expected, the above findings reveal that consumers' ecotourism attitude would positively influence ecotourism intention, ecotourism interest, and willingness to pay a premium to participate in ecotourism activities in Mauritius. Such findings are consistent with the theory of reasoned action (Ajzen and Fishbein 1980) which indicates that attitude is an important determinant of behavioral intention, which further predicts the individual behavior. The present study has treated attitudes as individuals' particular feelings (affective) and perceptions (cognitive) towards ecotourism. Thus, similar to the work of Hines, Hungerford and Tomera (1987) consumers' ecotourism intention and interest are considered as the outcome variables, which are positively related by consumers' favorable attitudes toward ecotourism. A vast majority of the literature has also revealed that attitude is the most influential predictor variable of consumers' green consumption behaviour intentions (Hines, Hungerford and Tomera, 1987; Lai & Nepal, 2006; Vaske & Donnelly, 1999). Moreover the study supports the fact that consumers who have a favorable ecotourism attitude are willing to engage themselves in pro-environmental activities. These findings are in line with the work of Hudson and Richie's (2004) and Lu et al., (2014). It is thus reasonable to find that these three constructs are positively influenced by consumers' ecotourism attitude.

On the other hand, the result also indicates that consumers' ecotourism interest will positively predict their intention towards ecotourism. Therefore similar to Blamey (1997) and Juric, Cornwell, and Mather (2002) works, the study also found that tourists will intend to visit ecotourism destinations because of their interest in viewing the wildlife, visiting undisturbed areas and learning about the environment and nature. Therefore, consumers' ecotourism interest is likely to positively increase their intention to participate in ecotourism activities. In addition, Bang et al. (2000) is of the view that consumers who are environment conscious would have a preference for eco-friendly

products and would reward environmentally and socially responsible businesses. In line with the above argument and as justified in the literature, only those who are interested in or motivated towards ecotourism destinations will be willing to pay higher premium to protect the environment. In line with the same logic, willingness to pay a higher premium for eco-products and services directly demonstrates one intention towards participating in ecotourism activities.

The results further show that environmental attitudes have positive influences on ecotourism attitude, ecotourism interest, and willingness to pay a premium for visiting ecotourism places and using eco-tourism products. Such results reflect clearly previous researchers' work on environmental attitude as being one of the roots to ensure continuum of protecting the environment (Lu et al. 2004, Kaiser et al. 1999). Even though Mauritius has long been recognized for its beautifully beach, sand and sun, the study demonstrates a quite high level of interest towards ecotourism activities. Thus respondents believed that ecotourism activities such as ocean side, visiting and photography of wildlife are important. These finding as similar to the study of Zografos and Allcroft (2007) which identified that visitor's interest for a Scottish ecotourism experience was emphasised on biodiversity conservation and low use of exhaustible resources and other activities such as wildlife sightseeing, hill walks and relaxation activities were also envisaged as being important. The study also showed that environmental values individuals promote positive attitude towards the ecotourism (Wanga, 2013). This suggests that an individual is likely to refuse his or her short term economic behaviour conflicting with his or her environmental values (Wang, 2010). The study thus confirms that rising awareness and consciousness about the environment is one of the first and major objectives to promote positive attitude and interest towards ecotourism. Individuals with high environmental values would find ecotourism activities as attractive as it perfectly match their needs and would therefore be more willing to pay a premium for ecotourism products and services. All these could explain why one's environmental attitude would positively influence his or her ecotourism attitude, interest, and willingness to pay more for ecotourism as reported in this study.

Nevertheless, the present study did not find consumers environmental attitudes to positively predict their ecotourism intention. Possible explanations for such findings might be that some of the tourists prioritized their motivation for travel in that although they were environmentally conscious, their intentions were mainly to enjoy the moment, have fun and relax in the most comfortable and luxurious resorts (Perkins and Grace 2009). Furthermore, another possible explanation may reside in the fact that there may exist significant differences in environmental attitudes between appreciative and consumptive tourists (Bjerke et al. 2006).

## **Conclusion**

The aim of the present study is two-fold. Firstly, through a review of the existing regulations and legal frameworks and through discussions with various sector stakeholders,

delineate the various supply side factors hindering the expansion of an eco-tourism sub-sector and propose remedial measures accordingly. Secondly, through the use of the survey method, attempt to delineate the various demand driven factors fostering the behavioural intention of tourists towards eco-tourism. With respect to the second objective and using structured equation modeling, the results show that consumers' ecotourism attitude positively influence ecotourism intention, ecotourism interest, and willingness to pay a premium to participate in ecotourism activities. The results also indicate that consumers' ecotourism interest would positively predict their intention towards ecotourism. Furthermore, consumers' environmental attitudes did not positively predict ecotourism intention. As regards the supply side impediments, discussions with stakeholders reveal that the main constraints to promoting an eco-tourism sub-sector include firstly, lack of finance with respect to the fostering and conservation of eco-sites; lack of a holistic approach for the strategic orientation of the sector; lack of educational and sensitization programmes and the prioritization of return on investment when making investment decisions in the sector; the island's topography is not conducive to fostering eco-tourism; and finally a lack of inter-institutional communication, collaboration and coordination amongst the various tourism stakeholders.

The above clearly points to the need for wholesale changes with respect to the current structure and policy measures presently underpinning the eco-tourism sub-sector. Given the supply side constraints which the sector is facing currently, the following measures and courses of actions are proposed.

- a. There is a clear need for a holistic approach to tourism in Mauritius which would also cater for the requirement of the eco-tourism sub-sector. For instance, with respect to eco-tourism projects, it is crucial that the Ministries overseeing the Tourism and the Environment sectors co-ordinate their actions and combine their expertise, whilst clearly delineating each Ministry's role to avoid any duplication of initiatives and to ensure policy coherence. In addition, such a plan should foster a participatory approach which would include all stakeholders including the private sector and the local community. As such, during the implementation of eco projects, a comprehensive strategy need to be conceived and this should cover the entire range of necessary ecotourism aspects from participatory planning and product development to marketing and monitoring.
- b. Closely related to the importance of integrating the local community in any eco-tourism project formulation and design is the need to educate all the tourism stakeholders as to the importance of fostering the long-term sustainability of tourism as a core product. This calls for the sensitization of all parties through educational programmes, frequent discussions and sensitization campaign which can only serve to bolster a change in mindset from one which is overtly favouring return on investment to one which also considers the element of sustainability. Additionally, training programmes should become a major component of any ecotourism project with local communities, NGOs and protected areas agencies being the



main target groups.

- c. Similarly, there needs to be a greater synergy with the private sector and foster private public partnerships between private companies on the one hand and the government, local communities and NGOs on the other. This is particularly important for generating the required funding for developing new and maintain existing eco sites and to ensure proper monitoring. This is even more crucial in view of the ever contracting budgetary allocation being given to these types of projects. One should remember that the Tourism Fund no longer exists and finding alternative sources of funding is crucial. In this regard, the setting up of Foundations using CSR funds and private sponsorships may prove useful. Additionally, Government should be able to take bold measures with respect to charging entrance fees to eco-sites as is the case presently for the SSR Botanical Garden. For instance, charging fees for accessing Albion Beach which has been earmarked for Blue Flag Status may be the only way forward to ensure sustainability of same. Nonetheless, one should not underscore the interplay between the strategies proposed thus far. As an example, to ensure the availing of funds, it is crucial that there is a change in mindset amongst the various stakeholders including the private sector which can only be achieved through educational programmes and through their integration at the onset in the design and implementation of any eco-tourism projects.
- d. Certification has a central role to play in promoting environmental and sustainability performance and satisfying consumer demand for responsible travelling. Initiatives such as Blue Flag, Fair Trade and Green Globe certifications should be reinforced and tourism enterprises need to continually sensitized as to the benefits thereto especially in view of the predicaments linked to environmental degradation and non-sustainability of the island's current tourism trend. In this regard, there is a need for policies geared at incentivizing hotels and other tourism businesses to become more sustainable. Comprehensive tourism development strategies need to be developed in partnership with the community and other industry stakeholders including tour operators. To that end, incentives may help leverage sustainability initiatives in resorts to develop niche travel products which may allow local communities preserve their cultural heritage whilst at the same time potentially increasing market share and profitability.
- e. Discussions with stakeholders also revealed the absence of any branding exercise with respect to the island offering opportunities for eco-tourism experience. Branding of same is critical for informing prospective visitors and for meeting their expectations once they arrive. In this regard, the relevant authorities need to embark on a branding and marketing exercise of its ecotourism opportunities. One should not forget that the island does possess some unique selling points which include amongst others the Dodo, its mixed cultural heritage and its natural parks. To

that end, delivering a single brand message for the entire island is fundamental in creating communication efficiencies, solidifying a good target market and enhancing overall visitor expectations; in a nutshell, developing a branding message that introduces and entices visitors and authenticates the Mauritian Brand.

## References

- Adetola, B.O., and Adediran, O.R.,(2014), "Attitudes of local residents towards sustainable ecotourism development in Olumirin Waterfall Southwestern Nigeria", Department of Ecotourism and Wildlife Management, Federal University of Technology, Akure; *Ethiopian Journal of Environmental Studies and Management*, 7(5): 561-571.
- Ahmed, N., (2015), " Trade in services: Bangladesh context. Multi-year expert meeting on trade, services and development", Geneva, 11–13 May 2015. UNCTAD.
- Aipanjiguly, S., Jacobson, S. K., & Flamm, R.,(2003), "Conserving manatees: knowledge, attitudes, and intentions of boaters in Tampa Bay", Florida, *Conservation Biology*, 17(4), 1098-1105.
- Ajzen I., (1991), "The theory of planned behavior", *Organizational Behavior and Human Decision Processes*, 50, 179-211.
- Ajzen, I. & Fishbein, M.,(1980), "Understanding attitudes and predicting social behavior",  
*Englewood Cliffs, N.J.*, Prentice hall.
- Ajzen, I., & Fishbein, M.,(2000), "Attitudes and the attitude–behavior relation: Reasoned and automatic processes. In W. Stroebe & M. Hewstone (Eds.)", *European Review of Social Psychology*, Vol. 11, pp. 1–33.
- Anderson, J.C. and Gerbing D.W.,(1988), "Structural Equation Modelling in Practice: A Review and Recommended Two - Step Approach", *Psychological Bulletin*, 103, 411- 423.
- Ayala, H.,(1996), "Resort ecotourism: a paradigm for the 21st century", *Cornell Hotel and Restaurant Administration Quarterly*, 37, 46–53. Beachcomber,(2009), Annual Report.
- Bigné, E., Sánchez, M.I. & Sánchez, J.,(2001), "Tourism image, evaluation variables and after purchase behaviour: inter-relationship", *Tourism Management*, 22, 607-616.
- Bjerke T., Thrane C, Kleiven J.,(2006), "Outdoor recreation interests and environmental attitudes in Norway", *Managing Leisure*, 11, 116-128.
- Bjork, P., (2000), "Ecotourism from a Conceptual Perspective, an Extended Definition of a Unique Tourism Form", *International Journal of Tourism Research*, 2 (3): 189-202.
- Blamey, R., (1997), "Ecotourism: the search for an operational definition", *Journal of*

*Sustainable Tourism*, 5, 109–130.

Blamey, R.K., & Braithwaite, V.A., (1997), "A social values segmentation of the potential ecotourism market", *Journal of Sustainable Tourism*, 5(1), 29-45.

Braithwaite, V.A. and Law, H.G., (1985), "Structure of human values: Testing the adequacy of the Rockeach Value Survey", *Journal of Personality and Social Psychology* 49, 250– 63.

Buckley, R., (2004), "Ecotourism land tenure and enterprise ownership: Australian case study", *Journal of Ecotourism*, 3, 208-213.

Buckley, R.,(2004), "Environmental Impacts of Ecotourism", *CABI Publishing*, Wallingford.  
Ceballos-Lascuráin, H.,(1996), "Tourism, ecotourism, and protected areas: The state of nature-based tourism around the world and guidelines for its development", Switzerland: IUCN.

Chang, C., (2011), "Feeling ambivalent about going green – Implication for Green Advertising Processing", *Journal of Advertising*, Winter 2011.Vol. 40, Iss 4 pp 19-31.

Chon K.S., Pizam A., Mansfeld Y.,(2000), "Consumer Behavior in Travel and Tourism".

Davis, P.B., (1999), "Beyond guidelines: a model for Antarctic tourism", *Annals of tourism research*, 26(3):516-533, July.

De Vicente J., (2004), "Demand for certification: Tourist industry and marketing experts. Center on Ecotourism and Sustainable Development". The International Ecotourism Society.

De Witt, L., Merwe, P., Saayman, M.,(2011), "An ecotourism model for South African National Parks", – International conference on tourism & management studies – Algarve 2011.

Diamantis, D., (1998), "Environmental Auditing: A Tool in Ecotourism Development." *Eco- Management and Auditing*, 5 (1): 15-21.

Dickey, A. & Higham, J., (2005), "A spatial analysis of commercial ecotourism businesses in New Zealand: a c 1999 benchmarking exercise using GIS", *Tourism Geographies*, 7, 373-388.

Dodds, R. & Joppe, M., (2003), "The application of ecotourism to urban environments", *Tourism*, 51, 157-164.

Dunlap, R. E., Van Liere, K. D., Mertig, A. G., and Jones, R. E.,(2000), "New Trends in Measuring Environmental Attitudes: Measuring Endorsement of the New Ecological Paradigm: A Revised NEP Scale", *Journal of Social Issues*, 56 (3): 425-42.

Dunlap, R.E. & Van Liere, K.D.,(1978), "The 'new environmental paradigm': A

proposed measuring instrument and preliminary results", *Journal of Environmental Education*, 9(4), 10-19.

Eagly A.H. and Chaiken, S., (1993), "The psychology of attitudes", Orlando, Florida: HBJ College Publishers.

Edgall, D. L., (2006), "Managing sustainable tourism: a legacy for the future", Haworth Press, New York.

Edwards, J. G., Davies, B., and Hussain, S. S.,(2009), "Ecological Economics: An Introduction", New York: John Wiley.

Fairweather, J.R., Maslin, C. & Simmons, D.G.,(2005), "Environmental values and response to eco-labels among international visitors to New Zealand", *Journal of sustainable tourism*, 13(1):82-98.

Fennell, D. A., (2002), "Ecotourism Programme Planning", Wallingford, UK: CABI.

Freedman, A.J., (1995), "Ecotopia, National Review", Vol. 47, 11 December, p. 38.

Hall, C. M., (1992), "Ecotourism: The Global Classroom", *Journal of Travel and Tourism Marketing*, 1 (2): 79-82.

Hawkins, D., (2004), "A protected areas ecotourism competitive cluster approach to catalyse biodiversity conservation and economic growth in Bulgaria", *Journal of Sustainable Tourism*, 12, 219-244.

Hayombe, P.O, Agong G.S, Maria. N, Mossberg.L, Malbert. B & Odede. F.,(2012), "Upscaling ecotourism in Kisumu city and its environs: Local community perspective", *International Journal of Business and Social Research (IJBSR)*, Volume -2, No-7, December 2012.

Higham, J. & Lück, M.,(2002), "Urban ecotourism: a contradiction in terms?", *Journal of Ecotourism*, 1, 36-51.

Higham, J.E.S., Carr, A. and Gale, S., (2004), "Ecotourism in New Zealand: Profiling Visitors to New Zealand Ecotourism Operations", Dunedin: University of Otago.

Hines, J. M., Hungerford H. R., and Tomera, A. N., (1987), "Analysis and Synthesis of Research on Responsible Environmental Behavior: A Meta-Analysis," *Journal of Environmental Education*, 18 (2): 1-8.

Holden, A., and Sparrowhawk, J., (2002), "Understanding the Motivations of Ecotourists: The Case of Trekkers in Annapurna, Nepal", *International Journal of Tourism Research*, 4 (6): 435- 46.

Honey, M., (2008), "Ecotourism and sustainable development: who owns paradise?", 2nd ed., Island Press, Washington.

- Hu, L., & Bentler, P., (1995), "Evaluating model fit. In R. H. Hoyle (Ed.), *Structural equation modelling. Concepts, issues, and applications* (pp. 76–99). London: Sage.
- Hudson S, Ritchie J R B., (2001), "Cross-cultural tourism behavior: An analysis of tourist attitudes towards the environment", *Journal of Travel & Tourism Marketing*, 10(1), 1- 22.
- Jefferson, A., (1995), "Prospects for Tourism—A Practitioner’s View”, *Tourism Management*, 16 (2): 101-5.
- Jenkins, R-G.,(2014), "Agriculture and Tourism Development: The Case of St Kitts", Masters in Environmental Studies, University of Waterloo, Canada.
- Judd, C. M, Smith, E. R., & Kidder, L. H.,(1991), "Research methods in social relations", (6th ed.) Holt, Rinehart and Winston, Inc. Chapter 1.
- Juric, B., Cornwell, T.B., & Mather, D.,(2002), "Exploring the usefulness of an Ecotourism Interest scale", *Journal of Travel Research*, 40, 259-269.
- Kaiser F G, Wolfing S., Fuhrer U.,(1999), "Environmental attitude and ecological behavior",  
*Journal of Environmental Psychology*, 19, 1-19.
- Kasim, A., Gursoy, D., Okumus, F., and Wong, A.,(2014), "The Importance of Water Management in Hotels: A Framework for Sustainability through Innovation”, *Journal of Sustainable Tourism*, 1:1-18.
- Kettuen, M., and Brink, P.T.,(2012), " Nature, green economy and sustainable development: the outcome of UN Rio+20 conference on sustainable development", *Nature Conservation*, 2, p.1-6.
- Khadaroo, J. and Seetanah, B., (2007), "Transport Infrastructure and Tourism Development”,  
*Annals of Tourism Research*, Vol. 34, No. 4, pp. 1021–1032.
- Lai, P. H., & Nepal, S. K., (2006), "Local perspectives of ecotourism development in Tawushan Nature Reserve Taiwan", *Tourism Management*, 27(6), 1117-1129.
- Lam, T., Hsu, C.H.C., (2006), "Predicting behavioral intention of choosing a travel destination",  
*Tourism Management*, 27 (4), 589-599
- Laroche, M, Bergeron, J, & Barbero-Forleo, G., (2001), "Targeting Consumers Who are willing to Pay More for Environmentally Friendly Products", *Journal of Consumer marketing*, 18(6), 503-520.

- Lawton, L. & Weaver, D., (2001), Ecotourism in modified spaces. In D. Weaver Encyclopedia of Ecotourism (pp. 315-326). Wallingford, UK: CAB International
- Lee W. H., Moscardo G., (2005), "Understanding the Impact of Ecotourism Resort Experiences on Tourists' Environmental Attitudes and Behavioral Intentions", *Journal of Sustainable Tourism*, 13, 546-566.
- Liu, C.H, Hong, C.Y, Li J. F., (2013), "The determinants of ecotourism behavioral intentions", *Global Journal of Business Research*, 7(4).
- Lu, A. C.C., Gursoy, D., and Chiappa, G.D., (2014), "The influence of materialism on ecotourism attitudes and behaviours", *Journal of Travel Research*.
- Lück, M., (2000), "Ecotourism in natural settings: A view into value systems and on-site experiences of visitors to New Zealand eco-attractions, sites and tours In Ladkin (ed.) Research into consumer behaviour and value systems of ecotourists; tourists choice, behaviour, motivations, and attachments; visitors to nature based destinations; adventure tourism and channel relationships in the tourism industry", *International Journal of Tourism Research* 2, 211–28.
- Lück, M., (2003), "The New Environmental Paradigm: Is the Scale of Dunlap and Van Liere Applicable in a Tourism Context?" *Tourism Geographies*, 5 (2): 228-40.
- Luo, Y. and Deng, J., (2008), "The New Environmental Paradigm and Nature-Based Tourism Motivation", *Journal of Travel Research*, 46(4): 392-401.
- Mackoy, R. & Osland, G., (2004), "Lodge selection and satisfaction: attributes valued by ecotourists", *Journal of Tourism Studies*, 15, 13-25.
- Mao, N., Grunfeld, H., DeLacy, T. & Chandler, D., (2014), "Agriculture and Tourism Linkage Constraints in the Siem Reap-Angkor region of Cambodia", *Tourism Geographies*, doi.org/10.1080.14616688.2014.915878.
- Marsh, H. W., & Grayson, D., (1995), "Latent variable models of multitrait-multimethod data. In R. Hoyle (Ed.), *Structural equation modelling: Concepts, issues and applications* (pp. 177–198). Thousand Oaks, CA: Sage.
- Meyer, D., (2007), "Pro-poor Tourism: From Leakages to Linkages: A Conceptual Framework for Creating Linkages Between the Accommodation Sector and Poor Neighbouring Communities", *Current Issues in Tourism*, 10, 558-583.
- Mountiho, L., (1993), "Consumer Behaviour in Tourism", *European Journal of Marketing*, 21 (10), 5-44.
- Nunkoo, R., & Gursoy, D., (2012), "Residents' support for tourism: An Identity perspective",

Annals of Tourism Research, 39(1), 243-268.

Nunkoo, R., & Ramkissoon, H., (2012), "Power, trust, social exchange and community support", *Annals of Tourism Research*, 39(2), 997–1023.

Osland, G. & Mackoy, R., (2004), "Ecotourism performance goals and evaluation", *Journal of Ecotourism*, 3, 109-128.

Parasuraman, A., Zeithaml, V., and Berry, L., (1985), "A conceptual model of service quality and its implications for future research", *Journal of Marketing*, 41-50.

Pattarin, F., and Cosma, S., (2012), "Psychological determinants of consumer credit: the role of attitudes", *Review of Behavioural Finance*, Vol. 4 Issue: 2, pp.113 - 129

Perkins, H., & Grace, D.A., (2009), "Ecotourism: Supply of nature or tourist demand?", *Journal of Ecotourism*, 8(3), 223-236.

Peterson, C., (1988), "Explanatory style as a risk factor for illness", *Cognitive Therapy and Research*, 12, 117-130.

Pipinos, G., and Fokiali. P., (2009), "An Assessment of the Attitudes of the Inhabitants of Northern Karpathos, Greece: Towards a Framework for Ecotourism Development in Environmentally Sensitive Areas", *Environment, Development and Sustainability*, 11 (3): 655-75.;

Pirani, E. and Secondi, L.,(2011), "Eco-Friendly Attitudes: What European Citizens Say and What They Do", *Int. Journal of Environ. Res.*, N0 5, ISSN 1735-6865, pp.67- 84

Pope, (2005), "A Study of the Nature-Based Tourism Supply Side in Zambia", *Whydah Consulting Ltd*, Development and Natural Resource Consultants.

Poupinéau, S. and Pouzadoux, C.,(2013), "Internal and external factors that influence the ecotourists: A study on green consumer behaviour, applied to ecotourism", Halmstad University School of Business and Engineering.

Qi, Q., Zhang, J. And Yang, Y., "An Analysis of the Relationship between Environmental Attitudes and Behavior Intention of Tourists in Natural Heritage Sites: A Case Study of Tourists in Jiuzhaigou National Park".

Redclift, M.R.,(2006), "Sustainable development (1987-2005)-An Oxymoron comes of age", King's College, London, *Horizontes Antropológicos*, Porto Alegre, ano 12, n.25, p.65-84.

Rogerson, C.M., (2012), "Tourism-Agriculture Linkages in Rural South Africa: Evidence from the Accommodation Sector", *Journal of Sustainable Tourism*, 20, 477-495.

Rogerson, Jayne M., (2014), "Maximising the local development potential of Nature Tourism accommodation establishments in South Africa", *African Journal of Hospitality*,

Tourism and Leisure Vol. 3 (1) - (2014) ISSN: 2223-814X.

Sannasee, R. V., and Seetanah, B., (2014), "The Influence of Trust on Repeat Tourism: The Mauritian Case Study", *Journal of Hospitality Marketing & Management* 140819121514009.

