Desert Tourism – Mirage or Sustainability Challenge

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by

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Abstract submitted as

Work in Progress
for the

Graduate Student Colloquium
2014 Annual Travel and Tourism Research Association International Conference, Brugge, Belgium.

TTRA 2014 International Conference: Tourism and the New Global Economy 1188
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INTRODUCTION

The purpose of this study is to understand, analyze and create a framework to enhance sustainable livelihood and lifestyle which can boost the local and national economies while enhancing the livelihoods of the residents of desert regions. This if shared, can guide the vast desert regions of the world (Loon R.M. and Polakow D. 2001), which according to the Desert Knowledge Cooperative Research Center (DK-CRC) and United Nations Environmental Program (UNEP), is increasing steadily (Tremblay, P., 2006). The current study will attempt to focus on the holistic framework for realization of the do’s and don’ts in fragile ecosystem.

Desert life is arid, and can be deadly for the non-inhabitants, lacking the natural adaptations bestowed by nature. Deserts look to be uninviting, yet, they have a unique mystique. Humans, rather than inculcating themselves to the realms of the desert ecosystem, have used their innate ability to artificially improvise the surroundings to their advantage, have not only created a myopic future for themselves but have also taken charge of changing the future of the local fauna and flora with the environmental adaption niche, that nature needed hundreds of years to create.

Reckless use of water, swimming pools and desert irrigation to create farmlands, can deplete the barely existent ground water, a precious commodities in the region. Fertilizers and pesticides are often washed away by the irrigation water, mix with garbage, sewage and top soil, causing massive pollution in the major water sources (Gunn, 1991). Tourism arrived with the promise of alleviating the economic hardships, both for the locals and the economy. The lack of anticipated success is due to two factors - the ‘desert knowledge’ and the ‘approaches’ to implement the acquired knowledge. Policies should be integrated by planning and learning with the cooperation and feedback from international agencies and public and private stakeholders. Though tourism has its negatives, the positive benefits outweigh them (Loon R.M. and Polakow D. 2001). The negative effects can be mitigated by proper forecasting and planning.

LITERATURE REVIEW

Desert Tourism, like any of its tourism counterparts, is a juxtaposition of stakeholders’ interests, tourists’ products, their experiences, national and local economies, local population livelihood, along with a gamut of complex interactions. Traditional research has focused on desert areas and the rhetoric of sustainability and ecological balance is greatly generic (Seely, M.K., 1990). The uniqueness of deserts gives it an almost individualistic character; it is dependent on the proximity to the ocean, the local ecosystem along with other interrelated factors Seely, M.K., Klintenberg, P., Henschel, J.R., (2009). The implementation challenges for most of the desert locations can be attributed to the following reasons:

1. Humans often proactively change the local environment for comfort, habitation and pecuniary reasons. Little concern is often provided for environmental degradation. Aligning sustainable environmental goals, with stakeholder’s long term interests could change the scenario. While stakeholder’s interest may not concur with the narrow definitions of sustainable tourism, the knowledge may be essential in understanding and influencing the system (Tremblay P., 2006).
2. Irrigation can be a double edged sword; while it can turn the desert into a farmland, it can cause immense top soil loss and massive water contamination due to the residual water flowing to the downstream water bodies (Gunn, 1991).
3. Oil drilling, mining, new technology and weapon testing can permanently damage the fragile desert ecosystem (Gunn, 1991).

4. Excessive land use, overgrazing etc. can exacerbate desertification. Replenishing the damaged flora must be immediately done to avoid permanent damage (Seely,M.K.; Ward, J.D., 1988).

5. Livelihood avenues should be pursued in areas that promote ecological sustenance. Tourism beyond the carrying capacity with the absence of adequate infrastructure can cause massive damage to the ecosystem (Stronza, A; Gordillo, J, 2008).

6. Any damage to the ecosystem of a destination can have widespread implications on the neighboring and related areas (Tremblay P., 2006).

7. The sands of the desert look daunting, yet, they are very fragile. Usage of ATV and other vehicles can cause damage to the area even without the users’ knowledge. Similarly, even though trekking seems to be eco-friendly, it can cause drastic changes in the local ecosystem by causing permanent trail marks. The animals nesting close to the trails can be disturbed and move away, causing the ecological balance to be destroyed. (Seely, M.K., Wöhl, H., 2001)

8. The water bodies and oasis is a portion of the life line to humans, flora and fauna of the area. Using detergents, washing clothes, utensils etc. can cause the flora and fauna of the water bodies to die; this in turn, can affect the natural self-cleaning process and make the water unusable. Similarly, exotic vegetation and flowers should not be disturbed since many animals and even plants, depend on them. Tourists should be made aware of this (Mbaiwa, J.E., 2002).

