Abstract

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Completed: August 31, 2010

Title: Climate Change Adaptation Options for Sustainable Tourism in Small Island States: *A Case Study in Jamaica*

Background

The Tourism industry is very climate sensitive, as many activities take place outdoors or rely on specific weather conditions for success. Jamaican tourism is no different and centers mainly around *'sun, sea and sand'* (3S) **along the coast**. Data showed that tourists opted to travel to Jamaica, mainly because of weather and beachfront properties.[1] Due to the geographical disposition of the island however, it is susceptible to sea level rise and extreme events. Tourist Operations are therefore faced with great risks related to beach erosion, flooding and general coastal degradation. Additionally, increasing warmer temperatures make the island less attractive to tourists.

The Adaptation Options therefore available to Jamaica are: **a)** Pursuing Non-3S Alternatives away from the coast **b)** Maintaining the 3S model with adjustments **c)** Closing down the tourism sector or **d)** Operating in a 'business as usual' manner.

Objectives

This research focuses on assessing the current 3S model against one example of Non-3S Alternatives *(Community Based Tourism*) in light of the adaptation options mentioned above. Consequently, the following questions will be answered:

1) Is the current 3S model, more or less vulnerable to climate change than the Non-3S model?

2) If so why? And by how much?

3) What is the focus of Tourism Stakeholders as it relates to Adaptation i.e. *reactionary, precautionary, supporting alternatives or maintaining the status quo*?

4) What actions should be taken by (i) the Jamaican Government (ii) Coastal Stakeholders (iii) Community Based Stakeholders, as it relates to Sustainable Adaptation between now and 2030?

Review of Literature

The answers to these questions are very critical because '*an understanding of the adaptive capacities and practices of the various elements of tourism in relation to climate change in developing countries are relatively limited.* [2]Additionally, Jamaica's initial communication to the UNFCCC (United Nations Framework on Climate Change Control) states *'while this initial national communications report has an initial investigation of potential vulnerabilities, it is clear that there is a need for further work in the area of vulnerability with regards to climate change. There is a considerable amount of infrastructure located on the coast, with the international airports, seaports and a number of industries being located in areas that would be extremely*

[1] Smith (2007)
[2] Climate Change Adaptation and Mitigation in the Tourism Sector (2008)

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sensitive to climate change. It will be necessary to investigate a number of the socio-economic vulnerabilities, particularly in areas such as tourism.'

Based on the above, the need for vulnerability studies in the tourism sector cannot be overemphasized. Additionally, references were made to other small island states faced with similar climatic challenges, so as to get a broader perspective and derive practical solutions to successfully adapt to climate change.

Methodology

A Multi-methodological approach was used in this research, in line with recommendations from the field of Sustainability Science. Sustainability Science is interdisciplinary and can accommodate cross-sectoral approaches. Case Studies were selected as the points of focus, where two tourist spots on the coast and two on the inland were selected from visits in January 2010. The owners / managers were interviewed and their properties assessed using a semi structured form. The questions from the interview and the semi-structured form were then compiled into forty five vulnerability indicators and grouped under five main themes: bio-geophysical, technological, economic, social and institutional factors (*sub indicators*).

These sub indicators were then further placed under groups headings for Exposure, Sensitivity and Adaptive Capacity (*overall indicators*) and vulnerability was calculated as: **VIndex = (E.*EW*) + (S.*SW*) - (- AC. *ACW*),** *where E represented Exposure, S- Sensitivity, AC- Adaptive Capacity and W- Weighting.* Multi- Criteria and Graphical Analysis were the decision tools used to process the results, and the above mentioned indicators also shaped the parameters for Sustainable Adaptation used in this research as well.

Conclusion

This research indicates that:

1) The Current 3S Tourism model is in need of serious revisions, and is more vulnerable to Climate Change than the Non-3S Model.
2) The Tourism Stakeholders interviewed are aware of climate change and its potential impacts, but their operations are more reactionary as opposed to precautionary, towards Climate Change.
3) Community Based Tourism is an adaptation option that should be seriously considered by Jamaica, between now and 2030
4) Vulnerability Assessments and the implementation of Adaptation options should have local peoples at the centre; acting as the driving force, in order to combat the challenges that climate change may bring.

Keywords

3S, climate sensitive, coast, Non-3S, Multi-Criteria Analysis, Vulnerability, Adaptation

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