Schwartz, J.,(1990),“Earth Day Today”, *American Demographics*, 12 (4): 40-41.

Seetanah, B. and Khadaroo, J., (2008), "Transport Infrastructure and Tourism Development",

*Annals of Tourism Research*, 34(4): 1021-1032

Seetanah, B., & Sannasee, R. V., (2014), "Marketing promotion financing and tourism development: The case of Mauritius", *Journal of Hospitality Marketing & Management*. <http://dx.doi.org/10.1080/19368623.2014.914359>.

Shieh, W.L., Lin, W.L., Ho, Y.C., and Wang, W.B., (2012), "The Application of Moderated Hierarchical Regression to The Pond", *Advances in information Sciences and Service Sciences (AISS)*, 4(19).

Silva, G. & McDill, M., (2004), "Barriers to ecotourism supplier success: a comparison of agency and business perspectives", *Journal of Sustainable Tourism*, 12, 289-305.

Sinclair, M.T., (1998), "Tourism and Economic Development: A Survey", *The Journal of Development Studies*, 34, pp.1-51.

Sirakaya, E. & Woodside, A.G.,(2005), "Building and testing theories of decision making by travellers", *Tourism Management*, 26, 815-832.

Smeral, E., (1998), "The impact of globalization on small and medium enterprises: new challenges for tourism policies in European countries", *Tourism management*, 19 (4): 371-380.

Solomon M., Bamossy G., Askegaard S., Hogg M.,(2006), "Consumer Behaviour: A European Perspective", 3rd ed. Harlow: Prentice Hall.

Speer, T. L., (1997), “Growing the Green Market”, *American Demographics*, 19:45-50.

Tikka, P. M., Kuitunen, M. T., & Tynys, S. M., (2000), "Effects of educational background".

Torres, R. & Momsen, J., (2004), "Challenges and Potential for Linking Tourism and Agriculture to Achieve Pro-poor Tourism Objectives", *Progress in Development Studies*, 4, 294-318.

United Nations (1994), "Report of the Global conference on the Sustainable Development of SIDS", Bridgetown, Barbados, UN General Assembly, p.1-77.

United Nations (2005), "Mauritius Strategy for the further implementation of the



programme of action for sustainable development of SIDS", General Assembly, UN, p.1-22.

United Nations (2007), "Framing Sustainable development: The Brundtland Report-20 years on", United Nations Commission on Sustainable Development, Background, p.1-2.

United Nations Climate Conference Copenhagen, (2010), event Sustainability Report", Copenhagen Sustainable meetings coalition, p.1-76.

United Nations (2010), "Sustainable Development: from Brundtland to Rio 2012," Background paper, International Institute for Sustainable Development, New York, p.1-26.

United Nations Environment Programme and World Tourism Organization (2012), "*Tourism in the Green. Economy – Background Report*", UNWTO, Madrid.

UNWTO and UNEP (2002), "Final Report", World Ecotourism Summit, UNWTO and UNEP, p.2-137.

Uysal, M., Jurovski, C., Noe, F.P. and McDonald, C.D.,(1994), "Environmental attitude by trip and visitor characteristics – US Virgin Islands National Park", *Tourism Management* 15 (4), 284–94.

Vaske, J. J., & Donnelly, M. P.,(1999), "A value-attitude-behavior model predicting wild land preservation voting intentions", *Society & Natural Resources*, 12(6).

Wang X., (2010), "Critical Aspects of Sustainable Development in Tourism: Advanced Ecotourism Education", *Journal of Sustainable Development*. Vol. 3, No. 2; June 2010.

Wang, Y. & Pfister, R.E.,(2008), 'Resident's attitudes toward tourism and perceived personal benefits in a rural community', *Journal of Travel Research* 47(1), 84– 93. <http://dx.doi.org/10.1177/0047287507312402>

Wanga, J.O., Hayombe,P.O; Odunga,P.O., Fredrick Z.A. Odede, F. Z. A.,(2013), "The Nexus between environmental knowledge and ecotourism attitude among the local youths in Co-educational Secondary Schools in Bondo Sub-County, Siaya County, Kenya", *International Journal of Business and Social Research (IJBSR)*, Volume -3, No.-7.

Waylen, K.A., McGowan, P.J.K., Pawi Study Group & Milner-Gulland, E.J.,(2009), "Ecotourism positively affects awareness and attitudes but not conservation behaviours: A case study at Grand Riviere, Trinidad", *Oryx* 43(3), 343– 351. <http://dx.doi.org/10.1017/S0030605309000064>

Weaver, D. & Lawton, L., (2002), "Overnight ecotourist market segmentation in the Gold Coast hinterland of Australia", *Journal of Travel Research*, 40, 270-280.

Weaver, D. B., & Lawton, L. J., (2007), "Twenty years on: the state of contemporary ecotourism research", *Tourism Management*, 28(5), 1168-1179.

Weaver, D. B., Lawton, L.J., "Twenty years on: The State of Contemporary Ecotourism Research", School of Hotel, Restaurant and Tourism Management, University of South Carolina, Columbia, Sc 29208, USAS.

Weaver, D., (2005), "Mass and urban ecotourism: new manifestations of an old concept",

Tourism Recreation Research, 30, 19-26.

Weaver, D.B., (2001), "Ecotourism as mass tourism: Contradiction or reality?" *Cornell Hotel Restaurant Administrative Quarterly*, Vol. 42, No. 2, pp. 104-113.

Weaver, D.B., (2011), "Organic, incremental and induced paths to sustainable mass tourism convergence: Department of Tourism, Leisure, Hotel and Sport Management", Griffith University, Gold Coast Campus, Southport, Queensland 4222, Australia.

Wight, P., (1996), "North American ecotourism market: motivations, preferences, and destinations," *Journal of Travel Research*, Vol. 35, No. Summer, pp. 3-10.

Wood, M. E., (2002), "Ecotourism: Principles, Practices and Policies for Sustainability, Paris: UN Environmental Programme.

World Trade Organization (2010), "Trade Policy Review Report by MALAWI", WT/TPR/G/231 5 May 2010.

Worldwide, R. S., (1997), "Green Gauge Report", New York.

Young, W., Hwang, K., McDonald, S., & Oates, C.J., (2009), "Sustainable Consumption: Green Consumer Behaviour when Purchasing Products", Wiley Inter Science, 18(1), 21-31.

Zhang H & Lei, L.S.,(2012), "A structural model of residents' intention to participate in ecotourism: The case of a wetland community".

Zografos, C., & Allcroft, D., (2007), "The environmental values of potential ecotourists: A segmentation study", *Journal of Sustainable Tourism*, 15(1), 44-66.

---

**Making hotel guests voluntarily waive daily room cleaning.****Sara Dolnicar; Ljubica Knezevic Cvelbar and Bettina Grun***The University of Queensland, Australia, [s.dolnicar@uq.edu.au](mailto:s.dolnicar@uq.edu.au)**The University of Ljubljana, Slovenia, [Ljubica.knezevic@ef.uni-lj.si](mailto:Ljubica.knezevic@ef.uni-lj.si)**Johannes Kepler Universität Linz, Austria, [Bettina.Gruen@jku.at](mailto:Bettina.Gruen@jku.at)*

**Acknowledgement:** We are grateful to the Australian Research Council (ARC) for supporting this research through salary funding under the Discover Scheme project DP110101347 and The University of Queensland for support under the Vice-Chancellor's Research Focused Fellowship Program. We thank Alexander Chapple for his assistance with literature searches and Anze Cokl, the General Manager of Bohinj Park Eco Hotel, for his active involvement in the implementation of this project.

**Key words:** Sustainable tourism; Environment; Climate change; Room cleaning; Experiment; Hotel

**Introduction**

Tourism is the fourth largest economic contributor globally and outperforms the growth of the world economy (United Nations World Tourism Organisation (UNWTO), 2013). But tourism growth comes at a cost. Not surprisingly, therefore, tourism is the fifth largest polluting industry (UNWTO and UNEP, 2008). Governments could impose regulations to ensure environmental sustainability of their tourism industry. However, the potential of limiting tourism revenue through such regulations acts as a strong disincentive. Businesses operating in the tourism industry could also self-regulate to ensure the implementation of environmentally sustainable practices. Yet, the cost typically associated with making tourism businesses more environmentally friendly acts as a substantial disincentive to the adoption of environmentally sustainable operations (Berry & Ladkin, 1997; Knowles, Macmillan, Palmer, Grabowski & Hashimoto, 1999). Given the reluctance of governments and tourism businesses to adopt environmentally sustainable practices, alternative approaches need to be identified, tested and – if shown to be promising – pursued. One such alternative approach is to induce voluntary behavioural change in tourists. But changing human behaviour – while theoretically attractive – “is an ongoing challenge in psychology, economics, and consumer

behaviour research” (Baca-Motes, Brown, Gneezy, Keenan & Nelson, 2013, p. 1070). In fact, many decades of research into sustainable tourism have produced only few tangible measures proven to increase the environmental sustainability of tourist behaviour. This is despite the fact that – in the home context – a range of interventions have been shown to be effective in changing behaviours (e.g. Kua & Wong, 2012; Schultz, 1999).

The present study we are applying existing psychological theories in order to: (1) study voluntary opting out of daily room cleaning, (2) use an experimental research design which permits causal conclusions to be drawn, (3) use objective measures to assess the effectiveness of interventions, (4) the interventions we develop are informed by a number of theories of human behaviour, and (5) interventions are designed in a way to minimize sacrifice on the part of the tourists as well as cost on the side of the hotel.

## **Methodology**

The experiment was conducted in the four star rated Bohinj Park Eco Hotel in Slovenia. Bohinj Park Eco Hotel has 96 rooms and hosted 8814 tourists in 2014.

Hotel guests were invited – in different ways – to voluntarily opt out of the daily room clean. Three alternative approaches of inviting hotel guests to do so were tested. The first approach (EG1) was based on Equity Theory and offered hotel guests a reward for opting out of the hotel clean. Specifically, for each voluntary opt out each adult in the room was given a voucher for a free drink at the hotel bar. The information provided to guests was designed specifically to emphasize the balance of giving and taking: the hotel guest would help the hotel to save costs by opting out of a daily clean.

The second approach (EG2) was informed by Stern’s Value-Belief-Norm Theory of Environmentalism as well as Attribution Theory and used awareness of consequences and ascription of responsibility as levers to invite hotel guests to voluntarily opt out of daily room cleaning. In so doing hotel guests were also directed to accept that they are in control of the behaviour and that therefore internal attribution was appropriate.

The third approach (EG3) combined the other two approaches.

Data was collected over a period of 28 days (3rd of August – 23rd of August 2015). It was necessary to implement the experimental conditions sequentially. Each condition started on a Monday and finished on a Sunday. Guests were exposed to only one experimental condition during their stay. July and August is the peak summer tourist season in Slovenia. The experiment was specifically conducted during this time to ensure that the guest composition would not vary across experimental conditions. Despite the best attempt to randomize the hotel guests captured, the comparison of the groups of guests in the different experimental conditions indicated that there was some non-random variation in socio-demographics. As a consequence socio-demographics had to be included as control variables in the analysis.

## **Discussion and Conclusions**

Equity Theory based interventions, which emphasize the balanced relationship of the guest and the hotel in terms of their costs and benefits, prove to induce a substantial behavioural change in hotel guests in terms of voluntarily waiving their daily room cleaning service. In this experimental condition, a 42 percent reduction of hotel cleans that would have normally occurred before the guest departs was achieved. Every time a room is cleaned in the four-star hotel in which the study was conducted 1.5 kWh of electricity is used, 35 litres of water and 100 ml of chemicals. Adopting the intervention widely therefore has substantial potential to contribute to a reduction of the environmental mental harm caused by tourism.

The two experimental conditions based on Equity Theory were also found to outperform the interventions based on Stern's Value-Belief-Norm Theory of Environmentalism and Attribution Theory. This is an important finding because, currently, most hotels internationally rely on constructs key to the latter two theories – awareness of consequences and ascription of responsibility – when trying to modify guest behaviour to be more environmentally friendly. This is not explicitly published, but it is clear that stickers and signs in hotel rooms target those beliefs. Results from the present study suggest that this may not be the optimal approach to take. Rather, signalling equity or fairness in the economic relationship between the hotel and hotel guests represents the more promising strategy. Even adding awareness of consequences and ascription of responsibility to the economic equity conditions does not, as expected, further increase uptake of the offer.

This study demonstrates that taking small steps in changing tourist behaviour can be an effective strategy in the process of climate change mitigation in the tourism industry.

## References

- Baca-Motes, K. Brown A., Gneezy, A., Keenan, E.A & Nelson, L.D. (2013). Commitment and behaviour change: Evidence from the field. *Journal of Consumer Research*, 39(5), 1070-1084.
- Berry, S. & Ladkin, A. (1997) Sustainable Tourism: A Regional Perspective. *Tourism Management*, 18(7), 433-440.
- Knowles, T., Macmillan, S., Palmer, J., Grabowski, P. & Hashimoto, A. (1999). The Development of Environmental Initiatives in Tourism: Responses from the London Hotel Sector. *Int. J. Tourism Res.*, 1, 255-265.
- Kua, H.W. & S. E. Wong, (2012). Lessons for integrated household energy conservation policies from an intervention study in Singapore. *Energy Policy*, 47(0), 49-56.
- Miller, G. (2003). Consumerism in sustainable tourism: a survey of UK consumers. *Journal of Sustainable Tourism*, 11(1), 17–39.
- UNWTO and UNEP. (2008). *Climate change and tourism: Responding to global challenges*. Madrid: UNWTO.

UNWTO. (2013). UNWTO tourism highlights, 2013 Edition. Madrid: UNWTO.

---

**Session 4: Theoretical and Methodological Approaches for Researching Sustainable Tourism**

Theoretical and methodological approaches for researching sustainable tourism

Understanding tourism impacts

---

## **Investigating the relationship between FDI and Tourism development for the case of Mauritius.**

**Sheereen Fauzel and Boopen Seetanah**

*University of Mauritius, Mauritius, [s.fauzel@uom.ac.mu](mailto:s.fauzel@uom.ac.mu),*

*University of Mauritius, Mauritius, [b.seetanah@uom.ac.mu](mailto:b.seetanah@uom.ac.mu)*

### **Abstract**

This paper employs a dynamic time series econometrics framework, namely a vector error correction model (VECM), to investigate the link between foreign direct investment (FDI) and tourist arrivals in Mauritius for the period 1980-2015. The results confirm that FDI has been an important ingredient in the Mauritian tourism development in the long run. Analysis of the short run results shows that FDI continues to influence tourist arrivals but a relatively smaller impact is observed. Interestingly, a uni directional causality flowing from FDI to tourism development is validated while a bi causal and reinforcing relationship was obtained between FDI and economic growth in the short run. Lastly, an indirect effect of FDI on tourism development in the short run via the economic growth channel was found.

Full paper submitted.



---

## **Product innovation in route-based tourism: Interactive design of hiking routes as a driver for sustainable tourism**

**Anna Scuttari, Isidoro De Bortoli; Harald Pechlaner and Hannes Riegler**

*Institute for Regional Development, Eurac Research, Italy, [anna.scuttari@eurac.edu](mailto:anna.scuttari@eurac.edu)*

*Institute for Regional Development, Eurac Research, Italy, [isidoro.debortoli@eurac.edu](mailto:isidoro.debortoli@eurac.edu)*

*Institute for Regional Development, Eurac Research, Italy, [harald.pechlaner@eurac.edu](mailto:harald.pechlaner@eurac.edu)*

*Athesia Druck Srl – Sentres, Italy, [hannes.riegler@sentres.com](mailto:hannes.riegler@sentres.com)*

**Key words:** route tourism, product innovation, hiking tourism, sustainable development, Via Transalpina

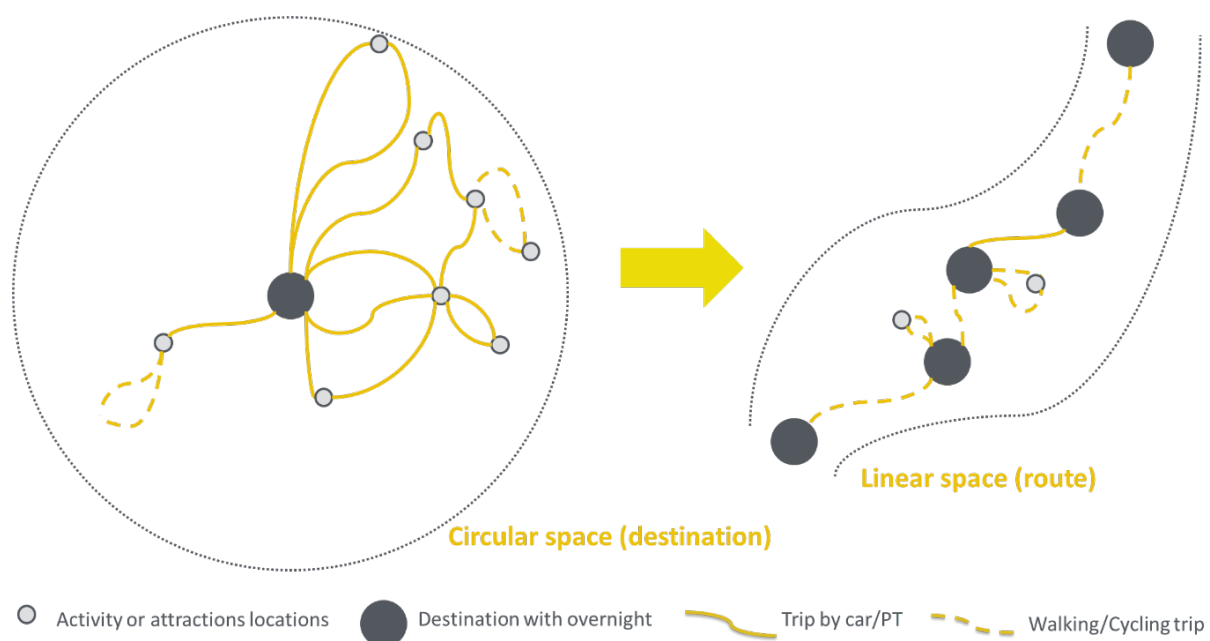
### **Abstract**

Route-based tourism on walking, hiking and cycling routes is experiencing resurgence throughout the world (Collins-Kreiner, 2010) and can be a driver of sustainable development, particularly for remote areas (Briedenhann & Wickens, 2004; UNWTO, 2015). This type of tourism is fostering sustainability for at least two main reasons: a) it is rooted in low-impacting tourism and transport practices (cycling, hiking) and b) it stimulates cooperation across regional economies, at transregional and transnational level. Nevertheless, successfully managing this type of tourism requires innovative approaches related to the nature of the tourism experience and to tourists' patterns of movement across space.

The renaissance of route based tourism is partly responding to the emerging individualism in society (Briedenhann & Wickens, 2004) and partly providing answers to the need for “*inner experiences*” (Colling-Kreiner, 2010) and spirituality while on holiday. In fact, long-haul routes are individual, dynamic, multi-sensory, challenging experiences (Briedenhann & Wickens, 2004; Jensen, Scarles & Cohen, 2015) where physical efforts are combined with spiritual (religious and non-religious) inner experiences. Rhythm, temperatures, encounters and scapes play a role in creating these experiences, and places are discovered just for the short moment they are crossed (Hugo, 1999; Murray & Graham, 1997). A unique aspect of route tourism is the resulting *individual learning experience* within a metaphorical “person-environment system” along the route (Hugo, 1999; Murray & Graham, 1997).

Besides and connected to this individual perspective, a second unique feature of route tourism is the *importance of displacement in space*. Indeed, in route tourism mobility counts as much as destinations do and this has several implications in terms of management. Tourists on

routes visit different destinations in one single journey and conversely destinations host different tourists for just one night. Patterns of movement of tourists therefore shape new “linear destinations” (Volgger, Pechlaner, in print), that include portions of many existing traditional destinations (see Fig. 1) and need to be managed coherently, notwithstanding their heterogeneous nature. This difference in the fruition (and therefore organisation) of space is the major challenge related to route tourism. As argued by UNWTO (2015: 39), routes “based on a linear pattern have a sequenced discourse [...]. This involves *organizing all the aspects of a route consecutively*, from *creating stages* to *designing and presenting visitor infrastructures*, and including the presentation of the *natural and cultural heritage* of the route, or implementing *sales and marketing strategies*.”



**Figure 1 – Circular space vs linear space**

Given the fact that route-based experiences are individual and mobile experiences in a linear space, innovation both in product development and in institutions is required to organise displacements and attractions in a way that is suitable for itinerant tourist, while preserving the natural environment and communities along the routes. The aim of our study is to describe innovation challenges connected to the effective design of routes and to propose an example of product innovation based on the use of digital technologies.

Case study research (Yin, 2003) is used to investigate a long hiking trail in the Alps: the Via Transalpina. Case study research is a common method in analysing route-based tourism (e.g. Murray, Graham, 1997; Nagi, Piskóti, 2016), given the unique features of each route and the exploratory nature of research in this domain. The Via Transalpina is a classic north-south alpine crossing located in the Alps and starting from Oberstdorf, Germany, leading through

---

Austria and finishing after 750 km in Trieste, Italy, with a total climb of 50,000 meters. The trail is the result of a product development process within the EU project SilViAlp, aimed at revitalising the already existing Via Alpina Yellow Trail™. Starting from the two principles of *individual holistic experience* and *mobility*, we developed a *method* for designing personalisable hiking routes, both from the technical and the experiential point of view and designed a *product* that enables personalisation of the hiking experience while on the move. We achieved this twofold result analysing the route from multiple perspectives: GPS data collection, actualisation and analysis, real-life hiking, online survey with local stakeholders along the route, a SWOT analysis, workshops to validate the SWOT and finally two digital products are provided: an interactive map and a digital App.

The first outcome of the analysis on the route is a new organisation of the trail into minimum length stages, i.e. from 42 original stages of the Via Alpina Yellow Trail™ to 103 stages of the Via Transalpina. The second outcome is the re-aggregation of minimum length stages into weekly packages, according to thematic commonalities. The third step is the definition of an overarching topic for the trail, as well as a brand identity. All content developed is contained in an interactive map, where points of interest and accommodation facilities, as well as public transport connections are illustrated using standardised icons. This content is shared also with a digital App (Via Transalpina) that is adding the technical possibility to personalise the route design before departure and on the move.

Transforming traditional destinations into linear ones implies the necessity to atomise tourism product and re-aggregate it into new geographies. Digital technologies allow destination managers and visitors to perform this reorganisation of space and they easily create a meta-level of knowledge, which helps to overcome the heterogeneous nature of tourism supply in a long route. Moreover, digital technologies enable users to personalise their individual experience, before and while it is made. In doing so, they create potentially infinite virtual linear destinations that pick up local points of interest or attractions, with multiple entries and exits, enabling wider accessibility and accounting for participatory time constraints (Murray, Graham, 1997). This reflects an advanced and innovative management of the route, with the integration of multimodal transport connections and the provision of alternative routes in case of high difficulties of the trail.

This work provides a methodological insight on how to organise a route, its stages and its thematic offers in coherence with local heritage but aiming to satisfy the need for individual “inner” experiences. It also provides a concrete example of how to organise tourism products on routes, combining pre-defined offers, personalizable choice sets and one single overarching topic for the route. In doing this, it describes a possible perspective in sustainable tourism development that both creates business opportunities in remote areas and preserves local heritage with low-impacting tourism practices, while at the same time satisfying visitor’s needs. Nevertheless, product development and route management initiatives require continuity in time and institutions or individuals taking the responsibility to coordinate actions to turn into (economically) sustainable projects. Future research is needed

in investigating how to create a meta-level in tourism governance structures that enable the maintenance of routes beyond traditional destination boundaries and in the long term, their promotion and marketing through direct and indirect channels.