**RESEARCH METHODS**

This research will involve an in-depth study of the reviewed and published literature. It will incorporate an analysis of the viewpoints and suggestions of government and non-government entities engaged in long term regional developmental interests, pertaining to income generation and livelihood sustaining interests. The study will also analyze the areas of eco-friendly tourism programs to determine the impacts of such programs on the local population, economy and ecological impacts in the area.

The data analysis will be conducted by distributing of case studies between continents, habitats and flagship species types to be analyzed using contingency tables and non-parametric $\chi^2$ test. This will also test for differences in the proportion of sustainable case studies. If a category has a sample size fewer than five, it will be omitted from the analysis (Zar 1999). Multivariate analyses (Table1), uses consequence case studies, from each continent and habitat type using a dichotomous dummy variable (e.g., if a case study came from Africa = 1, otherwise = 0). This tests whether any continent or habitat was sufficiently more likely to produce sustainable case studies to enter as a significant predictor of the dichotomous dependent variable sustainability ($0 =$ unsustainable and $1 = $ sustainable). Local community involvement will be entered as a dichotomous variable ($0 =$ no involvement, $1 =$ involvement). Local involvement will be a scheme of revenue sharing with local communities, decision power about the project being given to local communities or a substantial amount of the labor force drawn from local communities. Flagship species will include all apes, the large field predators, elephants, and rhinos.

The relative importance of these variables in determining whether an ecotourism project was classified as sustainable or not, will be analyzed using a multivariate logistic regression analysis in SPSS/STATA13. To check model robustness, a multiple discriminant analysis will be performed. [Table 1 and the analysis patterns are adapted from Kruґer, Oliver, The role of ecotourism in conservation: panacea or Pandora’s box? *Biodiversity and Conservation* 14: 579–600, (2005)].

The current focus will be on developing a model, balancing the livelihood of the locals without threatening the local flora and fauna. Though the study will primarily be focused on the Namib Desert,
Table 1. Description of variables used in the multivariate analysis of sustainability as the dependent variable.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Year</td>
<td>Year in which the case study was published</td>
</tr>
<tr>
<td>(2) Author type</td>
<td>Dichotomous variable describing whether the authors were affiliated to an institution of the case study country or not</td>
</tr>
<tr>
<td>(3) Author background</td>
<td>Dichotomous variable describing whether the case study was reported by a natural scientist or a social scientist</td>
</tr>
<tr>
<td>(4) Continent or region</td>
<td>Continent or region in which the study was conducted (Europe, Africa, Asia, Oceania, Antarctica, South America, Central America, North America). Dichotomous dummy variables were used to consider each continent separately.</td>
</tr>
<tr>
<td>(5) Habitat type</td>
<td>Habitat in which the study was conducted (coral reef, coastline, freshwater, island, mountain, savannah, temperate forest, tropical forest). Dichotomous dummy variables were used.</td>
</tr>
<tr>
<td>(6) Flagship species</td>
<td>Type of flagship species of the case study (0 = none, 1 = fish, 2 = reptile, 3 = bird, 4 = charismatic bird, 5 = mammal, 6 = charismatic mammal, 7 = world-wide flagship)</td>
</tr>
<tr>
<td>(7) Local community involved</td>
<td>Dichotomous variable describing whether there was local community involvement or not</td>
</tr>
<tr>
<td>(8) Investigation method</td>
<td>Dichotomous variable describing whether the study was purely observational = 0 or whether a repeatable method was used = 1 (questionnaires, willingness to pay, travel-cost method, etc.)</td>
</tr>
</tbody>
</table>

the Kalahari and Sahara deserts will also be included. The current ecotourism policies will be compared with the previous policies to obtain insights on the adequacy of the policies.

EXPECTED IMPLICATIONS

This research aims at providing tourism stakeholders of eco-sensitive, fragile desert destinations an alternate implementable technique to achieve the goals of a year-round tourism season to benefit the locals and their economy. Aligning the stakeholder’s commercial goals with that of sustainable long term development of the destination will likely assist in transforming the fragile destination into an eco-friendly, sustainable and tourism friendly destination for the desert tourists. The findings could provide an alternative outlook to bridge the gap between the stakeholders’ commercial interests and the pecuniary interests of the local population.
REFERENCES