## References

- Briedenhann, J., & Wickens, E., (2004). Tourism routes as a tool for the economic development of rural areas – vibrant hope or impossible dream? *Tourism Management*, 25 , 71-79.
- Colling-Kreiner, N. (2010). The geography of pilgrimage and tourism: Transformations and implications for applied geography. *Applied Geography*, 30, 153-164.
- Hall, M.C., (2005). *Tourism – Rethinking the social science of mobility*. Pearson Education Limited, Edinburgh Gate.
- Hugo, M.L. (1999). A comprehensive approach towards the planning, grading and auditing of hiking trails as ecotourism products. *Current Issues in Tourism*, 2, 138-173.
- Jensen, M.T., Scarles, C., & Cohen, S.A. (2015). A multisensory phenomenology of interrail mobilities. *Annals of Tourism Research*, 53, 61-76.
- Murray, M., & Graham, B.(1997). Exploring the dialectics of route-based tourism: the Camino de Santiago. *Tourism Management*, 18 (8), 513-524.
- Nagi, K., Piskóti, I. (2016). Route-Based Tourism Product Development as a Tool for Social Innovation: History Valley in the Cserehát Region, 'Club of Economics in Miskolc' *TMP*, 12., 75-86.
- Smith, V.I., (1992). Introduction: the quest in guest. *Annals of Tourism Research*, 19, 1-17.
- Yin R.K. (2003). *Case study research: Design and methods (3rd ed.)*. Thousand Oaks, CA: Sage.
- Volgger, M. and Pechlaner, H. (in print). Wege und Grenzen: Perspektiven transregionaler Governance und touristischer Produktentwicklung in den Alpen, in Bußjäger, P. and Gsodam, C. (Eds.), *Tourismus als treibende Kraft für regionale Kooperation im Alpenraum, Schriftenreihe des Instituts für Föderalismus*.
- World Tourism Organization (2015), Affiliate Members Global Reports, Volume twelve – Cultural Routes and Itineraries, UNWTO, Madrid, Retrieved from: <http://affiliatemembers.unwto.org/publication/affiliate-members-global-report-volume-twelve-cultural-routes-and-itineraries>



---

## **Lack of transparency - a barrier for the diffusion of sustainable tourism**

**Sven-Olaf Gerdt\*, Elisa Wagner & Gerhard Schewe**

\* University of Münster, Germany, sven-olaf.gerdt@wiwi.uni-muenster.de University of Münster, Germany, elisa.wagner@wiwi.uni-muenster.de University of Münster, Germany, gerhard.schewe@wiwi.uni-muenster.de

**Keywords:** Online Intermediaries, Information & Communication Technology, Signalling Theory, Information Asymmetry, Sustainability

### **Introduction & Aim**

Throughout the last two decades, the tourism industry has changed due to the revolutionary development in the realm of information and communication technologies (ICT) (Amaro & Duate, 2013; Law et al., 2004; Minghetti & Buhalis, 2010; Tan & Chen, 2012). Innovations mainly occurred in the distribution of tourism products using adapted technology mechanisms to produce and deliver the core information regarding tourism products. No other industry is as dependent on the prior dissemination of information for assessing the product as the tourism industry (Buhalis & Law, 2008; Minghetti & Buhalis, 2010; Tan & Chen, 2012).

Buhalis (1998) even refers to the sharing of such information as being “the lifeblood of tourism” (Buhalis, 1998).

In recent years, companies involved in the distribution of information of tourism products, mainly Online Travel Agencies (OTAs) and Meta Search Engines (MSEs), have become key intermediaries for product providers (Buhalis & Law, 2008). These companies provide information to the public regarding various tourism products. By doing so they ensure transparency and comparability in the industry. In addition, these companies have established systems for user-generated content, allowing future tourists to take ratings and opinions of past tourists into consideration during the buying process (Mayr & Zins, 2009). While this development increases pressure on tourism providers to be responsive to the market and keep up with the expectations of tourists, it positively affects the bargaining power of online consumers as they have instant access to valuable information to analyse before purchasing a trip (Buhalis & Law, 2008).

The reliance on technology in the tourism industry had had a significant impact on the accommodation sector (Aldebert et al., 2011; Stringham & Gerdes, 2010). In 2015, OTAs accounted for 22.3% of all accommodation bookings in Europe. It is not only the most

important information and booking channel used by consumers, but also is the only one that has been continuously growing throughout the last decade and, according to industry experts, it will continue to grow in the future (Schegg, 2016). Furthermore, MSEs are used by more than a third of tourists in making their purchases. In fact, 69% of leisure and 72% of business travellers reported that the opinions of prior consumers are the most important factor in making the decision to book an accommodation (Marvel, 2015).

To emphasise the importance of sustainability in the tourism industry, the United Nations declared the year 2017 as the International Year of Sustainable Tourism (World Tourism organisation, 2016). The accommodation sector consumes a vast amount of resources and accounts for a large amount of pollution. Consumer studies have reported an increased demand for sustainable tourism with 29% of tourists to be likely to choose one company over another based on their environmental record, which is up from 19% in 2011 (Davies, 2015). However, only few accommodation suppliers contribute to sustainable tourism, leaving considerable room for improvement. Taking into consideration the notable growth in the demand for sustainable tourism, the question remains whether a lack in information transparency may hinder the diffusion of sustainable tourism in the future.

To provide reliable information on their sustainability engagement, accommodation suppliers can make use of sustainability certifications to differentiate from unsustainable organisations and to gain a competitive advantage (Font, 2009). Since the beginning of the 21st century, there has been a notable increase in the range of programs certifying sustainability standards. In 2016, Ecotrans reported that there was a total of 199 sustainability certifiers, with many of them overlapping in sector and geographical scope (Ecotrans, 2016).

Following signalling theory, sustainability certificates can be used as signals to solve information asymmetries between tourists and accommodation suppliers. They serve as an important way to let tourism consumers know that the business provides superior but often unobservable or ex-ante hidden complex attributes (Spence, 1974). However, an accommodation supplier will most likely only invest in the factors necessary to obtain certification if it can be forecast that the investment can be amortised and will strengthen the competitive position of the business (Smith & Font, 2014). Taking into consideration the dominant role of OTAs and MSEs, signalling through the use of technology can only be achieved if these stakeholders also offer to transmit sustainability engagement signals to solve information asymmetries and reduce purchasing uncertainty for tourists.

This research project aims to investigate whether information on sustainability engagement of accommodation suppliers is communicated online via ICT along different distribution channels, and to analyse the respective information richness.

## **Method**

Based on the research question, a qualitative method was chosen to analyse the sustainability information of accommodations that are provided by key intermediaries. First, we identified 10 hotels that hold an award for outstanding sustainability management. Further, we

identified a total of 54 OTAs and 27 MSEs that operate internationally, and control for their role in the market by checking their web metrics provided by Similarweb.com and Alexa.com. Second, we analysed the information provided by these accommodation suppliers on their websites, as well as those provided by OTAs and MSEs, in order to compare their contents. By doing so, we are able to determine the level of information asymmetry between the two sources of information for tourists. To advance our analysis we take into account the different aspects of sustainability following the Global Sustainability Tourism Council (GSTC) criteria for hotels. Beyond the investigation of the level of information asymmetry along different channels, this will help to understand what sustainability aspects are communicated and how. We also control for country of origin and size of the identified hotels, OTAs and MSEs.

Additionally, we analysed tourists reviews of a different sample of 53 German hotels posted between 2014 and 2016. Reviews are drawn from the two leading OTAs (booking.com/hrs.de) and the two leading MSEs (tripadvisor.de/holidaycheck.de) in the German accommodation market. Overall, we gathered and analysed the content of 30,533 reviews, using the GSTC Criteria for hotels as a basis for a systematic structure.

## Findings

We find a very high level of information asymmetry concerning sustainability aspects between websites of hotels that engage in sustainability management and their profiles on websites of OTAs and MSEs. Consequently, we find a massive lack of transparency for the growing number of tourists using these channels to obtain online information about and/or to book an accommodation. Furthermore, we find that there are no given review categories that encourage past tourists to rate on sustainability issues. Currently, the only way for past tourists to provide sustainability information is to use the open comment box on the respective website. Analysing these open comments, we found fewer than 10% of the analysed reviews to contain sustainability aspects. Our findings further indicate that communication about an accommodations' sustainability is concentrated on three areas— food related aspects (~ 30% of all cases), the sustainability concept as such (~15%) and eco-friendly transportation alternatives (~10%). Other aspects of sustainability are less frequently mentioned.

## Conclusion

Despite the growing demand for by tourists for sustainability information, the information asymmetry within the market caused by a lack of communication of sustainability engagement may inhibit accommodation providers to invest in sustainability measures.

Following Bramwell and Lane (2013), many accommodation providers are only willing to change their behaviour only if it can be shown that it will improve their competitive position (Bramwell & Lane, 2013). Taking into consideration the dominant position of OTAs and MSEs for the distribution of accommodations, the signalling process is presently not functioning well. With regard to sustainable tourism, this may lead to an increase of



information asymmetries hindering the demand driven diffusion, as OTAs and MSEs continue to grow.

To promote sustainable tourism, innovation in obtaining information is needed. National and international organisations like the GSTC should collaborate with OTAs and MSEs to set consistent standards. In turn, these standards should be adequately communicated to tourism providers to advance transparency. Presently, the growing number of certifiers may confuse consumers and accommodation providers (Font, 2009; Hook, 2004). Moreover, it may hinder OTAs and MSEs from transmitting the signals as they may not know if the information is accurate and reliable. Regarding the star rating of hotels, the industry has worked and relied on a rating system that reduces the complexity of an accommodation service for many years (Fernández & Bedia, 2004, Vine, 1981). The current institutionalisation of the GSTC and other monitoring organisations may be a milestone in terms of transparency, but they do not yet solve the problem of consumer confusion as it increases search costs.

### **Contributions to Research**

Our project provides an important foundation for further research on sustainable tourism, which is also relevant for other industries. Specifically, it contributes to the understanding of barriers for the diffusion of sustainable tourism as it shines some light on the present market functionality and obstacles for a demand driven change. Further, it shows how sustainability engagement is communicated online and why it is important to accommodation suppliers and tourists.

Our presentation on the BESTEN Think Tank XVII will concentrate on the causalities following our theoretical approach and our findings from both the content analysis of hotel, OTA and MSE websites as well as those drawn from our content analysis of tourists' online reviews. By doing so we will present the main contributions of our research and point out approaches for further investigations.

### **References**

Aldebert, B., Dang, R. J., & Longhi, C. (2011). Innovation in the tourism industry: The case of Tourism. *Tourism Management*, 32(5), 1204-1213.

Amaro, S., & Duarte, P. (2013). Online travel purchasing: A literature review. *Journal of Travel & Tourism Marketing*, 30(8), 755-785.

Bramwell, B., & Lane, B. (2013). Getting from here to there: Systems change, behavioural change and sustainable tourism. *Journal of Sustainable Tourism*, 21(1), 1-4.

Budeanu, A. (2007). Sustainable tourist behaviour—a discussion of opportunities for change. *International Journal of Consumer Studies*, 31(5), 499-508.

Buhalis, D. (1998). Strategic use of information technologies in the tourism industry.

---

Tourism Management, 19(5), 409–421.

Buhalis, D., & Law, R. (2008). Progress in information technology and tourism management: 20 years on and 10 years after the Internet—The state of eTourism research. *Tourism management*, 29(4), 609-623.

Davies, P. (2015, November 5). Being ‘green’ is paying off, claims Abta study. Reference Year 2015. Retrieved January 07, 2017, from <http://www.travelweekly.co.uk/articles/58226/being-green-is-paying-off-claims-abta-study#.Vj-ttS0BjYF.twitter>

Ecotrans (2016). Destinet Atlas. Reference Year 2016. Retrieved October 10, 2016, from [http://destinet.eu/portal\\_map?lat\\_center=54.5259614&lon\\_center=15.255118700000025&map\\_zoom=1&map\\_engine=google&base\\_layer=physical&geo\\_types%3Alist=symbol984&geo\\_types%3Alist=symbol092&geo\\_types%3Alist=symbol130&geo\\_types%3Alist=symbol338&geo\\_types%3Alist=symbol009&geo\\_types%3Alist=symbol930&geo\\_types%3Alist=symbol1834&geo\\_types%3Alist=symbol683&country=&path=&geo\\_query=certified](http://destinet.eu/portal_map?lat_center=54.5259614&lon_center=15.255118700000025&map_zoom=1&map_engine=google&base_layer=physical&geo_types%3Alist=symbol984&geo_types%3Alist=symbol092&geo_types%3Alist=symbol130&geo_types%3Alist=symbol338&geo_types%3Alist=symbol009&geo_types%3Alist=symbol930&geo_types%3Alist=symbol1834&geo_types%3Alist=symbol683&country=&path=&geo_query=certified)

Fernández, M. C. L., & Bedia, A. M. S. (2004). Is the hotel classification system a good indicator of hotel quality? An application in Spain. *Tourism Management*, 25(6), 771- 775.

Font, X. (2009). Sustainability labels as ecological modernization. *ICRT Occasional Paper*, (OP19), 1-22.

Hook, R. D. (2004). Ecotourism and Certification: Setting Standards in Practice. *Electronic Green Journal*, 1(20).

Law, R., Leung, K., & Wong, R. (2004). The impact of the Internet on travel agencies. *International Journal of Contemporary Hospitality Management*, 16(2), 100-107.

Marvel, M. (2015, July). The Hotel Distribution Report 2015. Reference Year 2015. Retrieved January 07, 2017, from <http://hotelanalyst.co.uk/wp-content/uploads/sites/2/2015/09/The-Hotel-Distribution-Report-2015-sample.pdf>

Mayr, T., & Zins, A. H. (2009). Acceptance of online vs. traditional travel agencies. *Anatolia*, 20(1), 164-177.

Minghetti, V., & Buhalis, D. (2010). Digital Divide in Tourism. *Journal of Travel Research*, 49(3), 267–281.

Schegg, R. (2016, July 18). European Hotel Distribution Study – Results for the Reference Year 2015. Retrieved January 07, 2017, from <https://www.wko.at/Content.Node/branchen/oe/Hotellerie/Aktuelles/european-hotel-distribution-study.pdf>

---

Smith, V. L., & Font, X. (2014). Volunteer tourism, greenwashing and understanding responsible marketing using market signalling theory. *Journal of Sustainable Tourism*, 22(6), 942-963.

Spence, M. (1974). Competitive and optimal responses to signals: An analysis of efficiency and distribution. *Journal of Economic theory*, 7(3), 296-332.

Stringam, B. B., & Gerdes Jr, J. (2010). An analysis of word-of-mouth ratings and guest comments of online hotel distribution sites. *Journal of Hospitality Marketing & Management*, 19(7), 773-796.

Tan, W.-K., & Chen, T.-H. (2012). The usage of online tourist information sources in tourist information search: an exploratory study. *Service Industries Journal*, 32(3), 451-476.

United Nations World Tourism Organization (2015). United Nations declares 2017 as the International Year of Sustainable Tourism for Development. Retrieved from <http://media.unwto.org/press-release/2015-12-07/united-nations-declares-2017-international-year-sustainable-tourism-develop>

Vine, P. A. L. (1981). Hotel classification—art or science?. *International Journal of Tourism Management*, 2(1), 18-29.

---

## From Sustainability to Resilience: Understanding Different Facets of Organizational Resilience

**Girish Prayag\* & Caroline Orchiston^ & Mesbahuddin Chowdhury °**

*University of Canterbury, New Zealand, [girish.prayag@canterbury.ac.nz](mailto:girish.prayag@canterbury.ac.nz)*

*University of Otago, New Zealand, [caroline.orchiston@otago.ac.nz](mailto:caroline.orchiston@otago.ac.nz)*

*University of Canterbury, New Zealand, [mesbahuddin.chowdhury@canterbury.ac.nz](mailto:mesbahuddin.chowdhury@canterbury.ac.nz)*

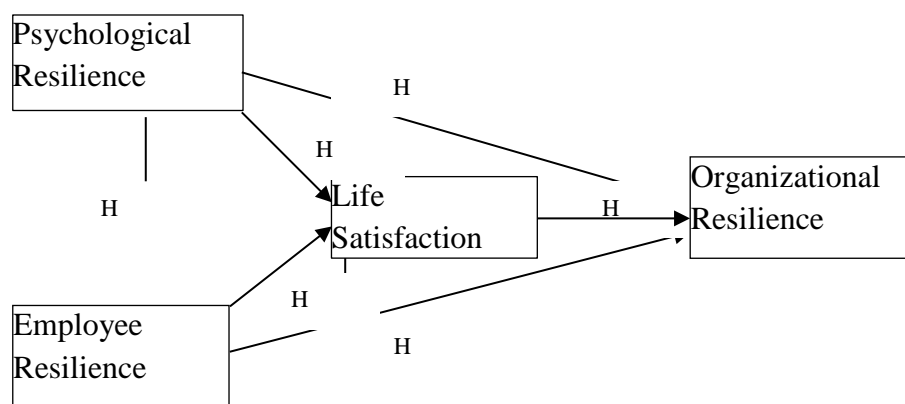
**Key words:** psychological resilience, employee resilience, organizational resilience, life satisfaction, post-disaster

### Introduction

The tourism literature on the relationship between resilience and sustainability is still in its infancy. Some argue that resilience planning has emerged as an alternative to sustainable development to provide new perspectives on socio-ecological adjustments to a rapidly changing world (Lew, 2014). While sustainability mitigates or prevents change by maintaining resources above a normative safe level, resilience adapts to change by attempting to build capacity to return to a desired state following both anticipated and unanticipated disruptions (Derissen et al., 2011). Similar to the notion of sustainability, resilience also remains a problematic concept across several disciplines (Folke et al., 2010). While sustainability and resilience may be highly compatible concepts, resilient destinations are not necessarily sustainable (Espiner et al., 2017). Existing studies on tourism resilience are drawn mainly from case studies that adopt a systems approach (Becken, 2013; Espiner & Becken, 2014; Farrell & Twining-Ward, 2004) to understand how a socio-ecological system is impacted, and then adapts and recovers from macro-level changes. While such studies are necessary, resilience related studies are needed to understand how different components of a socio-ecological system (e.g., communities, residents and organizations) interact with each other. For example, how do the different facets (e.g., employees, supply chain etc.) of one component of a system such an organization interact with each other to build resilience? This study focuses on examining how tourism organizations build resilience in the recovery phase of a disaster. Similar to ecosystems, organizations also face stressful events and are thus vulnerable to both internal and external shocks (Lee, Vargo & Seville, 2013). The objectives of the study are two-fold: (i) to ascertain the relationships between three concepts of resilience (psychological resilience, employee resilience and organizational resilience); and

(2) to identify the influence of life satisfaction on these three concepts.

The conceptual model of the study is shown in Figure 1. The literature argues that psychological resilience has a positive influence on organizational resilience as well as employee resilience. Employee resilience has a positive impact on organizational resilience. Both psychological resilience and employee resilience contribute to life satisfaction, which in turn impact organizational resilience.



**Figure 1: Conceptual Model**

## Method

Organizational resilience was measured using a suite of thirteen-items adapted from Lee et al. (2013) and Orchiston et al. (2016). The Brief Resilience Scale (BRS) comprises six items that are designed to measure a single component of personal resilience, that is, the ability to recover from adverse situations (Smith et al., 2008), and was adapted for the purpose of this study. All items for both organizational resilience ( $\alpha=0.89$ ) and personal resilience ( $\alpha=0.84$ ) were measured on a five-point Likert scale (1= Strongly Disagree and 5=Strongly Agree).

Nine items ( $\alpha=0.85$ ) of Naswall et al. (2013) Employee Resilience Scale (EmpRes) were adapted and measured on a five-point Likert scale (1= Never and 5= Always). Life satisfaction was measured using five items ( $\alpha=0.85$ ) from the Satisfaction with Life Scale (SWLS) (Diener et al., 1985). A postal survey was sent to all the 251 tourism organizations that were identified from a database of tourism organizations in Christchurch leading to 84 useable questionnaires. As a rule of thumb, the minimum sample size for using PLS-SEM, is at least 10 times the maximum number of arrow heads pointing to a latent variable anywhere in the PLS path model (Hair et al., 2017). An examination of Figure 1, reveals that this requirement has been met with six arrows heading to the various latent variables.

## Findings

Of the 84 organizations, 50% were manager-operated and the remaining 50% were owner-operated. These organizations had been in business for less than or equal to 2 years (2.4%), 3-5 years (8.4%), 6-10 years (14.5%), 11-20 years (43.4%), and more than 20 years (31.3%).

More than half of the sample had fewer than 5 employees (58.3%), with 33.3% employing between 5 and 49 employees. All Cronbach's  $\alpha$  and CR were above the minimum threshold of 0.7, indicating that the items and constructs were internally consistent. Convergent validity was adequate for the items given that AVE of all constructs were at least 0.5 and above (Fornell & Larcker, 1981). Using Fornell and Larcker (1981) method, discriminant validity was also established given that the square root of AVE for each construct was greater than the correlations between the construct and all the other constructs. The bootstrapped ( $n=5000$ )  $R^2$  values showed that personal resilience, employee resilience and life satisfaction explained 38.6% of the variance in organizational resilience. Personal resilience explained 14.4% of the variance in employee resilience, and both of these constructs explained 13.5% of the variance in life satisfaction. The bootstrapped path coefficients showed that personal resilience had a significant and positive relationship with both organizational resilience ( $\beta=0.164$ ,  $p=0.037$ ) and employee resilience ( $\beta=0.379$ ,  $p<0.001$ ), thus supporting  $H_1$  and  $H_2$  respectively.

Employee resilience had a significant and positive relationship with both organizational resilience ( $\beta=0.349$ ,  $p<0.001$ ) and life satisfaction ( $\beta=0.317$ ,  $p=0.009$ ), thus supporting  $H_3$  and  $H_5$  respectively. No significant path could be established between personal resilience and life satisfaction, thus rejecting  $H_4$ . Employee resilience had a significant and positive relationship with organizational resilience ( $\beta=0.307$ ,  $p=0.001$ ) lending support to  $H_6$ .

## Conclusion and Implications

The findings suggest that the resilience of tourism organizations is dependent on psychological and employee resilience as well as life satisfaction. Business owners and managers that display psychological resilience (the ability to bounce back from adversity) tend to also be resilient employees. This implies that within one component (organization) of a socio-ecological system there are flow-on effects (psychological resilience  $\rightarrow$  employee resilience  $\rightarrow$  organizational resilience) that must be understood to improve its resilience.

Resilient individuals, through their psychological capital (psychological resilience and life satisfaction), can also contribute to organizational resilience. The role of psychological capital and employee resilience training and development are critical for developing organizational resilience. To this end, the study adds to the growing literature on the relationship between sustainable tourism and resilience by highlighting the role of psychological and organizational aspects of resilience in building resilient tourism. In this way, the study argues that sustainable tourism is morphing perhaps into tourism resilience given that tourism organizations that are capable of adapting and bouncing back through

crises and disasters are more likely to be resilient and thus survive. For the tourism industry to survive, resiliency seems more critical than sustainability.

## References

- Becken, S. (2013). Developing a framework for assessing resilience of tourism sub-systems to climatic factors. *Annals of Tourism Research*, 43, 506-528.
- Derissen, S., Quaas, M. F., & Baumgartner, S. (2011). The relationship between resilience and sustainability of ecological-economic systems. *Ecological Economics*, 70, 1121– 1128.
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75.
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Espiner, S., & Becken, S. (2014). Tourist towns on the edge: Conceptualising vulnerability and resilience in a protected area tourism system. *Journal of Sustainable Tourism*, 22(4), 646-665.
- Espiner, S., Orchiston, C., & Higham, J. (2017). Resilience and sustainability: a complementary relationship? Towards a practical conceptual model for the sustainability–resilience nexus in tourism. *Journal of Sustainable Tourism*, <http://dx.doi.org/10.1080/09669582.2017.1281929>
- Farrell, B. H., & Twining-Ward, L. (2004). Reconceptualizing tourism. *Annals of Tourism Research*, 31(2), 274-295.
- Folke, C., Carpenter, S. R., Walker, B., Scheffer, M., Chapin, T., & Rockstrom, J. (2010). Resilience thinking: integrating resilience, adaptability and transformability. *Ecology and Society*, 15(4), 20
- Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2017). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. Sage Publications.
- Lee, A. V., Vargo, J., & Seville, E. (2013). Developing a Tool to Measure and Compare Organizations' Resilience. *Natural Hazards Review*, 14(1), 29-41.
- Lew, A. A. (2014). Scale, change and resilience in community tourism planning. *Tourism Geographies*, 16(1), 14-22.
- Näswall, K., Kuntz, J., Hodliffe, M., & Malinen, S. (2013). *Employee resilience scale (EmpRes): Technical report*. Resilient Organisations Research Report 2013/06.
- Orchiston, C., Prayag, G., & Brown, C. (2016). Organizational resilience in the tourism sector. *Annals of Tourism Research*, 56, 145-148.

Smith, B. W., Dalen, J., Wiggins, K., Tooley, E., Christopher, P., & Bernard, J. (2008). The brief resilience scale: assessing the ability to bounce back. *International Journal of Behavioral Medicine*, 15(3), 194-200.



---

**Providing sustainable innovations in the hospitality industry. An empirical study of the importance of sustainability in a hospitality context: Merging significant theories to determine the motifs of pro-sustainable booking behaviour**

**Julia Zimmermann and Matthias Straub**

*SRH Hochschule Berlin Campus Dresden, Germany, [JuZi1993@web.de](mailto:JuZi1993@web.de)*

*SRH Hochschule Berlin Campus Dresden, Germany, [Matthias.straub@srh-hochschule-berlin.de](mailto:Matthias.straub@srh-hochschule-berlin.de)*

**Key words:** Sustainable hotel, eco-friendly behaviour, motifs of pro-sustainable booking behaviour, guests request on sustainable hotels, innovations in hospitality management and tourism

## **Introduction**

Sustainability and eco-friendliness is gaining considerable attention within the hotel industry (Chen, Sloan & Legrand, 2009; Kim & Han, 2010). There has been a growing awareness of the environmental and social influence of hotel operation and development among customers, operators and investors. (Chen and Peng, 2012; Jones, Hillier & Comfort, 2014; Pryce, 2001). Especially hotel customers' demands for environmentally responsible lodging have been rapidly increasing in recent years (Chen and Tung, 2014; Han, 2015). Sustainability is therefore regarded as one of the key issues within the global lodging industry (Jones, Hillier & Comfort, 2014) and one of the most important drivers for innovations in tourism in general. Considering that today's customers are more and more sensitive to sustainable matters and are willing to change their consumption habits to reduce environmental and social harms, it is becoming inevitable for hotels to establish a sustainable orientation and to develop sustainable innovations. Otherwise the hotels are not able to maintain competitiveness or obtain competitive advantages in the lodging marketplace. (Chen and Peng, 2012; Jones, Hillier & Comfort, 2014; Hofmeister-Toth et al., 2011; Kim and Han, 2010; Manaktola and Jauhari, 2007).

## **Aim and Literature Review**

Along with this development a significant body of empirical research has been implemented to explain the formation of customers' pro-environmental motifs, decision-making and

behaviour. Each research stream has proven to be useful in improving the comprehension of customers' pro-sustainable decision-making, but despite all these studies no decisive accordance of the results could be found till the present day. Instead almost every scientific paper indicates further studies. (Association of British Tour Operators, 2008; Choi, G., Parsa, H. G., Sigala, M., & Putrevu, S., 2009; Dalton, G.J., Lockington, D.A., Baldock, T.E., 2008; Han, H., 2015; Han, H., Hsu, L. T. J., & Lee, J. S., 2009; Han & Yoon, 2014; Kim, Y. J., Njite, D., & Hancer, M., 2013; Lee, M., Han, H., & Willson, G., 2011; Tsai, C., & Tsai, C., 2008;). As the conclusions about the relationship between demographic variables and sustainable consumption behaviour still differ, also marketers are still facing the important challenge to identify which hotel guests are interested in staying at a sustainable hotel and which not (Wang, P., Liu, Q., Qi, Y., 2014). It is apparent that an enhanced knowledge of the profile of this segment of consumers would be extremely useful. The closer we move to an understanding of what causes individuals to decide for the sustainable option, the better marketers will be able to develop strategies specifically targeted at these consumers and to provide sustainable innovations in the hospitality industry. Therefore, the purpose of this study is to determine the following 3 aspects:

***How important is a sustainable hotel orientation and the influence of sustainability and “eco-labels” for the decision-making of hotel guests?***

First, we want to give another general overview of the importance of a sustainable hotel orientation for the decision-making of different target segments in a Western European country. The importance of ecolabels for the booking decision will be also highlighted.

***What are the main causes for guests' decision-making towards the sustainable option:***

Obviously, the question of what makes hotel guests book a sustainable hotel is so complex that it cannot be visualized in one single framework or diagram. Integrating factors from different models with the consideration of the specification of German hotel guests, this study summarizes some important factors which are likely to have influences (direct or indirect) on the hotel guest. After a broad analysis of the latest researches, we assume the following aspects as main drivers of pro-sustainable purchasing: attitude, social pressure, emotional influences, environmental awareness, perceived customer effectiveness, values and norms, altruism. (Table 1)

**Table 1: Literature synopsis on factors affecting pro-sustainable purchasing.**

	<b>Factor with significant effect</b>	<b>Authors</b>
1	Attitude	<ul style="list-style-type: none"> <li>• Barber, N., 2010.</li> <li>• Han, H., Hsu, L. T. J., &amp; Lee, J. S., 2009.</li> <li>• Han, H., Hsu, L. T. J., Sheu, C., 2010.</li> <li>• Han, H., Hsu, L. T. J., Lee, J. S., Sheu, C., 2011.</li> <li>• Han, H., Kim, Y., 2010.</li> <li>• Hedlund, T., 2013.</li> </ul>

## Innovation and Progress in Sustainable

---

	<ul style="list-style-type: none"><li>• Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015.</li><li>• Kim, Y. J., Njite, D., &amp; Hancer, M., 2013.</li><li>• Laroche, M., Bergeron, J., Barbaro-Forleo, G., 2001.</li><li>• Mostafa, M. M., 2007.</li><li>• Schlegelmilch, B. B., Bohlen, G. M., Diamantopoulos, A., 1996.</li><li>• Vermeir, I., Verbeke, W., 2008.</li><li>• Wang, P., Liu, Q., Qi, Y., 2014.</li></ul>
--	---

	<b>Factor with significant effect</b>	<b>Authors</b>
2	Social pressure	<ul style="list-style-type: none"> <li>• Hedlund, T., 2013.</li> <li>• Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015.</li> <li>• Vermeir, I., Verbeke, W., 2008.</li> </ul>
3	Emotional influences	<ul style="list-style-type: none"> <li>• Assael, H., 2004.</li> <li>• Chan, J. K. L., Baum, T. (2007).</li> <li>• Chang, C., 2011.</li> <li>• Engel, J. F., Miniard, P. W., Blackwell, R. D., 2006.</li> <li>• Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015.</li> <li>• Kiatkawsin, K., Han, H., 2017.</li> <li>• Kim, Y. J., Njite, D., &amp; Hancer, M., 2013.</li> </ul>
4	Environmental awareness	<ul style="list-style-type: none"> <li>• Banbury, C., Stinerock, R., Subrahmanyam, S., 2012.</li> <li>• Banerjee, B., McKeage, K., 1994.</li> <li>• Barber, N., 2010.</li> <li>• Bei, L.T., Simpson, E.M., 1995.</li> <li>• Fairweather, J. R., Maslin, C., Simmons, D. G., 2005.</li> <li>• Han, H., Hsu, L. T. J., &amp; Lee, J. S., 2009.</li> <li>• Kim, Y. &amp; Han, H., 2010.</li> <li>• Laroche, M., Bergeron, J., Barbaro-Forleo, G., 2001.</li> <li>• Manaktola, K., Jauhari, V., 2007.</li> <li>• Mostafa, M. M., 2007.</li> <li>• Schlegelmilch, B. B., Bohlen, G. M., Diamantopoulos, A., 1996.</li> <li>• Wang, P., Liu, Q., Qi, Y., 2014.</li> </ul>
5	Perceived consumer effectiveness	<ul style="list-style-type: none"> <li>• Han, H., Yoon, H. J., 2015.</li> <li>• Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015.</li> <li>• Kiatkawsin, K., Han, H., 2017.</li> <li>• Rubright, H., Kline, C., Viren, P. P., Naar, A., Oliver, J., 2016.</li> <li>• Vermeir, I., Verbeke, W., 2008.</li> <li>• Vicente-Molina, M. A., Fernández-Sáinz, A., Izagirre-Olaizola, J., 2013.</li> <li>• Wang, P., Liu, Q., Qi, Y., 2014.</li> </ul>
6	Values/ Norms	<ul style="list-style-type: none"> <li>• Fairweather, J. R., Maslin, C., Simmons, D. G., 2005.</li> <li>• Han, H., 2015.</li> <li>• Han, H., Hsu, L. T. J., Sheu, C., 2010.</li> <li>• Hedlund, T., 2013.</li> <li>• Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015.</li> <li>• Kiatkawsin, K., Han, H., 2017.</li> <li>• Laroche, M., Bergeron, J., Barbaro-Forleo, G., 2001.</li> <li>• Press, M., Arnould, E. J., 2009.</li> <li>• Schwartz, S., 1973.</li> <li>• Stern, P. C., 2000.</li> <li>• Stern, P.C., Dietz, T., Kalof, L., 1993.</li> <li>• Thøgersen, J., 2005.</li> </ul>

		<ul style="list-style-type: none"> <li>• Wang, P., Liu, Q., Qi, Y., 2014.</li> </ul>
7	Altruism	<ul style="list-style-type: none"> <li>• Fairweather, J. R., Maslin, C., Simmons, D. G., 2005.</li> <li>• Han, H., 2015.</li> <li>• Hedlund, T., 2013.</li> <li>• Laroche, M., Bergeron, J., Barbaro-Forleo, G., 2001.</li> <li>• Triandis, H. C., 1993.</li> <li>• Vicente-Molina, M. A., Fernández-Sáinz, A., Izagirre-Olaizola, J., 2013.</li> </ul>

***What are the special features guests would like to find at a sustainable hotel and which are aspects they are not willing to accept?***

To lead our study to a more operational and innovative direction, we focused also on the issue to find out what customers really expect a sustainable hotel to be and what equipment to provide. This study gives a unique insight in the customer's perceptions and offers the opportunity to use these valuable results for up-to-date hotel orientation and innovations in sustainable tourism.

### **Methodology**

For our research we are using a quantitative research design. The survey took place between 1<sup>st</sup> of January and 19<sup>th</sup> of February 2017. Online questionnaires have been sent to former hotel guests (free individual travellers - FIT) from Germany. Since the focus of the study is on German FIT, the participants were chosen on the condition of having booked at least once a hotel previously. The link to the questionnaire was sent by e-mail newsletter of a big German hotel cooperation to 20.201 guests. In addition, the survey was provided over social media channels. Overall we had a feedback of 276 fully answered questionnaires.

The questionnaire template is based on several former studies (see Table 1) that analysed the factors affecting pro-sustainable purchasing in a hospitality context. The survey was slightly modified and adapted for the purpose of this investigation. The template covered a total of 23 questions and did not last longer than 8 minutes per person. It is divided into 4 parts covering different topics. Part I aims to identify the overall importance of sustainability issues concerning the booking decision. Part II incorporates questions about the knowledge of sustainable hotels, trying to detect the credibility of sustainability labels in the hospitality industry. Part III refers to the sustainable behaviour of hotel guests, trying to explore the motivation factors of sustainable behaviour in a hospitality context. Finally, respondents were asked in part IV to give information about their expectations and requirements on a sustainable hotel as well to give some information concerning age, gender and income.

## Findings and Interpretation

The following sections will deal with the analysis and interpretation of first interim results of our survey because the analysis of our data is not finished yet and we hope, we can present our final results at the BEST EN Think Tank XVII in June 2017. For the analysis of our data, we divided the sample in two main groups: As a Sustainable Group, all hotel guests were referred to question 3 “How important is sustainability to you when you book a hotel?” had answered with a “very important” or “important”. This question implies that these participants have a keen interest in acting sustainably and preferably staying in sustainable hotels. The non-sustainable comparison group, on the other hand, is the residual group, which answered question 3 with 'little importance', 'not important' or 'not at all important'.

### *Part I: Overall importance of sustainability concerning the booking decision*

In examining the importance of sustainability, it can be seen that this can be generally classified as high. Sustainability is important or even very important for 56% of respondents. This statement should, however, be considered with caution. It could be the result of social desirability and consequently distorted. Sustainability is an important, socially recognized issue and is generally considered desirable and necessary. However, this status of sustainability does not necessarily have to lead to actual sustainable behaviour. Quite often respondents say that sustainability is important to them and that they would like to buy sustainable products. Whether it comes to a purchase is however strongly dependent on factors such as price, comfort, availability and perceived quality. This was also the result of the survey carried out. Sustainable hotel criteria are included in the hotel decision, but they are not the most important factors. These remain the factors of price, location and reviews/ratings. This finding is also supported by Rubright (2016), who recently conducted a study on the selection criteria for tourist attractions. Similar results were found in the context of the hotel context (Kasim (2004) and Klepsch and Schneider (2012)). Furthermore, the study found that chain ownership or the brand of the hotel, is the most unimportant criterion in the booking decision. The German hotel guests are not very loyal to a certain chain or brand. It should also be noted that the sustainable group, which accounted for 56% of respondents, was of greater importance to all the main selection criteria of a hotel. The price and location were nevertheless their main decision-making criteria, but other factors like image, star classification etc. were much more relevant to their decision. The sustainable hotel guests therefore book more consciously. They are highly informed before booking about a certain hotel, need more information, and take longer to make their decision. In addition, sustainable criteria such as the supply of sustainable products and social commitment played a much more important role and are strongly involved in the decision. Furthermore, it was noted that the guests were largely oriented towards sustainability, but they did not want to lose anything for the sustainable establishment of a hotel. Guests are therefore interested in sustainable hotels, but they only book them if they are no worse off than other hotels in terms of location, price or standards. The only criterion in which the hotel guests could compromise is the chain affiliation

which, however, was the most unimportant selection criterion for them. This effect has also been suspected or described in other studies. As long as people do not have to give up or do not have to invest in a sustainable booking decision (e.g. money / time ...), the probability is higher that they choose the sustainable option. However, as soon as they lose something through this decision, the likelihood that they will opt for a non- sustainable option is increased (Hedlund 2013).

The sustainable attributes of a hotel should not be viewed as a substitute for good quality. The hotel guests are willing to pay a little more or accept a slightly lower comfort for a sustainable hotel. However, the sustainable establishment of a hotel should in principle not be viewed as a compensation tool for hotel deficiencies, but rather as an additional tool for the improvement over the competitors. It should be noted that the willingness to accept a poorer location, a higher price or a poorer quality standard in the sustainable sample group is higher. Furthermore, this study found an increased willingness to pay. For the entire sample, there is a consensus on the willingness to pay a higher price for a sustainable hotel. This finding is already substantiated by numerous studies, however, all of which come to the consensus that it is of little use to be aware of a willingness to pay if it cannot be determined which consumer has this and which is not (Laroche 2001).

### ***Part II: Knowledge about sustainable hotels and credibility of sustainability labels in the hospitality industry***

Furthermore, the study concluded that almost half (45%) of the hotel guests were not sure whether they had stayed in a sustainable hotel or not. This result is in line with previous research and suggests that there is a lack of communication between the hotels, but also a lack of knowledge on the part of hotel guests. Another possibility would be that respondents simply did not have any contact with hotels, which had a lasting sustainable effect (Han 2010). Another 40% were sure that they had stayed in such a hotel before. Thus, not only the sustainability, but also the visit of sustainable hotels in the society is more widespread, than initially suspected. This can also be seen in the recognition of sustainability certificates. Only 19% of respondents said they did not know about a sustainability certificate or label. This is far better than the average of known sustainability certificates to date. In view of the very high recognition of sustainability certificates in the Austrian alpine region, the presumption can be expressed that the perception of sustainability certificates in the German-speaking part of the world appears to be higher, or that sustainability or certifications in general have higher value for the hotel guests in these regions (Pröbst/Müller 2012).

### ***Part III: Sustainable behaviour of hotel guests***

After the importance of individual criteria for the booking decision as well as the importance of sustainability in booking decisions were first and foremost the subject of interest, it is now shown which internal processes are responsible for the booking decision of a sustainable hotel. 15 items were available to determine the influencing factors. The different influencing factors are shown in the following Table 2:

**Table 2: Factors affecting pro-sustainable booking behaviour**

<b>Factor</b>	<b>Example</b>
Values	The protection of our environment should be a basic value of our society today. To treat the environment with respect and to contribute to its protection is considered as good behavior.
Attitude	If we do not now begin to protect the planet, future generations will suffer heavily. I often have time or motivation to actively contribute to environmental protection
Perceived consumer effectiveness	I believe that each individual's behavior makes a significant contribution to improving the environment. I myself can contribute a great deal to solving our environmental problems.
Environmental awareness	Our planet is in a state of anxiety. The quality of our environment has improved considerably in recent years.
Altruism	My own advantage is not so important to me. The point is that it is good for all and our environment. I like to be generous without expecting any consideration.
Emotional influences	When I book a sustainable hotel, I feel proud and happy afterwards. If I book a sustainable hotel, I have a good feeling.
Social pressure	In my circle of friends talks often turn around sustainability. If someone acts not in a sustainable way, he is quickly criticized by society or is regarded as an outsider. I think that people in my area would find it good to book an eco-friendly hotel.

In order to assess the factors of a sustainable booking decision, the participants of the survey were asked for their assessment on a 6-stage Likert scale. The scale included the six response options "agree completely = 1", "agree = 2", "slightly agree = 3", "disagree = 4" "slightly disagree = 5" and "strongly disagree = 6". The items and response possibilities were therefore interpreted as metric-scaled, the arithmetic mean was used as position measurements.

It can be noted that the *values* with a mean of 1.62 are strongest factors among the respondents. Followed by *environmental attitudes* with a mean of 1.725 and *PCE* with a mean of 1.87. The *environmental awareness* of the respondents is still an important influencing factor, with a mean of 2.125, while the *altruism* (mean = 2.475), the *emotions perceived after the booking* (mean = 2.77) and the *social pressure* (mean = 3.28) are considered as rather weak. In order to find out which influencing factors significantly influence the booking of a sustainable hotel, the determined values of the factors of the



sustainable sample group were compared with the values of the non-sustainable comparison group. It can be noted that the two groups have indicated significant differences and differently pronounced characteristics of the influencing factors. As a general rule, the sustainable group has a stronger share of approval compared to all factors than the non-sustainable comparison group. However, these differences are not uniformly increased but vary.

In this context, it can be stated that the values of the *environmental awareness* of the sustainable group, with a difference of 0.37 in the mean, are hardly higher than those of the non-sustainable comparison group. Also for the values of *PCE* (difference of 0.425 in the mean), the *values* (difference of 0.435 in the mean) and the *attitude* (difference of 0.465 in the mean), only moderate differences can be found. However, higher deviations of the values of the sustainable and non-sustainable group are found in the values of *altruism* with a change of 0.61 in the mean and with the values of the *social pressure* with a difference of 0.74 in the mean. The greatest deviation is found in the *emotional influences* perceived after booking. Here, the difference comes even to a height of 0.915 in the mean.

One of the main findings of this study is that all seven previously investigated determinants seem to affect the sustainable booking decision of a hotel guest. For all factors, the sustainable group found higher approval values than for the non-sustainable group.

The *environmental awareness* is, however, already very strong pronounced in our sample. This is confirmed by a study conducted by the Accor Hotels, which showed a high environmental awareness for German citizens in general (Accor 2016). Consequently, this study confirms that in some countries a very high level of environmental awareness prevails throughout the population. The majority of the members of these cultural groups are aware of the seriousness of the environmental problems. An intensification of the environmental awareness is therefore hardly to be established and is not a basis for separating the sustainable consumers from the conventional ones. Since almost everyone shows an almost equal level of environmental awareness, whether a sustainable buyer or not.

In many of the above-mentioned researches it has already been stated that environmental awareness is anchored in the personal *values* of the people. These environmental-oriented *values* have changed considerably in recent years (Anderson 2012). Man no longer sees himself as the ruler of the nature, but rather feels one of many biological species that has the duty to respect and protect the environment (Fairweather 2005). This explains why all four factors (*environmental awareness, values, attitudes and PCE*) do not form a good basis in order to differentiate the sustainable consumers from the unsustainable. *Environmental awareness* can be seen as one of the firmly integrated values of the German population as described above. *Values* are the starting point for the development of a behavior, whether lasting or not. At the same time, *values* do not directly influence a behavior directly, but act through other variables such as *attitudes* (Han 2015). The *PCE*, on the other hand, is a mediator and increases the likelihood that an actual

decision results from these *attitudes* (Berger 1992). Other researchers consider *PCE* itself as an *attitude*. All of these four factors correlate with each other and are interdependent and strongly interrelated (Han 2015). Thus, one can assume that all these four factors are not suitable for effectively identifying sustainable consumers. In Germany there is a consistency of the *environmental awareness* and thus of the *values* as opposed to the environment. Since these are the basis for the development of *attitudes* and *PCE*, all residents

/interviewees also have similar attitudes towards nature and perceive all their effectiveness for solving environmental problems at the same level. This raises the question of why these four influencing factors have such a high degree of approval within our sample, but not the majority of German residents follows their own statements and behaves in a sustainable manner. This could be due to two phenomena that have already been identified more often in research on sustainable behavior, especially when the effects of sustainable attitudes were considered. One of these phenomena is social desirability. Sustainability seems to be a socially desirable attitude.

For this reason, many people claim that they are sustainably oriented, although this is not always the case.

The second phenomenon is the attitude-behavior-gap. This often occurs in the context of social desirability (Wheeler 2013). The 'attitude-behavior-gap' describes the gap between expressed consumer attitudes and consumer behavior. In simple terms, people often express a certain attitude to something, but they do not put it into practice, or overestimate their own consumption behavior.

In a study in the USA, for example, it was found that 52% of respondents said they were interested in purchasing sustainable products. However, the subjects did not buy the products (Robinson 2002). Reasons for this are usually the price, the perceived availability of the products, unpleasantness, habit or trust (Vermeir 2008). Other studies have already found that the attitude-behavior-gap is also based on values and environmental awareness. Finally, these first four factors can be said to be very evenly distributed throughout Germany. As a result, they do not provide a good basis for identifying tourists with an interest in sustainable hotels, and they also have a moderate impact on the booking of sustainable hotels.

For the differentiation of sustainable consumers from the unsustainable consumers, therefore, the *altruistic character expressions*, the perceived *social pressure* and the *emotional influences* of the consumers are suitable. This result was already proposed in 2007 by the researchers Swarbrooke and Horner. They had the opinion that sustainable consumers are influenced by various factors: 1) an altruistic belief, 2) the desire to feel good about their tourist behavior, and 3) the desire to improve their image with friends and family. *Altruism* was the weakest in the present study of the three factors. Some studies also classify altruism among the firmly anchored values of persons (Anderson 2012). However, altruism does not seem to be equally anchored in all persons of the German

cultural circle, why this factor allows a differentiation of the consumers. Sustainable consumers are therefore to be classified as selfless, very helpful people, who often do well without expecting a return. Altruistic behavior can, however, be easily influenced, for example by lower income. Altruism can therefore be found mostly in societies that are economically stable and very socially oriented (Wang 2014). It can also be inferred from this research that the *social influence factors* were more pronounced among the sustainable consumers. Sustainable respondents therefore felt that sustainable behavior in their context would be regarded as important. This is in line with a larger flow of research that has already tested the effects of the same social influences on the purchase of sustainable food, a visit to a sustainable restaurant and the choice of a sustainable hotel (Han 2010).

Another possibility would be that the sustainable products are perceived as statutory symbols, which are regarded as particularly and modern in today's societies. Sustainability is a trend and the purchase of sustainable products gives consumers a better image with friends and family. The most important value to identify the sustainable consumers, however, is the *emotions*. The sustainable sample group described a much stronger value of positive emotions (for example happiness or pride) they felt after purchasing a sustainable product. Researcher James Andreoni, on the other hand, spoke of *warm-glow altruism*. This warm-glow altruism corresponds to the psychological approach of inner satisfaction. Consumers therefore feel rewarded internally when they do well and behave in an environmentally friendly manner (Andreoni 1990). In the face of the already strong pronounced altruistic character expressions, this also appears to be a good explanation option.

#### ***Part IV: Expectations and requirements of a sustainable hotel***

Respondents were astonishingly open to all proposed measures within a sustainable hotel. The only exception is the renouncement of a wellness area, which the respondents rather rejected. Furthermore, the low level of consent of respondents to the use of biologically grown products is remarkable. Already in a previous study, respondents rejected the use of biological products. At this point in time, however, no explanation can be found for this issue (Yusof, Amalina 2014). Our study reveals that the acceptance of the guests towards sustainable measures in hotels is increasing. A further indication of this is the lively participation in the voluntary, open questions of our questionnaire. Respondents were familiar with the topic and had many productive ideas. From the knowledge gained previously, a list of priorities for sustainable implementations can be drawn up, which is weighted by the popularity of the respective measures among the hotel guests. The first aspect that should be noticed in a hotel is therefore the regional and seasonal procurement. Subsequently, soap dispensers and water-saving sanitary facilities should be integrated. Training of the housekeeping department should take place, in order to introduce new guidelines for the change of towels and linen and the energy supply should take place through renewable energies. Table 3 represents such a list of priorities. Since this is very catchy, no further description is omitted.



**Table 3: Prioritization of sustainable measures according to guests' desire**

Priority 1	<ul style="list-style-type: none"> <li>• Use of regional products in the restaurant</li> <li>• Use of seasonal products in the restaurant</li> <li>• Soap dispenser instead of packaged cosmetic products</li> <li>• Use of water-saving sanitary facilities</li> <li>• No daily change of linen / towels</li> <li>• Renewable energies</li> <li>• No Minibar</li> <li>• Use of fair trade products in the restaurant</li> <li>• Possibility in the restaurant food remains to be packaged</li> <li>• Environmentally friendly towels and bed linen</li> <li>• Waste separation in the hotel rooms</li> <li>• Use of organically grown products in the restaurant</li> </ul>
Priority 2	<ul style="list-style-type: none"> <li>• Products from the hotel's own garden</li> <li>• Preservative-free cleaning products</li> <li>• Invoices as emails and not in paper format</li> <li>• Environmentally friendly transports (bicycles, electronic cars)</li> <li>• Organic / sustainable bathroom products</li> <li>• Environmentally friendly equipment (carpet, paint, furniture) made from recycled materials</li> <li>• Limitation of the heating temperature to a maximum of 22 ° C</li> </ul>
Priority 3	<ul style="list-style-type: none"> <li>• No daily cleaning</li> <li>• Reduced supply of meat dishes from the menu</li> <li>• No coffee machine / water boiler</li> <li>• No reception lighting / Preheated hotel room upon arrival</li> <li>• No air conditioning</li> <li>• Environmentally-oriented leisure activities: hiking, garbage collection on the beach, etc.</li> </ul>

## Conclusion

This study shows that in Germany a very high degree of sustainability can be found in general. However, this does not necessarily have to lead to sustainable behaviour. In the hotel booking process, sustainable criteria are included by the guests in their decision. However, the main decision-making criteria are still location, price and reviews/reputation. The hotel guests are interested in sustainable hotels, but they do not want to sacrifice them, especially in the quality standards of the hotels. However, they are willing to pay more for sustainable hotels. Many of the respondents were not sure whether they had ever stayed in a sustainable hotel. There is consequently a communication deficit of the hotels with regard to their sustainable orientation. Sustainability certificates and labels were well known among the respondents of the survey. The confidence in the certificates was surprisingly high as well. Hotels can use these effectively as an instrument of information. The hotel booking process of individual travellers is very complex. It is influenced by numerous factors, which are partly deeply embedded in the psyche of every

human being. The influencing factors are therefore difficult to determine or predict. A generally high level of environmental awareness in Germany was determined. The attitudes towards the environment, the perception of the environment as well as the perceived effectiveness with regard to solving environmental problems were also very strong. However, there seem to be numerous barriers, such as price, which prevent people from behaving in a sustainable way. Sustainable hotel guests have strong altruistic character expressions and take a high pressure on society to behave sustainably. They are therefore helpful, selfless and socially oriented. Furthermore, booking a sustainable hotel gives them a good feeling. Hotels should try to use this knowledge to provide sustainable innovations in order to enhance the guest satisfaction.

## References

- Accor, 2016. Responsible guests are looking for sustainable hotels. Retrieved from [http://www.ac-corhotels-group.com/fileadmin/user\\_upload/Contenus\\_Accor/Developpement\\_Durable/pdf/EN/guest\\_study\\_en\\_2016.pdf](http://www.ac-corhotels-group.com/fileadmin/user_upload/Contenus_Accor/Developpement_Durable/pdf/EN/guest_study_en_2016.pdf).
- Anderson, M. 2012. New Ecological Paradigm – (NEP) Scale. Retrieved from <http://umaine.edu/soe/files/2009/06/NewEcologicalParadigmNEPScale1.pdf>.
- Andreoni, James: Impure altruism and donations to public goods: A theory of warm-glow giving. *The economic journal*, 1990, 100. Jg., Nr. 401, S. 464-477.
- Assael, H., 2004. *Consumer behaviour: A strategic approach*. Boston: Houghton Mifflin
- Association of British Tour Operators 2008. Surveys find conflicting attitudes by the traveling public to climate change and the environment. Retrieved from <http://www.greenaironline.com/news.php?viewStoryPrinter=281> on December 19, 2008.
- Banbury, C., Stinerock, R., Subrahmanyam, S., 2012. Sustainable consumption: Introspecting across multiple lived cultures. *Journal of Business Research*, 65, 497-503.
- Banerjee, B., McKeage, K., 1994. How Green Is My Value: Exploring the Relationship between Environmentalism and Materialism. In *NA - Advances in Consumer Research*, 21, eds. Allen, C. T., John, D. R., Provo, UT : Association for Consumer Research, 147-152.
- Barber, N., 2010. ‘Green’ wine packaging: targeting environmental consumers. *International Journal of Wine Business Research*, 22 (4), 423–444.
- Bei, L.T., Simpson, E.M., 1995. The determinants of consumers’ purchase decisions for recycled products: an application of acquisition-transaction utility theory. In: Kardes, F.R., Sujan, M. (Eds.), *Advances in Consumer Research* 22. Association for Consumer Research, Provo, UT, 257–261.
- Berger, Ida; Corbin, Ruth: Perceived consumer effectiveness and faith in others as moderators of environmentally responsible behaviors. *Journal of Public Policy & Marketing*, 1992,

S. 79-89.

Chan, J. K. L., Baum, T. (2007). Ecotourists' perception of ecotourism experience in Lower Kinabatangan, Sabah, Malasia. *Journal of Sustainable Tourism*, 15 (5), 574-590.

Chang, C., 2011. Feeling ambivalent about going green. *J. Advert.* 40 (4), 19–32. Chen, A., Peng, N., 2012. Green hotel knowledge and tourists' staying behaviour. *Ann.*

*Tourism Res.* 39, 2203-2219.

Chen, J. S., Sloan, P., & Legrand, W. 2009. *Sustainability in the hospitality industry*, Maryland Heights, MO: Elsevier.

Chen, M., Tung, P., 2014. Developing an extended theory of planned behaviour model to predict consumers' intention to visit green hotels. *IJHM* 36,221-230.

Choi, G., Parsa, H. G., Sigala, M., & Putrevu, S., 2009. Consumers' environmental concerns and behaviors in the lodging industry: A comparison between Greece and the United States. *Journal of Quality Assurance in Hospitality & Tourism*, 10 (2), 93–112.

Dalton, G.J., Lockington, D.A., Baldock, T.E., 2008. A survey of tourist attitudes to renewable energy supply in Australian hotel accommodation. *Renewable Energy* 33 (10), 2174–2185.

Dunlap, R. E., Van Liere, K. D., Mertig, A. G., & Jones, R. E., 2000. Measuring endorsement of the new ecological paradigm: A revised NEP scale. *Journal of Social Issues*, 56 (3), 425-442.

Engel, J. F., Miniard, P. W., Blackwell, R. D., 2006. *Consumer behaviour* 10th Edition. Thomson South-Western. Mason. USA .

Fairweather, J. R., Maslin, C., Simmons, D. G., 2005. Environmental Values and Response to Ecolabels among International Visitors to New Zealand, 13 (1), 82-98.

Han, H., 2015. Travelers' pro-environmental behaviour in a green lodging context: converging value-belief-norm theory and the theory of planned behaviour. *Tourism Management*, 47, 164-177.

Han, H., Hsu, L. T. J., & Lee, J. S., 2009. Empirical investigation of the roles of attitudes toward green behaviors, overall image, gender, and age in hotel customers' eco- friendly decision-making process. *International Journal of Hospitality Management*, 28(4), 519–528.

Han, H., Hsu, L. T. J., Sheu, C., 2010. Application of the Theory of Planned Behavior to green hotel choice: Testing the effect of environmental friendly activities. *Tourism Managment*, 31, 325–334.

Han, H., Hsu, L. T. J., Lee, J. S., Sheu, C., 2011. Are lodging customers ready to go green? An examination of attitudes, demographics, and eco-friendly intentions. *International*

---

Journal of Hospitality Management, 30, 345–355.

Han, H., Kim, Y., 2010. An investigation of green hotel customers' decision formation: Developing an extended model of the theory of planned behaviour. *International Journal of Hospitality Management*, 29, 659–668.

Han, H., Yoon, H. J., 2015. Hotel customers' environmentally responsible behaviour intention: Impact of key constructs on decision in green consumerism. *IJHM* 45, 22- 33.

Hedlund, T., 2013. Tourists' vacation choice structure: Influence of values and implications for green tourism (Doctoral dissertation, Umeå universitet).

Hofmeister-Toth, A., Kelemen, K., Piskoti, M., 2011. Environmentally conscious consumption patterns in Hungarian households. *Soc. Econ.* 33, 51-68.

Horner, Susan; Swarbrooke, John: Consumer behaviour in tourism. Routledge 2016. Jones, P., Hillier, D., & Comfort, D. (2014). Sustainability in the global hotel industry.

*International Journal of Contemporary Hospitality Management*, 26(1), 5-17.

Kabadayi, E. T., Dursun, I., Alan, A. K., Tuger, A. T., 2015. Green purchase intention of young Turkish consumers: Effects of consumer's guilt, self-monitoring and perceived consumer effectiveness. *Procedia – Social and Behavioral Sciences*, 207, 165-174.

Kiatkawsin, K., Han, H., 2017. Young travelers' intention to behave pro-environmentally: Merging the value belief-norm theory and the expectancy theory. *Tourism Management*, 59, 76-88.

Kim, Y. & Han, H., 2010. Intention to pay conventional-hotel prices at a green hotel – a modification of the theory of planned behaviour. *Journal of Sustainable Tourism*, 18(8), 997-1014.

Kim, Y. J., Njite, D., & Hancer, M., 2013. Anticipated emotion in consumers' intentions to select eco-friendly restaurants: Augmenting the theory of planned behaviour.

*International Journal of Hospitality Management*, 34, 255–262.

Laroche, M., Bergeron, J., Barbaro-Forleo, G., 2001. Targeting consumers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18(6), 503-520.

Lee, M., Han, H., & Willson, G., 2011. The role of expected outcomes in the formation of behavioral intentions in the green-hotel industry. *Journal of Travel & Tourism Marketing*, 28(8), 840–855.

Manaktola, K., Jauhari, V., 2007. Exploring consumer attitude and behaviour towards green



practices in the lodging industry in India. *International Journal of Contemporary Hospitality Management*, 19(5), 364-377.

Mostafa, M. M., 2007. Gender differences in Egyptian consumers' green purchase behaviour: the effects of environmental knowledge, concern and attitude. *International Journal of Consumer Studies*, 31, 220-229.

Phipps, M., Ozanne, L. K., Luchs, M. G., Subrahmanyam, S., Kapitan, S., Catlin, J. R., Gau, R., Naylor, R. W., Rose, R. L., Simpson, B., Weaver, T., 2013. Understanding the inherent complexity of sustainable consumption: A social cognitive framework.

*Journal of Business Research*, 66, 1227-1234.

Press, M., Arnould, E. J., 2009. Constraints on sustainable energy consumption: Market system and public policy challenges and opportunities. *Journal of Public Policy & Marketing*, 28(1), 102-113.

Pröbst, U., Müller, F., 2012. Hotel certification and its relevance for sustainable development: examples from the European Alps, in: Pineda, Francisco; Brebbia, Carlos: *Sustainable tourism V*. WIT Press.

Pryce, A. H., 2001. Sustainability in the hotel industry. *Travel and Tourism Analyst*, 6. 95-114.

Rubright, H., Kline, C., Viren, P. P., Naar, A., Oliver, J., 2016. Attraction sustainability in North Carolina and its impact on decision-making. *Tourism Management Perspectives*, 19, 1-10.

Robinson, Ramona; Smith, Chery: Psychosocial and demographic variables associated with consumer intention to purchase sustainably produced foods as defined by the Midwest

Food Alliance. *Journal of nutrition education and behavior*, 2002, 34. Jg., Nr. 6, S. 316-325.

Schlegelmilch, B. B., Bohlen, G. M., Diamantopoulos, A., 1996. The link between green purchasing decisions and measures of environmental consciousness. *European Journal of Marketing*, 30(6), 35-55.

Schwartz, S., 1973. Normative explanations of helping behaviour: A critique, proposal, and empirical test. *Journal of Environmental Psychology*, 9(4), 349-364.

Stern, P. C., 2000. New environmental theories: Toward a coherent theory of environmentally significant behaviour. *Journal of Social Issues*, 56(3), 407-424.

Stern, P.C., Dietz, T., Kalof, L., 1993. Value orientations, gender, and environmental concern.

*Environment and Behavior*, 25, 322-348.

---

Swarbrooke, John: Sustainable tourism management. Cabi, 1999.

Thøgersen, J., 2005. How may consumer policy empower consumers for sustainable lifestyles? *Journal of Consumer Policy*, 28(2), 143–178.

Triandis, H. C., 1993. Collectivism and Individualism as Cultural Syndromes. *Cross-Cultural Research*, 27 (3-4), 155-180.

Tsai, C., & Tsai, C., 2008. Impacts of consumer environmental ethics on consumer behaviors in green hotels. *Journal of Hospitality Marketing & Management*, 17(3), 284–313.

Vermeir, I., Verbeke, W., 2008. Sustainable food consumption among young adults in Belgium: Theory of planned behaviour and the role of confidence and values. *Ecological Economics*, 64(3), 542–553.

Vicente-Molina, M. A., Fernández-Sáinz, A., Izagirre-Olaizola, J., 2013. Environmental knowledge and other variables affecting pro-environmental behaviour: comparison of university students from emerging and advanced countries. *Journal of Cleaner Production*, 61, 130-138.

Wang, P., Liu, Q., Qi, Y., 2014. Factors influencing sustainable consumption behaviors: a survey of the rural residents in China. *Journal of Cleaner Production*, 63, 152-165.

Webster, F. E., 1975. Determining the Characteristics of the Socially Conscious Consumer. *The Journal of Consumer Research*, 2(3), 188-196.

Wheeler, M., 2013. Are green brand buyers different? : An examination of green brand buyer profiles and purchasing behaviour. 2013.

Wiener, J.L., Sukhdial, A., 1990. Recycling of solid waste: directions for future research. *American Marketing Associations*, 1, 389–392.

Yusof, Mat; Amalina, Noor. 2014. Customers' expectations of hotel green marketing: a New Zea-land quantitative study. Auckland University of Technology.

## **Overtourism. An analysis of contextual factors contributing to negative developments in overcrowded tourism destinations**

**Fabian Weber**

*Lucerne University of Applied Sciences and Arts, Switzerland, [fabian.weber@hslu.ch](mailto:fabian.weber@hslu.ch)*

**Key words:** overtourism, overcrowding, case study, framework conditions

### **Introduction**

Tourism is a rapidly growing industry and has far-reaching economic, social and environmental impact. The rapid growth of tourism is a challenge for many destinations. But growth in tourist numbers is not the only reason for the many problems arising in tourism destinations under pressure all over the world.

While the problems of overcrowded tourism destinations like Galapagos or Machu Picchu are known for many years, the number of reports on European cities struggling with too many tourists increased in the last years. Those media reports coined the term “overtourism”, which stands for the phenomenon of overcrowded tourism destinations, where the (mainly social) carrying capacity is exceeded.

This abstract contributes to the discussion about overcrowding by analysing case studies of destinations with (too) high tourism intensities from all over the world in order to derive the main contextual factors that contribute to overtourism.

### **Aim**

The study focuses on tourism destinations in several countries on different continents. The goal of the study is to analyse cases in countries with different touristic contexts and to derive the main contextual factors contributing to negative developments as well as principles for the successful management of tourism destinations under pressure.

The study examines what the main challenges are in places with high tourism intensities and what could be innovative approaches to manage such destinations. A special focus is laid on the frame conditions (economic, political, environmental, social, and cultural) in the specific contexts of the different tourism destinations.

The main research question is:

- What are the contextual factors contributing to negative developments due to (too) high tourism intensities?

## Method

To answer these research questions eleven international university partners conducted a common decentralised study with a standardised methodology. For the study a comparative case study approach was chosen. Case studies are a useful and appropriate method, when complex phenomena should be investigated. In the special project setting with universities involved all around the globe, a comparative case study design allows a decentralised implementation of the research with a standardised methodology.

Comparative case studies emphasize comparison within and across contexts (Yin, 2014). They involve the analysis and synthesis of the similarities, differences and patterns across two or more cases that share a common focus or goal. (cf. Goodrick, 2014; Stake, 2000).

There are different approaches to conduct a case study (cf. Goodrick, 2014; Kaarbo & Beasley, 1999; Mayring, 2002; Muno, 2009). A comparative case study involves several steps. After determining and defining the research questions (1), the cases have to be selected and the process of data gathering has to be determined (2). A framework for the analysis is developed (3), before the data can be collected and the study implemented (4). The analysis of the data and the cross-comparison of the case studies (5) allow drawing conclusions and preparing the final report (6). (cf. Yin, 2004; Soy, 1997)

The following cases had been analysed by authors from universities in the corresponding countries by means of desk research and expert interviews:

Baku (Azerbaijan), Cozumel (Mexico), Great Barrier Reef (Australia), Juist (Germany), Kasane (Botswana), Lombok Island (Indonesia), Muskoka (Canada), Ohrid (Macedonia), Rigi (Switzerland), Soweto (South Africa), Vienna (Austria).

The cases selected for analysis by the partner universities are very diverse and most of them do not represent classical overtourism destinations. While Cozumel seems to resemble the most classical overcrowded tourism examples, other places such as Rigi, Juist or Kasane are much less crowded in comparison to destinations such as Venice, Barcelona or Mallorca.

Some of the destinations analysed are confronted with temporal aspects of overcrowding at peak times only (e.g. certain attractions in Vienna). Other destinations including Soweto and the Great Barrier Reef (GBR) have less impact from visitors per se at this stage, but these are still important, since they are combined with other impacts caused by other user groups and by the effects of climate change.

The analysis of the different cases allowed determining similarities and differences and deriving some general conclusions.

## Findings & Conclusion

There are several general studies about impacts of mass tourism and visitors' perceptions of crowding (cf. Jin and Pearce, 2011, Santana-Jiménez and Hernández, 2011, Zehrer and Raich, 2016). Also there are numerous case studies on applied carrying capacity models (Saveriades, 2000; Navarro Jurado, Damian et al., 2013, Maggi & Fredella, 2013; Lim, 1998) as well as literature about how to determine carrying capacity (Coccosis, Mexa, Collovini, Parpairis and Konstandoglou, 2001; Eugenio-Martin, 2011; European Commission, 2002; Klaric, Mangion, Satta and Travis, 2003). This abstract focuses on the comparison of different case studies and analyses similarities and differences between cases all over the world.

The case studies analysed show that the challenges are very individual and strongly depend on the local context. The spectrum of challenges due to high tourism intensities ranges from overburdened infrastructure (e.g. traffic congestions, lack of fresh water) to environmental impacts (e.g. pollution, waste) to social impacts (intolerance, inter-cultural issues, high prices, unaffordable housing, unemployment in off-season, restrictions for local communities, crime) and undesired visitor behaviour (e.g. noise, intercultural misunderstandings).

Not only the type of tourism has an influence, but also legal and political frame conditions or economic, social and environmental issues. This means that the solution approaches always have to be adapted to the respective situation. Nevertheless, there are certain contextual factors which appear in many case studies and which seem to make negative developments more likely.

The case studies revealed the most important factors that can lead to problems in regards to overcrowding. They can be summarised in the following points.

### ***Contextual factors contributing to negative developments in overcrowded tourism destinations***

1. Lack of facilities (restrooms, shade, shelter, public water, parking, cash withdrawal, traffic, public transport, etc.)
2. Sensitive environment (UNESCO-sites, fragile eco-systems, reefs, etc.)
3. Social disparity (cultural conflicts, low income levels, high unemployment, low tourism awareness, etc.)
4. Diversity of stakeholders (many players, many different interests, etc.)
5. High dependency on tourism
6. Seasonality & type of tourism (day tourists, second homes, event tourists, etc.)
7. Concentration of capital (unequal distribution of benefits)

8. Existing pressure through other sectors (air pollution, noise, traffic, overcrowding during events, rivalry between sectors, etc.)
9. Bad governance (lack of strategic approach, lack of inspection measures and penal systems, unqualified staff, insufficient coordination of stakeholders, low transparency, repression, etc.)

In regards to measures to be implemented in order to prevent overcrowding there are a few overall strategies that response to most of the factors mentioned.

While challenge 1 (lack of facilities) can be met by an adequate planning of infrastructures, regulation measures (protection areas, access restriction, entrance fees, etc.) are needed to better protect sensitive environments (2). Challenges 3 (social disparity) and 4 (diversity of stakeholders) require an extensive promotion of stakeholder participation in order to better manage the diversity of interest groups.

Diversification of tourism might help to lower dependency on tourism (5) and also to better distribute pressure to different places and to avoid problems due to seasonality (6). Likewise a more equal distribution of benefits through tourism (7) can only be reached by supporting and implementing new forms of tourism (e.g. Community based tourism). Challenges 8 (existing pressures) and 9 (bad governance) are probably the hardest to deal with, since they can't be influenced very directly. Here, besides political lobbying it is needed for tourism authorities to be in steady contact with the central political stakeholders and to try to influence them in order to develop tourism-friendly conditions.

### **Limitations**

When interpreting the results it has to be considered that the cases analysed all come from very different contexts and also differ in the challenges they face. In addition, even though all cases had been analysed with the same framework, the content and the quality of the information differ a lot. Some of the contextual factors mentioned can be resulting challenges at the same time, and the solution approaches can only partly be generalised and will have to be adapted to the particular context in each case. Furthermore, it can be assumed that the general economic and social situation has a significant influence on the resilience of a tourism destination and the capacity of managing challenges due to overtourism.

### **References**

- Coccosis, H., Mexa, A., Collovini, A., Parpairis, A., Konstandoglou, M. University of the Aegean. (2001). Defining, measuring and evaluating carrying capacity in European tourism destinations. Final Report. Athens
- Eugenio-Martin, J. L. (2011). Assessing social carrying capacity of tourism destinations with random utility models. *Estudios de Economía Aplicada*, 29(3), 881-902.
- European Commission (2002), Defining, measuring and evaluating carrying capacity in

- European tourism destination. Material for a document, prepared by Coccossis H., Mexa A. and Collovini A, University of the Aegean, Department of environmental Studies, Laboratory of Environmental Planning, Greece.
- Goodrick, D. (2014). Comparative Case Studies, Methodological Briefs: Impact Evaluation 9, UNICEF Office of Research, Florence. [https://www.unicef-irc.org/KM/IE/impact\\_9.php](https://www.unicef-irc.org/KM/IE/impact_9.php)
- Jin, Q.& Pearce, Ph. (2011) Tourist Perception of Crowding and Management Approaches at Tourism Sites in Xi'an, Asia Pacific Journal of Tourism Research, 16:3, 325-338, DOI: 10.1080/10941665.2011.572667
- Kaarbo, J., Beasley, R. K. (1999). A Practical Guide to the Comparative Case Study Method in Political Psychology. In: Political Psychology, Vol. 20, No. 2 (Jun., 1999), pp. 369- 391
- Klaric, Z., Mangion, M., Satta, A., & Travis, A. (2003). Guide to good practice in tourism carrying capacity assessment.
- Lim, L. Ch. (1998). Carrying Capacity Assessment of Pulau Payar Marine Park, Malaysia - Bay of Bengal Programme. (Appendix 1. Framework guidelines for assessing carrying capacity) <http://www.fao.org/docrep/x5626e/x5626e00.htm#Contents>
- Maggi, E.; Fredella, F. L. (2010). The carrying capacity of a tourist destination. The case of a coastal Italian city. 50 International Congress of European Regional Science Association (ERSA)
- Muno, W. (2009). Fallstudien und die vergleichende Methode. In Pickel, S., Pickel, G., Lauth, H.-J., Jahn D. (2009). Methoden der vergleichenden Politik- und Sozialwissenschaft. Wiesbaden.
- Navarro Jurado, E., Damian, I. M., & Fernández-Morales, A. (2013). Carrying capacity model applied in coastal destinations. *Annals of Tourism Research*, 43, 1-19.
- Santana-Jiménez, Y., & Hernández, J. M. (2011). Estimating the effect of overcrowding on tourist attraction: The case of Canary Islands. *Tourism Management*, 32(2), 415-425.
- Saveriades, A. (2000). Establishing the social tourism carrying capacity for the tourist resorts of the east coast of the republic of Cyprus. *Tourism Management*, 21(2), 147-156.
- Soy, S. K., (1997). The case study as a research method. Unpublished paper, University of Texas at Austin. <https://www.ischool.utexas.edu/~ssoy/usesusers/l391d1b.htm>
- Stake, R. E. (2000). Case studies. In Norman K. Denzin & Yvonna S. Lincoln (Eds.), *Handbook of qualitative research* (pp.435-453). Thousand Oaks: Sage.

Yin, R. K. (2014). *Case study research: Design and methods*. (5th ed.). Newbury Park, CA: Sage Publications.

Zehrer, A., & Raich, F. (2016). The impact of perceived crowding on customer satisfaction.

*Journal of Hospitality and Tourism Management*, 29, 88-98. doi:

<http://dx.doi.org/10.1016/j.jhtm.2016.06.007>



---

## **A system thinking approach towards promoting sustainability in the tourism industry**

**Toshima Makoondlall-Chadee, Chandradeo Bokhoree and Deepa Sumputh**

*University of Technology, Mauritius, Mauritius, [t.m.chadee@umail.utm.ac.mu](mailto:t.m.chadee@umail.utm.ac.mu)*

*University of Technology, Mauritius, Mauritius, [sbokhoree@umail.utm.ac.mu](mailto:sbokhoree@umail.utm.ac.mu)*

*University of Technology, Mauritius, Mauritius, [deepa.sumputh@yahoo.com](mailto:deepa.sumputh@yahoo.com)*

**Keywords:** Sustainable development, tourism, Small Islands Development States (SIDS), system dynamics

### **Introduction**

Over the decades, tourism has experienced continued growth and developing diversification to become one of the fastest growing economic sectors worldwide. Every year the tourism industry has experienced steady growth. International tourist arrivals increased from 528 million in 2005 to 1.19 billion in 2015 (Dacelle, 2004). Modern tourism is closely related to development and includes a growing number of new destinations. These dynamics have turned tourism into a key driver for socio-economic progress. Tourism became one of the major actors in international commerce, and represents at the same time one of the main income sources for many developing countries (Sedarati, 2015). This growth goes hand in hand with an increasing diversification and competition among destinations, this global spread of tourism in developed states has produced economic and employment benefits in many related sectors including construction to agriculture or telecommunications (Neto, 2003).

Moreover, the contribution of tourism to economic well-being depends on the quality and the revenues of the tourism offer. UNWTO assists destinations in their sustainable positioning in ever more complex national and international markets. As the UN agency dedicated to tourism, UNWTO points out that particularly developing countries stand to benefit from sustainable tourism and acts to help make this a reality (Pedersen, 2013).

When it comes to sustainability, there are actually three “pillars” to consider; environmental, economic, and socio-cultural. Tourism has to be sustainable in all three areas to truly be considered “sustainable tourism” (Eugui, 2014). As more regions and countries develop their tourism industry, it produced significant impacts on natural resources,

consumption patterns, pollution and social systems (Dacelle, 2004). The need for sustainable planning and management is imperative for the industry to survive as a whole. Environment sustainability is one among the three pillars of sustainability, the latter is obviously important to tourism. Both the natural environment such as beaches and forests and the built environment such as historic buildings and ruins must be preserved for an area to be environmentally sustainable. Environmental sustainability is to ensure that resources can be preserved for use by future generations. It's much more than just being "green". Tourism can provide both positive and negative effects on the environment aspect of a country. It helped to improve infrastructures. However these improvements lead to a number of consequences like pollution, greenhouse gas emission, littering (Carbone, Yunis, Kelly, Winterton, & Borobia, 2006).

Furthermore, there is economic sustainability. Many people did not take into account economics when thinking about sustainability, but it's really the key to making a tourism venture sustainable. Economic sustainability builds linkages and reduces leakages essentially, keeping the money local. A hotel owned and operated by a foreigner is not likely to contribute much to the local economy, the money will likely leak overseas instead. This is not sustainable. Not only should the community be involved in tourism, but they should also all share in the financial benefits gleaned from it. Similarly, economic sustainability also generate some negative aspects that affects the ecology and the population health.

Lastly, there is the socio- cultural sustainability. Local residents may see increased congestion and overcrowding in towns and cities, perhaps an increase in crime, the introduction of new languages and values, and possibly an influx of migrant workers to be employed in the tourist industry (Dacelle, 2004). Socio- cultural sustainability, is the minimization of these negative impacts and focusing on more positive ones, such as promoting cultural exchange and preserving local traditions. This can usually be achieved by getting the locals involved in the tourism industry (Giulia Carbone, Yunis, Kelly, Winterton, & Borobia, 2006). Having the community involved will not only offer visitors a more genuine experience, but the local residents will be more likely to see tourism in a positive light.

Sustainable tourism actually benefits everyone involved, and not just one half of the equation. Unsustainable tourism might be fine from the point of view of the tourist, but it's unlikely to benefit or gain support from the host community (Pedersen, 2013).

Particularly Small Islands Developing States (SIDS) vary greatly in their economic and social performance and their level of international visitor arrivals but many demonstrate a high level of dependence on tourism in terms of exports and contribution to GDP (Neto, 2003).

As one of the fastest growing sectors in the world, tourism became the main economic activity for many Small Island Developing States (SIDS), creating much needed job

opportunities and bringing in important income and foreign exchange earnings (Eagles, McCool, Haynes, & Philip, 2002). There are various key distinctive challenges for islands, the main four include: the crucial role of tourism in the sustainable development of islands, following the approach of the Rio+20 Conference which paid specific attention to tourism and its contribution to sustainable development; climate change, which is a great threat to many islands and requires a response from the tourism sector; air connectivity, requiring a strong link between tourism and air transport policies; and market positioning, including tourism products diversification and establishment of niche markets that would contribute to competitiveness and decrease vulnerability (UNEP, 2002).

Sustainability indicators are information sets which are formally selected for a regular use to measure changes in key assets and issues of tourism destinations and sites (Dacelle, 2004). The identification of specific, measurable indicators helped to clarify issues and objectives and to communicate priorities and results between stakeholders (Sedarati, 2015). To monitor the process of sustainable development and to improve the planning process there is a need to have indicators that help to evaluate and co-ordinate sustainable development. Indicators have been identified for all three aspects of sustainable tourism development that include ecological, economic and social (Pedersen, 2013).

There are various ways of measuring tourism performance and impacts. Firstly, by increasing the economic value of tourism is an important concern for advanced tourism economies to remain competitive in the global tourism market place and vis-à-vis other industries (Arthur, 2012). The objective to enhance the value of tourism requires an increased collaboration across the tourism value chain which could help the tourism sector at large to overcome its high fragmentation, to deliver a total tourism experience and to support a better use of existing infrastructure, staff and resources. An indirect measurement of these issues could be provided by traditional tourism indicators assessing change and trends in jobs, income and revenues (Eugui, 2014).

Secondly, indicators to monitor the ability of a destination to deliver quality tourism service. A natural starting point for measuring the tourism competitiveness of a destination is the production side and the business environment. A direct source of competitiveness for a destination is a dynamic and fair business environment (Eugui, 2014). This group of indicators therefore is related to the supply side of the tourism economy. Moreover, to describe policy responses and economic opportunities, incentives become more competitive and more attractive and are provided by a dynamic institutional framework to able to foster well- designed support policies in areas that are imposed on competitive and sustainable tourism environment (Pedersen, 2013).

Many policies played an instrumental role in tourism development. In advanced economies, new forces are needed to support growth and create new value by designing innovative tourism services (MES, 2009). There are normally various methods that have been used to determine the severity on the three pillars of sustainability and to reduce the

negative effects that tourism generate on environment, socio-economic factors (Neto, 2003).

Indicators can be both qualitative and quantitative and are related to both the condition of a destination and to the actual management process itself, it is important to include feasibility, relevance, data availability, credibility, clarity and comparability (Dacelle, 2004).

However, there are some deficiencies that have been encountered lack of inconsistency, monitoring tourism activity does not cover all key sustainability issues, lack of technical capacities, and lack of involvement in private sector. These issues make it difficult to implement a suitable method for promoting sustainability in tourism sectors. Each one has their drawbacks which make the system fail (Eugui, 2014).

Countries and regions where the economy is driven by the tourism industry became increasingly concerned with the environmental, as well as the socio-cultural complexities associated with unsustainable tourism (Pero, 2014). This resulted in an increasing agreement on the need to promote tourism sustainability in a systematic way so as to minimize the environmental impacts, and to maximize socio-economic benefits at tourists' destinations (Sedarati, 2015).

Therefore, the system thinking approach is considered the most suitable method in this study, since it takes into consideration every variable that can affect the performance of each sustainability pillar (Eugui, 2014). The system thinking approach allowed people to make their understanding of social systems explicit and improved them in the same way that people can use engineering principles to make explicit and improve their understanding on mechanical systems. System thinking works by expanding its view to take account of a larger number of interactions (Arthur, 2002). Normally, system dynamics is used for dynamically complex systems that are affected by external and internal sources (Eagles, 2002).

### ***Objectives***

This paper proposed a system dynamics framework for the management of coastal tourism in Mauritius from a sustainability perspective and objectively targeted the following:

- To evaluate the complex interactions between economic, social and environmental systems of coastal tourism.
- To assess and model the economic, social and environmental variables of the coastal tourism using the system thinking approach.
- To quantitatively describe the impacts of the coastal tourism based on the three spheres of sustainable development.

## Methodology

In realizing this study, a methodology combining qualitative and quantitative research methods was used. This study focused on one coastal region of Mauritius known as Flic-en-Flac which is well-known for its beach, hotels and restaurants (Eagles, McCool, Haynes, & Philip, 2002).

### *Case study: Flic-en-Flac In Mauritius*

Flic en Flac, situated along the west coast of Mauritius, has become the second tourist area of Mauritius after Grand Baie. The west coast of Mauritius has developed much slower than the north region, but still, beautiful villages such as Flic-en-Flac have developed from little fishing villages into small towns gaining the reputation of a top holiday destination. From a small fishing village, over the past 200 years, Flic-en-Flac has rapidly developed into an important tourist area. Today, Flic-en-Flac is very popular destination which attracts both tourists and locals Mauritians. Flic-en-Flac is a great place to spend your holiday where one will find excellent beaches, range of waterspouts and a quiet setting for complete relaxation. It offers pleasant and charming setting with beautiful white sand beaches and beautiful blue lagoons. Along its very long beach there are many restaurants, hotels, shops and centres.

The system dynamics approach helped to illustrate the interconnected variables that affect the sustainability system through the modelling approach. All the system thinking diagrams are constructed in software based system. There are various types of software that can be used to construct CLD and SFD such as STELLA, VENSIM PLE32 and iThink (System thinking, 2000). In this study, Vensim Ple32 has been used. The dynamic system make use of loops (reinforcing loop- make a change in the same direction and balancing loop- make a change in the opposite direction) and sign arrows to connect each variables to determine the causation effects and to form Causal loop diagram (CLD) followed by Stock and flow diagram (SDF).

### *System dynamics modelling of coastal tourism impacts*

System dynamics helped to identify variables that are used to construct the causal loop diagram. All the variables illustrated in the diagram were from practical site visits conducted in the region of Flic-en-Flac. Flic-en-Flac region has been chosen in this study because it is among the most touristic attractive place in Mauritius (Neto, 2003). This study used both the primary and secondary data to conduct its assessment process. The primary data was collected during several site visit conducted at Flic -en- Flac and secondary data were extracted from past data in research papers.

The development of a conceptual model included two main stages: the preliminary model known as the causal loop diagram and the realistic model known as the stock and flow diagram. The Causal loop diagram aimed at observing the major variables affecting the

## Innovation and Progress in Sustainable

---

performance of environment, economic and social impacts of coastal tourism in Mauritius. It is constructed to identify the essential elements comprising the problematic situation, thereafter indicating how these elements influence one another. The stock and flow was usually developed based on the causal loop diagram and visualized through professional software for quantitative simulation and analysis (Sedarati, 2015). Figure 1.0 below illustrates the Causal loop diagram for the three pillars of sustainability and all other factors that possibly are causation elements.

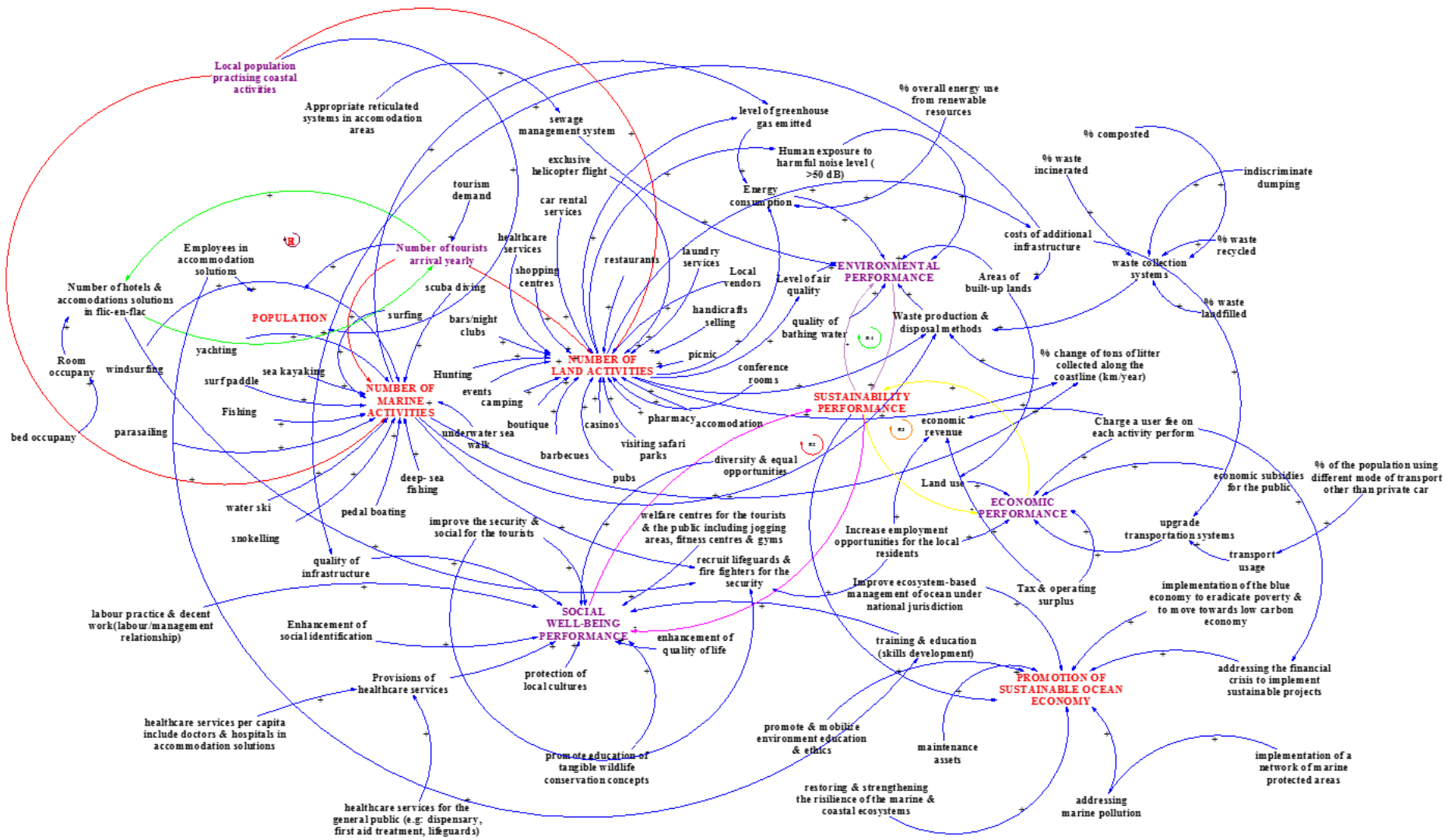


Figure 1: Loop diagram of coastal tourism impacts

The above system of coastal tourism towards sustainability illustrated in the figure 1.0 was categorized into four core elements that had direct effects on the tourist economy in Mauritius (Pedersen, 2013). The loops were therefore categorized into population loop, coastal activities loop, social performance loop, economic performance loop, environment performance loop and the implementation measures so as to direct towards sustainable ocean economy (Ahmad, 2012). The hotels that are well-known to tourists because of their facilities and activities offered are:

- Sugar Beach Resort
- Sofitel Imperial
- Aanari hotel
- La Pirogue
- Golden Beach Resort
- Pearl Beach
- Hilton Mauritius
- Maradiva Villa Resort & Spa
- The Sands Resort & Spa

It can be seen that the major activities practiced in the region of Flic-en-Flac was divided into two categories, the land activities and marine activities. On one hand land activities englobe mainly eating, picnic, spa, casinos, bar/pubs, camping, sightseeing, visiting Adventure park, car rental services and restaurants on the other hand marine activities took into consideration all the activities that needs water such as yachting, parasailing, skiing, fishing, scuba diving, boating, under walk sea walk and more (Eagles, McCool, Haynes, & Philip, 2002). All these activities are dependent on the number of tourists and local citizens who practiced them. Since the rate of tourists' arrival each year keeps on increasing, all the activities practiced in these regions were ongoing, it could be affected because of weather but not much.

However, an increase in the number of tourists can push people to adopt a different moral conduct such as an increase in drug use (Kreag, 2012). Because of tourists there was the creation of opportunities through the services from shops, restaurants and other commerce operators and also created healthcare services through the provisions of doctors, first aid in case of emergencies (Sedarati, 2015).

Tourism often induced improvements in public utilities such as water, sewer, sidewalks, lighting, parking, public restrooms, litter control and landscaping. Moreover, on one hand tourists encouraged improvements in transport infrastructure resulting in the upgrading of airports, roads, public transportations and on the other hand it



encouraged increase opportunities for shopping even for the local residents that will normally increase the tax revenue (Mbugua, 2013). When considering the economic impacts of tourism, it is important to understand that tourism had significant low paying jobs. These jobs were often seasonal causing under-employed during off-seasons (Kreag, 2012). Thus labor were imported rather than hired locally. Some businesses related to tourism industry were volatile and high- risk ventures that are unsustainable.

There was great demand for goods, services, land and housing that may increase the prices in turn will increase the cost of living (Baird, 2003).

Moreover, tourism businesses claimed and that could have higher value. The community generated fund that indirectly increase taxes to maintain roads and transportation systems. Similarly if additional infrastructures such as fuel, sewer, water, electricity and medical was required additional taxes may be needed to pay them (Mbugua, 2013).

Some research papers demonstrated that tourism industry can cause both benefits to the country in terms of tax, profits and employment, it can also have detriment effects on the environment (Dacelle, 2004). A survey conducted in Kenya, clearly shows that tourism industry was mainly responsible for widespread and environmental and cultural damage such as forest depletion, water pollution, soil erosion, habitat destruction, wildlife harassment, economic exploitation and cultural degradation of indigenous communities (Mbugua, 2013). In this framework, sustainable environmental performance addressed a core area that was minimizing the environmental impact of coastal activities performed through accommodation solutions (Neto, 2003). Tourism degrade the environment by the generation of waste and pollution (air, water, noise and visual). Natural resources attractions can be threatened through improper uses or overuse (Kreag, 2012). The causal loop shows the collected & disposed majorly generated from marine and land activities can have negative effects of the environment. As the number of activities in accommodation solutions increased, the volume of waste generated was normally increased. Since waste generated rised will have a rising affect in the volume of waste collected, recycled, composted, disposed, incinerated and those wastes that were illegally dumped (Giulia Carbone, Yunis, Kelly, Winterton, & Borobia, 2006). These variables were interrelated having an increasing effect relationship (MIE, 2014). Moreover, the energy consumption from marine activities through petrol boat, exhaust in kitchen, can cause release of harmful gases into the atmosphere. Thus on long run, this can damaged the Flora and Fauna of Mauritius resulting in greenhouse gas emission (e.g: methane, nitrogen oxide), depletion of the soil and of the ozone layer (Lusigi, 1978). As tourism developed, the demand for land increased, especially in places like beachfronts, special views and mountains. Tourists and businesses that catered to them often remove plants, animals, rosks, fossils, coral, and cultural artifacts from an area (Kreag, 2012). Likewise, lands that could be developed can generated income.

Social performance has a direct impact on the quality of life through the increased of

attractions, recreational opportunities and services. Tourism helped the local citizens to meet new persons, make friends and learn about the world (F.baird, 2003). Thus, by learning other cultures enriched experiences, broaden horizons and increase insight. In addition, the interest of tourists in local culture and history have provided opportunities to support preservation of historical artifacts and architecture (Neto, 2003).

Causal loop diagram was used to easily simulate the stock and flow diagram. The stock and flow diagram is a realistic diagram to determine the real impacts that influence the tourism industry from external sources. Stock and flow uses realistic data from past survey and research document to illustrate the forecasting graphs (Sedarati, 2015). The stock and flow diagram is a good example of methodically collecting information that takes place in scientific research (Pielke 2007). The components that are used in the construction of stock and flow diagram are the stock which are a quantity of the known variable and the flow help to connect the stock. As the stock increases, that increase positively affects that flow that is leading to that stock.

In this study, the stock and flow shows the relationship between the sustainability and its influence on environmental, social and economic factors. There are four main stocks identified namely stock of population, number of social performance activities, number of economic performance activities and number of environmental performance activities. Each stock is related with at least one flow, which are interrelated with other variables forming a network diagram at the end. Figure 2.0 below, illustrates the stock and flow that was constructed using Vensim PLE32 software.

Innovation and Progress in Sustainable Tourism

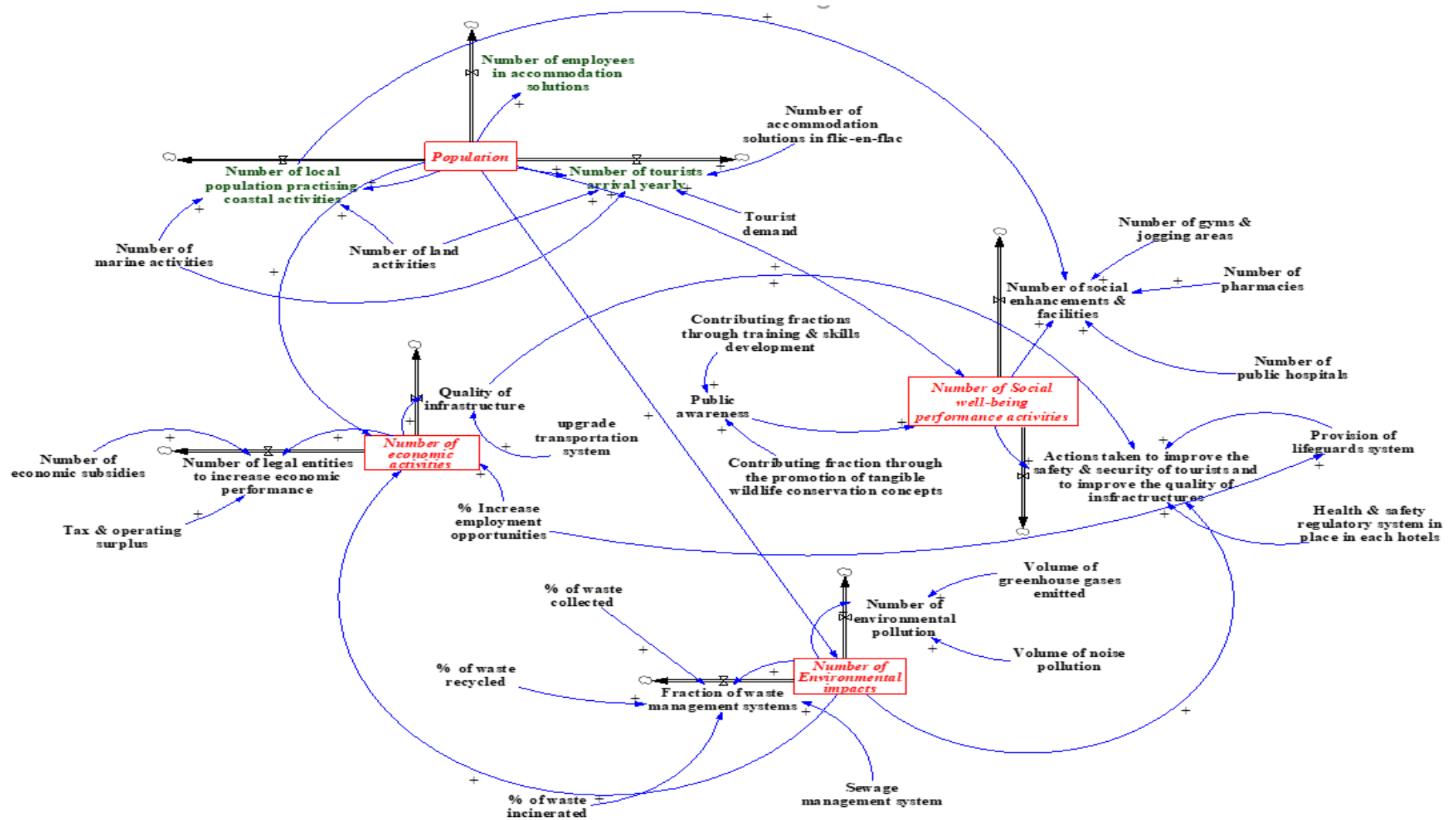


Figure 2.0: Stock and flow diagram of coastal tourism impacts

The stock and flow above showed that the stock for total population was directly dependent on the number of tourists' arrival, local residents who practiced coastal activities and the number of employees employed in accommodation solutions variables. As the number of tourists increased the overall population will generally rise causing rise in coastal activities. Likewise, the number of coastal activities were greatly dependent on the incoming tourists, coastal activities can be either marine or land or sometimes both.

In the figure 2.0 above, the stock of economic performance was dependent on the variables of number of legal entities, percentage of employment and quality of infrastructure that gave rise to employment opportunities, tax and subsidies. Similarly, environment performance stock was based on the waste management systems, volume of greenhouse gases emitted and other related environmental issues variables.

The social pillar of sustainability, was totally dependent on the social activities involved in coastal regions in Flic-en-Flac such as jogging parks, gyms, pharmacies, hospitals, dispensary, training and some conservation parks which helped in the preservation of parks and of the ecosystem. As the number of social activities increased, it gradually increased the social performance of the system and eventually increased the sustainability performance altogether. Thus, somehow each variable was directly or indirectly interrelated to one another. If one increased, the other one either increase or decrease depending on the impact it had on the three pillars.

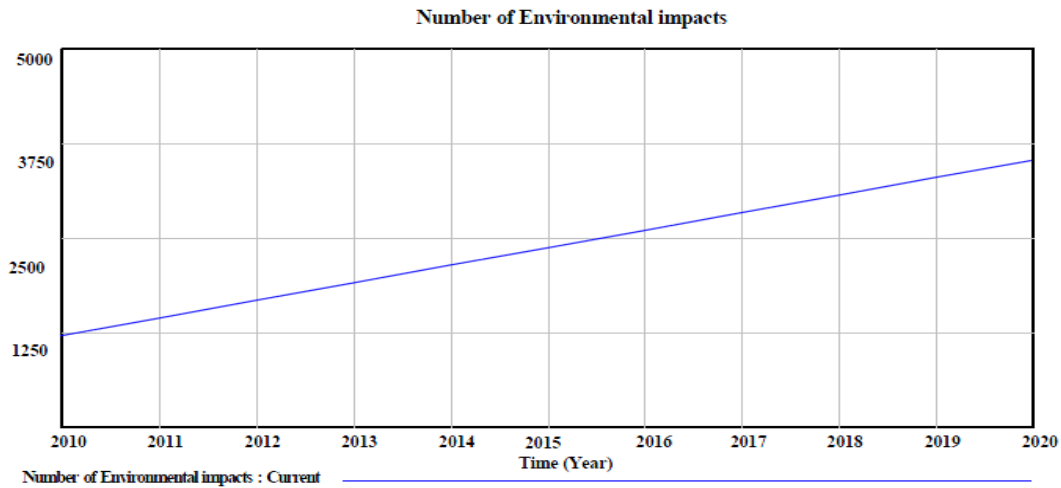
### **Preliminary results & Discussion**

All the data collected through observation from practical site visit and from research papers have been simulated in the Vensim Software through the construction of SFD to simulate graphs as shown in the table 1.0. The graphs are represented for the past, present and forecast for next few years.

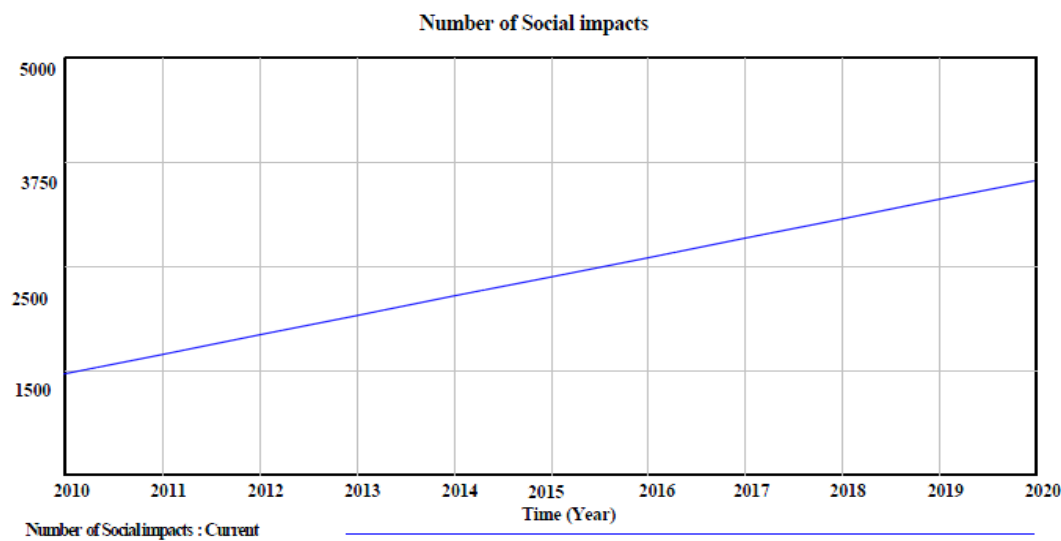
The graphs below show the relationships between different variables. For example, relationship between environmental performance and number of tourist arrival. Since it have an increase in pollution, normally lesser tourists will visit Mauritius. The graphs determine what measures the authority should take and to what extent to solve the sustainability issues so as not to affect the tourists and even the ecology.

**Table 1.0: Graphs for different variables simulated in Vensim PLE32 over a period of time**

Graph for Number of environment Impacts, forecasted till year 2020.

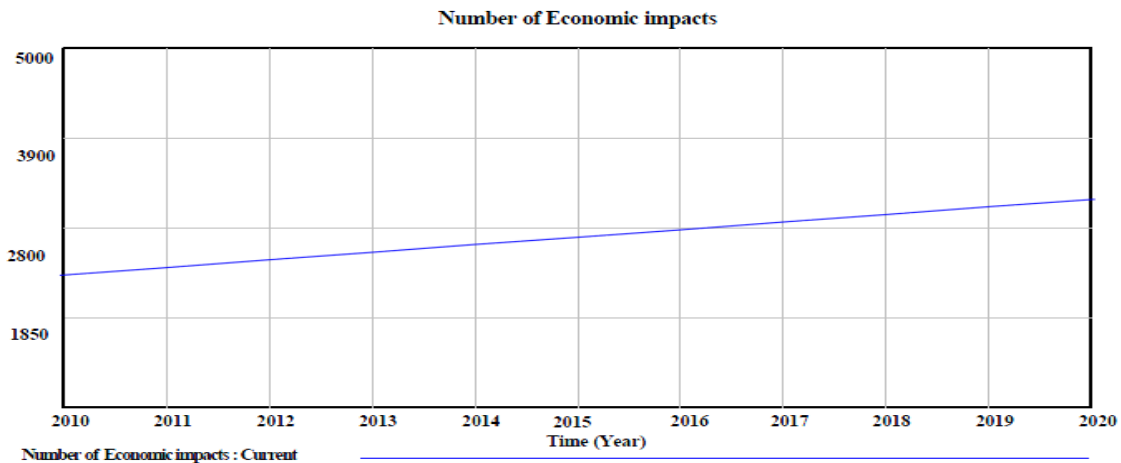


The graph showed how environmental impacts keeps on increasing when the number of population rise. And it will continue to increase in the upcoming years.

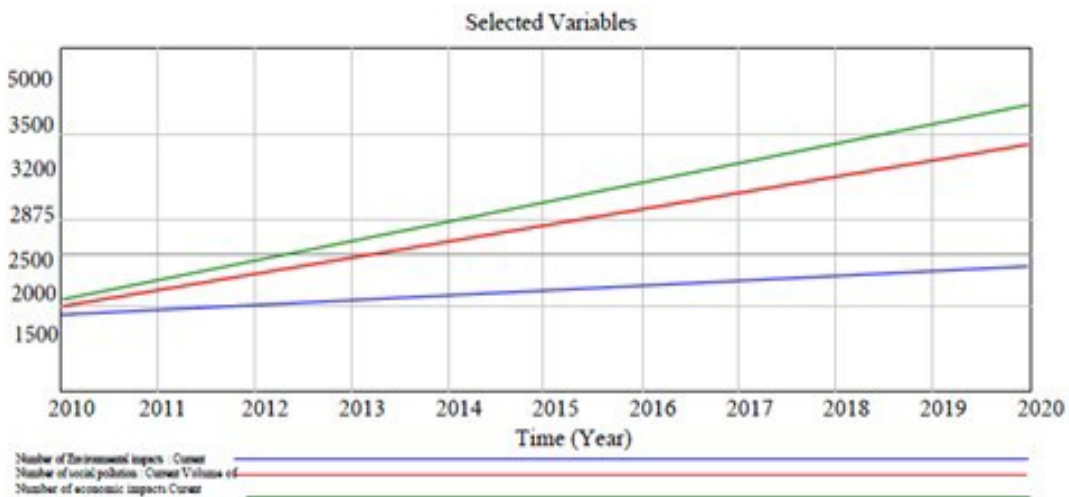


The graph showed the number of social impacts forecasted till 2020. Similarly, the social impacts raised like environmental impacts. In year 2010, the social impacts was already influencing the tourism sector, it can be positively or negatively and will goes on.

Innovation and Progress in Sustainable Tourism



The graph for economic impacts increase gradually from year 2010- 2020 as shown in graph.



The graph showed a scenario analysis of the three pillars of sustainability. The green line showed the environmental impacts per year, the red line is the social impacts and the blue line illustrated the economic impacts over a period of ten years.

Thus from these forecasting graphs, the authority can take remedial actions to reduce these impacts, so as not to wait the situation to worsen.

The method examined in this paper combined the system dynamics approach with variables of associated with sustainability. It also used the CLD and Stock and flow frameworks as to identify trends for future mitigation measures. Suggestions were made for enhancing this approach for use by tourism operators, researchers and planners. Recommendations that are deduced in this study is to apply appropriate legislations and

regulation to prevent the distortion of the environment (Dacelle, 2004).

It has been indicated in the introduction that there are many benefits to applying a systems thinking methodology of understanding the issue of sustainability in a more holistic manner than has been done before (Sedarati, 2015). System dynamics seems a worthy tool in this attempt, due to its capacity to incorporate a wide array of variables and the feedbacks between them, into a single model which can then be simulated to examine the system's behavior over time (Neto, 2003).

## Conclusion

Directing tourism growth toward local needs, interests, and limits can greatly enhance tourism's value to the community and help create a sustainable industry. As such, it is useful, not only to understand the three pillars of sustainability, but also for analyzing the complexity involved through the utilization of different assessment tools. Hence, a better understanding of the tools and process of system dynamics have been a useful weapon in minimizing the issue related with coastal sustainable development and to determine the exact variables which cause the negative impacts on social, economic and environment. An evaluation of such approach, will result in a cleaner environment and a better quality life for the people living near coastal regions. Accordingly the model proposed in this paper permits to analyze the complexity involved with tourism activities in coastal areas and could as a starting ground towards systematically analyzing the impacts.

## References

- Acuna, A., Sanabrina, R., & Delgadillo, L. (2013). Guide for sustainable tourism best practices. Rainforest Alliance.
- Dacelle, X. (2004). A conceptual and dynamics approach to innovation in tourism. OECD.
- Eagles, P. F., McCool, S. F., Haynes, C. D., & Philip, A. (2002). Sustainable tourism in protected areas; guidelines for planning and management. World commission on protected areas.
- Eugui, D. V. (2014). The ocean economy: opportunities and challenges for Small Island Developing states. UNCTAD.
- Giulia Carbone, H., Yunis, E., Kelly, A., Winterton, S., & Borobia, M. (2006). Award for improving the coastal environment: The example of the blue flag. European Union.
- Halioui, S., & Schmidt, M. (2013). Towards a holistic analysis in tourism section in Tunisia: A system dynamics approach. The 2016 WEI International Academic Conference Proceedings.

Mbugua, L. W., & Kamua, E. M. (2012). A system dynamics view of Tourism development in KENYA.

Neto, F. ( 2003). A new approach to sustainable tourism development: Moving beyond environmental protection. DESA Discussion paper No.29.

Pedersen, A. (2013). Managing tourism at world heritage sites:. World heritage manual.

Sedarati, P. (2015). System dynamics in Tourism: A systematic Literature Review.

UNEP. (2014). Making tourism more sustainable.



**Appendices**

**Conference Program**



# **BEST Education Network Think Tank XVII**

## **Innovation and Progress in Sustainable Tourism**



14-17 June 2017

International Center for  
Sustainable Tourism and Hospitality

University of Mauritius

Mauritius

## CONFERENCE PROGRAMME

**Think Tank XVII is hosted by:**



UNIVERSITY OF  
MAURITIUS

**International Center for  
Sustainable Tourism and Hospitality**

*University of Mauritius*



Chair of TTXVII:  
Associate Professor  
Robin Nunkoo



Co-chair of BEST EN:  
Associate Professor  
Pierre Benckendorff



**WEDNESDAY, 14th June 2017 Think Tank XVII Welcome**

Time	Programme	Venue
<b>17:30 – 18:00</b>	Registration	Greenlawm (subject to weather conditions)
<b>18:00 – 19:30</b>	Welcome Ceremony and Cocktail Welcome by the Chair of BEST EN and the Host	Greenlawn (subject to weather conditions)
<b>Self-Catered</b>	BEST EN Group Dinner ( <i>optional; not incl. in conference fees</i> )	Selection of restaurants available

**THURSDAY, 15<sup>th</sup> June 2017 Full-day conference at Long Beach Golf and Spa Resort**

Time	Programme	Venue
<b>8:00 – 8.30</b>	Registration	Bombora Terrace
<b>8:30 – 8:40</b>	<b>Opening and introduction to BEST EN</b> BEST EN Chair – <b>PIERRE BENCKENDORFF</b>	Bombora
<b>8:40 – 9:30</b>	<i>Hospitality and Environmental and Social Sustainability Site Visit</i> Long Beach Golf & Spa Resort Environmental Sustainability Site Visit Session Chair – <b>ROBIN NUNKOO</b>	Bombora
<b>09:45 – 10:45</b>	<b>Official Opening of Think Tank with welcome from the host</b> <ul style="list-style-type: none"> <li>• Welcome speech by Dr Robin Nunkoo, Think Tank Chair</li> <li>• Speech by Professor Sanjeev Sobhee Pro-Vice Chancellor (Academia), UOM</li> <li>• Speech by Honorable Anil Kumar Gayan, SC, Minister of Tourism</li> </ul> Session Chair – <b>PIERRE BENCKENDORFF</b>	Bombora
<b>10:45 – 11:15</b>	Morning Tea (Introduce Silent Auction)	Bombora Terrace
<b>11:15 – 12:30</b>	<b>Keynote 1: Dr Scott Cohen, Head of the Department of Tourism and Events in the</b>	Bombora

	<b>School of Hospitality and Tourism Management at the University of Surrey</b>  <b>Session Chair – PIERRE BENCKENDORFF</b>	
12:30 – 13:30	<b>Lunch</b>	Le Marché
13:30 – 14:30	Think Tank Brainstorming Session Facilitator: <b>PIERRE BENCKENDORFF</b>	Bombora
14:30 – 15:30	<b>Concurrent Paper Presentations: SESSION 1:</b> <ul style="list-style-type: none"> <li>• <i>Assessing Progress in Sustainable Tourism – Barriers, Evaluations, Measurement</i></li> <li>• <i>Contributions of tourism to destination sustainability</i></li> <li>• <i>Teaching and Learning Approaches in Sustainable Tourism</i></li> </ul> Session Chair: <b>BOOPEN SEETANAH</b>	Bombora
	<b>Gabrielle McGinnis, Mark Harvey, Ian Clark, <i>Australian Indigenous Tourism: Integration of knowledge vs. independent ventures</i></b>  <b>Jacobus Grobler and Kevin Mearns, <i>Applying water quality as a management tool for the wildlife lodge industry in South Africa and Botswana</i></b>  <b>Grace Ho and Rob Law, <i>Finding and Fostering Our Future Tourism Leaders: Undergraduate Choice in Pursuit of Hospitality and Tourism Higher Education</i></b>  <b>Sheereen Fauzel, Boopen Seentanh, <i>The relationship between foreign direct investment and tourism: empirical evidence from Mauritius</i></b>  <b>Andrew Rylance and Anna Spenceley, <i>Reducing economic leakages from tourism: A value chain assessment of the tourism industry in Kasane, Botswana.</i></b>  <b>Bhavish Jugurnath, Roucheet Bissessur, Rajshri Devi Chedee and Youvish Ramjattan, <i>Resident Perceptions towards Sustainable Tourism: The Mauritian Case</i></b>  <b>Anna Spenceley, <i>Sustainable tourism certification in the hotel sector in Africa: Progress made and opportunities for mainstreaming</i></b>	
	Concurrent Paper Presentations: SESSION 2: <ul style="list-style-type: none"> <li>• <i>Innovation in sustainable tourism – cases, issues, and challenges</i></li> </ul>	<b>Balao</b>

	<ul style="list-style-type: none"> <li>• <i>Product, marketing and experiential innovation in sustainable tourism</i></li> </ul> <p>Session Chair: GIRISH PRAYAG</p>	
	<p><b>Tatjana Thimm</b>, <i>E-Mobility as an Innovation for a Sustainable Destination Future</i></p> <p><b>Daisy Suk-fong FUNG</b>, <i>The Role of Tour guide for Sustainable Tourism With The Impact Of Emerging Information Technologies</i></p> <p><b>Chaya Hurnath</b>, <i>Innovation driving structural power changes in peripheral, small island destinations: Case study of Le Morne, Mauritius</i></p> <p><b>Jaume Guia, Sil van de Velde and Lauren Chan</b>, <i>New Forms of 'Responsible Tourism' in Refugee Camps and Contested Regions: the Case of Western Sahara</i></p> <p><b>Priscilla Chau Min Poon</b>, <i>Transit Tours for Airport Passengers – Issues and Challenges</i></p> <p><b>Boopendra Seetanah, Viraiyan Teeroovengadum and Kesseven Padachi</b>, <i>Travelers Satisfaction with Tourist Tertiary Support Services and Its Effect on Destination Loyalty</i></p> <p><b>Perunjodi Naidoo</b>, <i>Enclave tourism: a friend or a foe for small island destinations? A social perspective</i></p>	
15:30 – 16:00	<b>Afternoon Tea /Coffee, Book Presentations</b>	Bombora Terrace
16:00 – 17:00	<p><b>Concurrent Paper Presentations: SESSION 3:</b></p> <ul style="list-style-type: none"> <li>• <i>Understanding tourism impacts</i></li> <li>• <i>Other topics relevant to the Think Tank theme and/or sustainable tourism education – Interpretation</i></li> </ul> <p>Session Chair: <b>JODI NAIDOO</b></p>	Bombora
	<p><b>Elricke Botha</b>, <i>A conceptual model for environmental interpretation</i></p> <p><b>Claire Louisa Fordred and Kevin Mearns</b>, <i>Managing open rock art sites for tourism, in the central uKhahlamba-Drakensberg Park, KwaZulu-Natal, South Africa</i></p> <p><b>Boopendra Seetanah, Robin Nunkoo, Raja Vinesh Sannasee, Paul Georges Warren Moraghen, Zameelah Rifkha Khan Jaffur</b>, <i>A meta-analysis of the tourism and economic growth nexus</i></p> <p><b>Yukari Higuchi and Yasuhiro Yamanaka</b>, <i>Collaborative knowledge production development and action design between university researchers and local stakeholders in food tourism: a study of the practical value of tacit knowledge sharing</i></p>	

	<p><b>Irma Booyens and Christian M. Rogerson</b>, <i>Responsible tourism and innovation practices by tourism enterprises in the Western Cape</i></p> <p><b>Robin Nunkoo and Viraiyan Teeroovengadum and Boopen Seetanah and Robin Sannassee</b>, <i>A Structural Model Predicting Tourists Behavioural Intentions towards Ecotourism</i></p> <p>Sara Dolnicar, Ljubica Knezevic Cvelbar and Bettina Grun, <i>Making hotel guests voluntarily waive daily room cleaning</i></p>	
	<p><b>Concurrent Paper Presentations: SESSION 4:</b></p> <ul style="list-style-type: none"> <li><i>Theoretical and methodological approaches for researching sustainable tourism</i></li> <li><i>Understanding tourism impacts</i></li> </ul> <p>Session Chair: <b>ANNA SPENCELEY</b></p>	Balao
	<p><b>Sheereen Fauzel, Boopen Seetanah, Robin Sannassee and Robin Nunkoo</b>, <i>Investigating the impact of climate change on the tourism sector of Small Island Developing States</i></p> <p><b>Anna Scuttari, Isidoro De Bortoli, Harald Pechlaner and Hannes Riegler</b>, <i>Product innovation in route-based tourism: Interactive design of hiking routes as a driver for sustainable tourism</i></p> <p><b>Sven-Olaf Gerdt and Elisa Wagner and Gerhard Schewe</b>, <i>Lack of transparency - a barrier for the diffusion of sustainable tourism</i></p> <p><b>Girish Prayag, Caroline Orchiston and Mesbahuddin Chowdhury</b>, <i>From Sustainability to Resilience: Understanding Different Facets of Organizational Resilience</i></p> <p><b>Julia Zimmermann and Matthias Straub</b>, <i>Providing sustainable innovations in the hospitality industry. An empirical study of the importance of sustainability in a hospitality context: Merging significant theories to determine the motifs of pro-sustainable booking behaviour</i></p> <p><b>Fabian Weber</b>, <i>Overtourism. An analysis of contextual factors contributing to negative developments in overcrowded tourism destinations</i></p> <p><b>Toshima Makoondlall-Chadee, Chandradeo Bokhoree and Deepa Sumputh</b>, <i>A system thinking approach towards promoting sustainability in the tourism industry</i></p>	
Self-Catered	<p>No evening programme; Recommendations: <i>(optional; not incl. in conference fees)</i></p> <p><b>A selection of restaurants are available at the resort</b></p>	A selection of restaurants available



**FRIDAY 16<sup>th</sup> June 2017 Full day field trip to Ambre Hotel Hospitality and Environmental and Social Sustainability**

<b>Time</b>	<b>Programme</b>	<b>Venue</b>
8:30 – 9:00	Travel to Ambre Resort and Spa	
9:00 – 9:45	<b>Keynote 1: Dr Susanne Becken</b> , Professor of Sustainable Tourism at Griffith University in Queensland, Australia  Session Chair – <b>PIERRE BENCKENDORFF</b>	Ambre Conference Room
9:45 – 11:15	<b>Think Tank Workshop – Session 1</b>  Session Chair – <b>PIERRE BENCKENDORFF</b>	Ambre Conference Room
11:15 – 11:30	<b>Morning Tea / Coffee</b>	H&H Lounge
11:30 – 13:00	<b>Think Tank Workshop – Session 2</b>  Facilitator: <b>PIERRE BENCKENDORFF</b>	Ambre Conference Room
13:00 – 14:00	<b>Lunch</b>	Indigo Restaurant
14:00 – 14:30	<i>Hospitality and Environmental and Social Sustainability Part I: The Sun Care program and the Marine Conservation Program</i>  Presentation by Mr Clency Romeo, General Manager of Ambre Resort and Spa  Session Chair – <b>ROBIN NUNKOO</b>	Ambre Conference Room
14:30 – 15:00	<i>Hospitality and Environmental and Social Sustainability Part II: Initiatives at the Grass Roots Level</i>  Presentations by <ul style="list-style-type: none"> <li>• Representative of taxi owners</li> <li>• Representative of beach hawkers</li> <li>• Assistant Head Teacher, Mare La Chau Government School</li> </ul> Session Chair – <b>ROBIN NUNKOO</b>	Ambre Conference Room
15:00 – 15:30	<b>Afternoon Tea / Coffee</b>	H & H Lounge



15:30 – 16:00	<b>Industry Panel: <i>Hospitality and Environmental and Social Sustainability Part III:</i></b> <ul style="list-style-type: none"> <li>• Mrs Khoudijah Boodoo Director, Mauritius Tourism Authority</li> <li>• Mr Clency Romeo, General Manager, Ambre Resort and Spa</li> <li>• Mr Saleem Khadaroo, Sun Resort Corporate Quality Manager</li> <li>• Representative of Mauritius Reef Conservation</li> <li>• Representative of the Ministry of Tourism and Leisure</li> </ul> Session Chair – <b>ROBIN NUNKOO</b>	Ambre Conference Room
16:30 – 17:00	Travel back to Long Beach Golf and Spa Resort	
19:00 ‘till late	<b>Gala Dinner, Silent Auction and Best Paper Award Ceremony</b>	Bombora

**SATURDAY, 17<sup>th</sup> June 2017 Optional Complimentary Tour of Mauritius**

Time	Programme	Venue
<b>08:30 – 09:15</b>	<b>Think Tank Synthesis &amp; Outcomes</b>  Session Chair – <b>PIERRE BENCKENDORFF</b>	Bombora
<b>09:15 – 09:30</b>	<b>2018 Think Tank Presentation, Conference Close</b>	Bombora
<b>10:00 – 18:00</b>	Complimentary Tour of Mauritius for delegates and accompanying partners including lunch	

## *Keynote Speakers*



**Dr Susanne Becken** is a Professor of Sustainable Tourism at Griffith University, Australia, and an Adjunct Professor at Lincoln University, New Zealand. Susanne is a globally recognised expert in the field of sustainable tourism, in particular climate change, resource management, resilience, and environmental behaviour. Her research, which is published in more than 100 journal papers, reports and books, is widely cited by academics around the world, and has also influenced government policy and industry practice.

Susanne acted as a contributing author to the Fourth and Fifth IPCC Assessment Reports of the Intergovernmental Panel of Climate Change and represented Asia-Pacific on the World Meteorological Organisation's Expert Team on Climate and Tourism. Susanne has undertaken consultancy work for a range of Government organisations, the United Nations and industry and contributed to linking academic theory with sustainable business and tourism management. Susanne is frequently invited as a keynote speaker at international conference and she is on the editorial boards of *Annals of Tourism Research*, the *Journal of Sustainable Tourism*, *Journal of Policy Research in Tourism, Leisure and Events*, and *Tourism Review*. In 2011, her achievements were formally recognised through the Emerging Scholar of Distinction Award from the International Academy of the Study of Tourism.



**Dr Scott Cohen** is Head of the Department of Tourism and Events in the School of Hospitality and Tourism Management at the University of Surrey. He formerly led the School's research group on Sustainability and Wellbeing in the Visitor Economy. Scott primarily researches sociological and consumer behaviour issues in tourism, transport and leisure contexts, with particular interests in sustainable mobility, hypermobility and in lifestyle travel. His research has been published in high impact journals across tourism, transport and geography, and featured in media outlets such as CNN, Newsweek and The Economist. Scott has been awarded as "Researcher of the Year" by his Faculty at the University of Surrey (2015), as an "Emerging Scholar of Distinction" by the International Academy for the

Study of Tourism (2013) and was co-recipient of the Journal of Travel Research's "Charles R. Goeldner Article of Excellence Award" (2015).

---

## ***Friday 16<sup>th</sup> June      Full day Field Trip to Ambre Resort and Spa***

Ambre Resort & Spa has just achieved the prestigious Travelife for Hotels & Accommodations Gold Certification. Travelife – the international sustainability certification scheme – assesses a property’s performance in managing their social, environmental and economic impacts.

During six months, a ‘Travelife’ dedicated team had been working hard with the commitment of the General Manager, the overall staff and the management team.

Ambre Resort & Spa has reduced the burden of waste sent by reusing liquid waste for irrigation and collecting cooking oil and plastic bottles for recycling purposes. The hotel tries to involve its guests in their sustainability activities by providing information on local customs, heritage sites of cultural interest and the importance of saving water.



Ambre Resort & Spa tries to support the local community from an economic perspective by buying food and other services from local suppliers. To improve sustainability, the different departments of the hotel’s staff are having training courses on recycling, waste disposal and water preservation.

Clency Romeo, the hotel’s General Manager feels honored to welcome this internationally recognized award. He said, “For me everything lies in the commitment and the team effort. I can proudly say that this is a real learning point which gave us the opportunity to revisit our community, social and environmental dimensions.”

Source: [www.ambremauriti.us.com](http://www.ambremauriti.us.com)

## ***Friday 16<sup>th</sup> June, Brainstorming Session***

The aim of the brainstorming session is to work together to discuss this year's themes and decide on the focus of the Think Tank workshops.

- Innovation in sustainable tourism – cases, issues, and challenges
- Assessing progress in sustainable tourism – barriers, evaluations, measurement
- Understanding tourism impacts
- Contributions of tourism to destination sustainability
- Teaching and learning approaches in sustainable tourism innovation
- Sustainable tourism and governance, especially in peripheral, emerging and small island destinations
- Theoretical and methodological approaches for researching sustainable tourism
- Product, marketing and experiential innovation in sustainable tourism
- Social entrepreneurship and community-based innovations in sustainable tourism
- Other topics relevant to the Think Tank theme and/or sustainable tourism education

The topics considered and explored will develop teaching resources and research/policy needs

## ***Saturday, 17<sup>th</sup> June Optional Tour of Mauritius***

Complimentary bus tour of Mauritius including lunch and morning/afternoon tea.

10:00 Pick up at Long Beach

11:00 Arrive at Vallée de Ferney

11:00 Welcome by guides and explanation (<http://www.valleedeforney.com/The Nature Reserve>)

11:15 Guided hike in the conservation area

12:30 Kestrel feeding show

13:30 Lunch at Falaise Rouge\*

15:30 Drive back to Long Beach

Lunch includes soft drinks and water only. Other drinks available at delegates cost.

## About the Host:

The University of Mauritius (UOM) was created in 1965 to help the general advancement of Mauritius. By focusing on research, teaching, and community services, the university aims to meet the educational, scientific, and research needs of the public and private sectors as well as the Mauritian citizens. Over the years, it has evolved from an in-service training institution to a fully-fledged university. The main campus of the university is situated in Reduit, occupying around 25 acres of land and accommodates a total floor area of 51, 831m<sup>2</sup> of built facilities. The university comprises of six faculties (Faculty of Law and Management, Faculty of Social Studies and Humanities, Faculty of Science, Faculty of Engineering, and Faculty of Ocean Studies), offering around 136 undergraduate and 92 post-graduate programs. The student population as at 2014 stood at 12, 432, with around 887 students registered on its various postgraduate (taught and research) programs.

The International Center for Sustainable Tourism and Hospitality of the University of Mauritius was set-up in 2015 to facilitate transfer of knowledge between the university and public and private sector stakeholders. The ICSTH acts as a think tank, advising government and industry partners on tourism and hospitality policies that promote the sustainable development of tourism. ICSTH has well-established links with universities around the world and has a pool of leading scholars in the field of tourism and hospitality. Members of the ICSTH have published widely in such leading journals as Annals of Tourism Research, Tourism Management, Journal of Travel Research, Journal of Hospitality Marketing and Management, amongst others.





## Think Tank XVII Chair Person



**Robin Nunkoo, PhD**, is an Associate Professor in Management and the Head, of the International Center for Sustainable Tourism and Hospitality at the University of Mauritius. He is also a Visiting Senior Research Fellow in the Faculty of Management at the University of Johannesburg, South Africa and an Adjunct Professor at Griffith Institute for Tourism, Griffith University. He obtained his PhD from the University of Waterloo, Canada. He has research interests in

quantitative methods, political economy, public trust in government institutions, and community support for tourism. He has published articles in such leading journals as *Annals of Tourism Research*, *Tourism Management*, *Journal of Sustainable Tourism*, and *Journal of Hospitality and Tourism Research*, and *Journal of Travel Research*. He is also the Associate Editor for *Journal of Hospitality Marketing and Management*, a Resource Editor for *Annals of Tourism Research*, and the Regional Editor (Africa) for *Journal of China Tourism Research*.



# Practical information

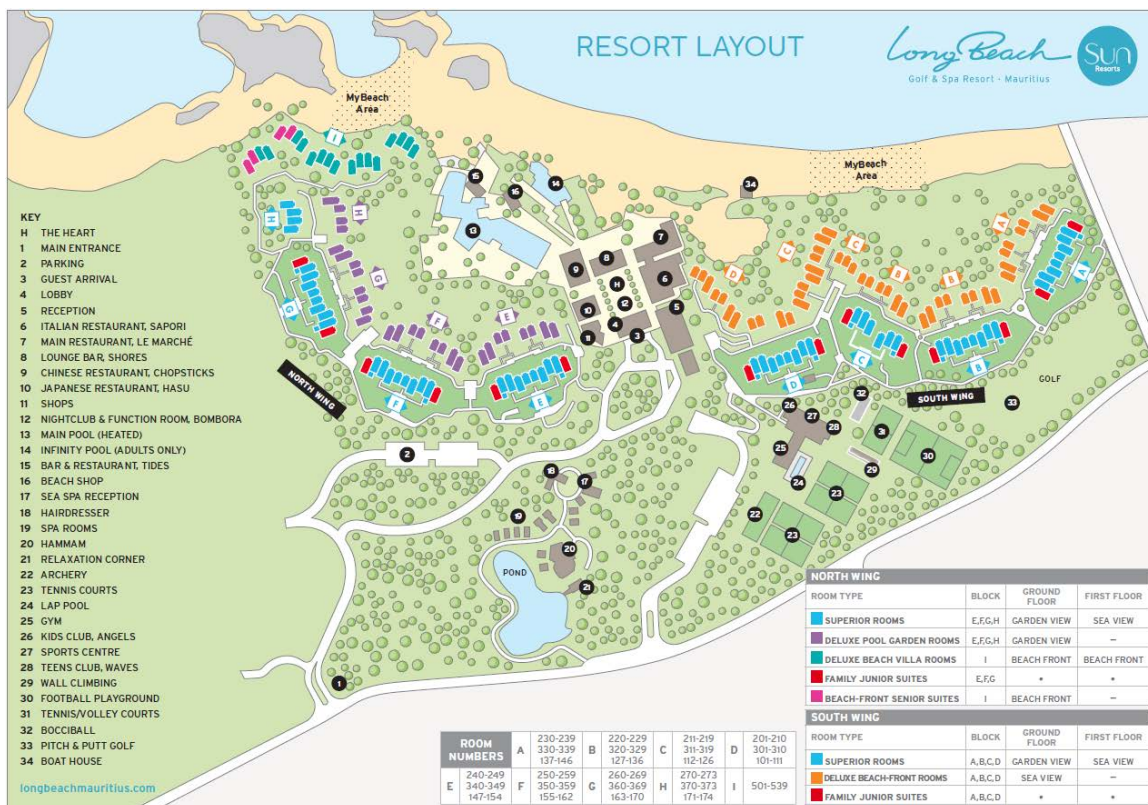
- **Address of the Conference Venue**

The venue of the BEST Education Network Think Tank XVII is the Long Beach Golf & Spa Resort

Costal Road, Belle Mare, Mauritius

Ph: +230 401 1919

**Long Beach Golf and Spa Resort:**



- **Restaurants**

There are four restaurants available at the resort, check the below website for more information <http://www.longbeachmauritius.com/en/dine-with-us/restaurants-mauritius>

- **Wireless Network**

Long Beach Golf & Spa Resort offers free high-speed wireless internet access to all guests, details will be provided at check in

- **Emergency Situations and Medical Services**

Service Aide Medicale d'Urgence (SAMU) is a government organisation that provides free ambulance and emergency assistance. The emergency assistance phone number for SAMU is 114. Private emergency ambulance services are also available through private clinic Darne by calling 118 and private clinic Apollo Bramwell on 132. The police emergency hotline is 999.

- **Foreign Exchange and Banking**

The local currency is the Mauritius Rupee (MUR)

Exchanging currency in Mauritius to get the best exchange rate is recommended. There are a host of exchange bureaus in the arrivals hall of the airport where you can exchange your money for the best rate. Typically, exchange rates in home countries are not as good as the exchange rate in Mauritius.

Euro, US and other currency are not widely accepted, for more information see [Info-Mauritius.com](http://Info-Mauritius.com)

- **Taxi and Public Transport**

Transport by bus (public and private services) is available between all main town centres from 5am to 11pm and in remote areas until 6pm. *Taxis are also available during the day, but it is recommended that you book in advance if travelling at night.*

*The taxi takes approximately 50 minutes*

**The price for a taxi to the hotel will be around US\$70 one way.**

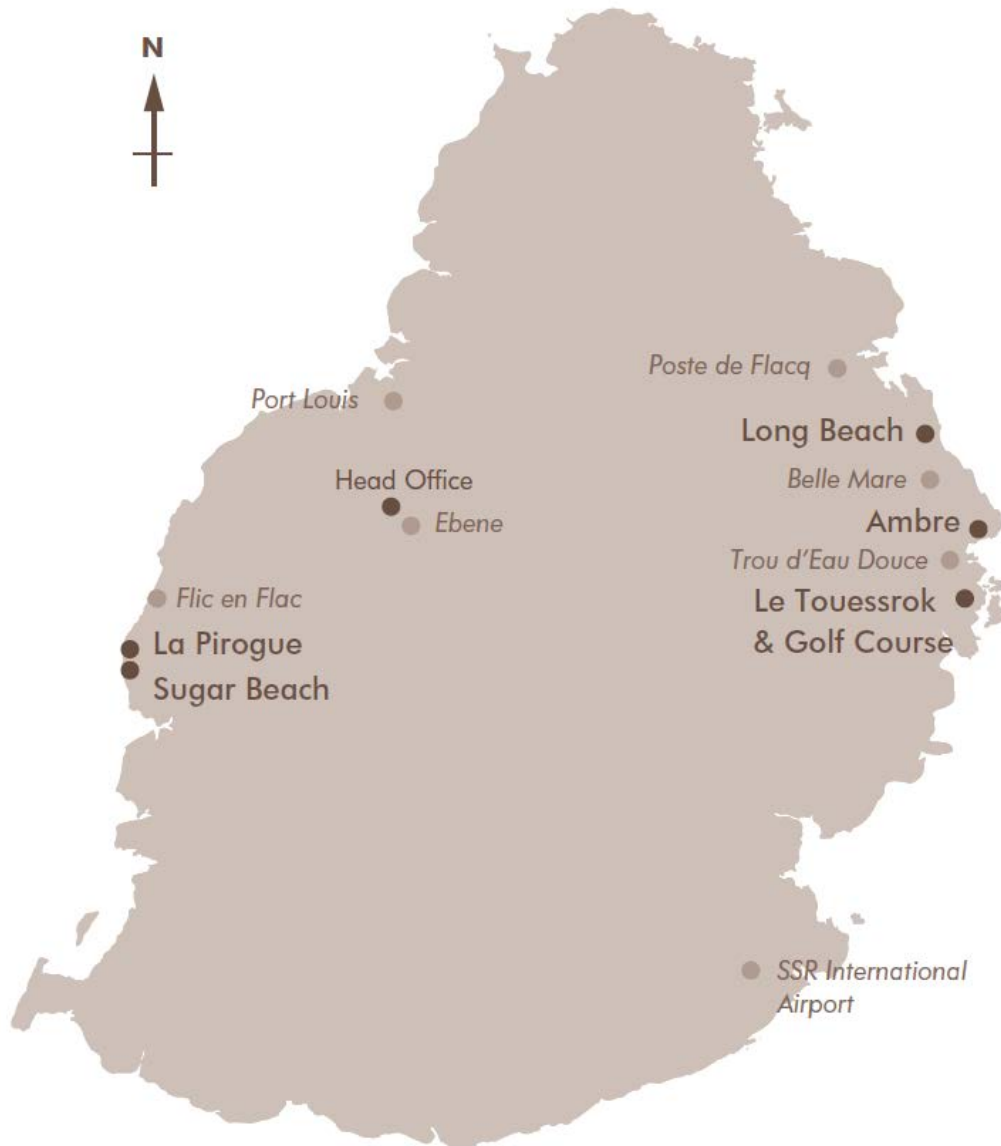
Public transport in Mauritius: <http://www.tourism-mauritius.mu/en-uk/plan/your-transport>

Taxi services in Mauritius: <https://taxiservicemauritius.com>; <http://www.taxiservices.mu>; <http://www.taxicabmauritius.com>



Innovation and Progress in Sustainable Tourism

---



---

## **BEST Education Network Executive Committee**

### **Chair of BEST EN**

Gianna Moscardo PhD, James Cook University, Australia

### **Co-Chair of BEST EN**

Pierre Benckendorff PhD, University of Queensland, Australia

### **Executive Committee Members**

Julia N. Albrecht PhD, Victoria University of Otago, New Zealand  
Rachel Hay, James Cook University, Australia (Secretary)  
Kelsey Hejjas, University of Surrey  
Karen Hughes PhD, University of Queensland  
Erling Kavita PhD, Namibia University of Science and Technology  
Dagmar Lund-Durlacher PhD, MODUL University Vienna  
Paolo Mura PhD, Taylor's University Malaysia  
Alexandra Roberts, University of Queensland (Intern)  
Caroline Scarles PhD, University of Surrey  
Wolfgang Strasdas PhD, Eberswalde University for Sustainable Development  
Tina Tiller, MODUL University Vienna  
Paige Viren PhD, East Carolina University

### **International Advisory board**


Prof. Frederic Dimanche, Ryerson University  
Prof. Larry Dwyer, University of New South Wales  
Prof. Leo Jago, Tourism Research Australia  
Prof. Em. Pauline Sheldon, University of Hawaii

Website: [www.besteducationnetwork.org](http://www.besteducationnetwork.org)

BEST EN Secretary: Rachel Hay

[bestthinktank@gmail.com](mailto:bestthinktank@gmail.com)

Join us on  [LinkedIn](#)

 Follow [@bestthinktank](#)

---

## List of Participants

Ali Abdool	Sun Resort
Sandhya Appadoo	Sun Resort
Pierre Benckendorff	University of Queensland
Roucheet Bissessur	University of Mauritius
Irma Booyens	University of Johannesburg
Elricke Botha	University of South Africa
Athena Lele Chen	School of Hotel and Tourism Management
Sheereen Fauzel	University of Mauritius
Daisy Suk-fong Fung	The Hong Kong Polytechnic University
Sven-Olaf Gerdt	Centre for Management, University of Münster
Alexandra Graf	University of Jena
Jaume Guia	University of Girona
Rachel Hay	James Cook University
Yukari Higuchi	Hokkaido University
Aneta Bobenič Hintošová	University of Economics, Faculty of Business Economics
Kei Sze Grace Ho	Hong Kong Polytechnic University
Chaya Hurnath	University of Mauritius
Zameelah Rifkha Khan Jaffur	University of Mauritius
Bhavish Jugurnath	University of Mauritius
Saleem Khadaroo	Sun Resort
Ljubica Knezevic Cvelbar	School of Economics and Business, Ljubljana
Toshima Makoondlall-Chadee	University of Technology, Mauritius
Gabrielle McGinnis	University of Newcastle
Kevin Mearns	University of South Africa
Perunjodi Naidoo	University of Technology, Mauritius

Robin Nunkoo	University of Mauritius
Kesseven Padachi	University of Mauritius
Priscilla Chau Min Poon	Hong Kong Polytechnic University
Girish Prayag	University of Canterbury
Andrew Mark Rylance	University of Johannesburg
Flavia Silva Santos	University of São Paulo
Gerhard Schewe	University of Muenster
Anna Scuttari	Eurac Research
Anna Spenceley	University of Johannesburg
Matthias Straub	SRH Hochschule Berlin Campus Dresden
Tatjana Thimm	Constance University of Applied Sciences
Tatjana Thimm	Constance University of Applied Sciences
Rageene Venethethan	University of Mauritius
Fabian Weber	Lucerne University of Applied Sciences and Arts