Achieving Sustainability of Natural Resources and Obtaining Economic Goals. Tourism’s Pandora’s box

Atteindre la durabilité des ressources naturelles et les objectifs économiques. La boîte à pandore du tourisme

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Introduction

1. This article examines the natural resource dilemma in the tourism industry within Jamaica. It examines the theoretical foundation of the quest to balance the economic gains of the tourism industry and the use of natural resources. In particular the paradox of greening of tourism activity to account for damage induced by the tourism sector. In comparison to the lack of regulatory policies and intervention at national and subnational levels for the socioeconomic livelihood systems of the local population.

2. Tourism is considered to be the most important engine of growth and development in Jamaica (fig.1). The industry is the country’s major foreign exchange earner. Tourism represents 70 % of Direct Gross Value Added by Industry at Basic Prices in 2009. The supporting sectors of tourism such as accommodation represent 95.1 %, food and beverage 22.1%, passenger transport services 78.4%, transport equipment rental 82.5%, travel agencies and other reservation services 99.8% recreational, cultural and sporting activities 49.9 (Statistical Institute of Jamaica, 2009).
Figure 1. Geographic location of Cockpit Country (Jamaica)

There is a clear thrust in the “greening of national accounts” and measuring the welfare costs of resource depletion and environmental degradation (World Bank, 1991). Debates contend the implementation of policy instruments for environmentally sustainable development to be continuously improved to include subsidy reduction, targeted subsidies, environmental taxes, user fees, deposit-refund systems, tradable permits, and international offset systems (World Bank, 1997). There is a clear responsibility of the state to foster human development and encourage an institutional environment which is conducive to economic growth, implements social policies and provide incentives for ecologically appropriate behavior (World Bank World Development Report, 1997).

This suggests regulation of natural resources is beyond the market's capacity. Economic priorities within the sector of tourism often override ecological priorities. According to this perspective renewable resources should be utilized at rates less than or equal to the natural rate at which they can generate and should also optimize the efficiency with which non-renewable resources are used, subject to substitutability between resources and technological progress Pearce et al., 1990: 24). This perspective has therefore left a precedence of the environment being regarded as a commodity. Herman Daly posits sustainable development can be operationalized in terms of natural capital (Daly, 1992: 10). Daly posits that for renewable resources the consumption should be limited to sustainable yields. While for nonrenewable resources the rule is to reinvest the proceeds from nonrenewable resource exploitation into investment in renewable natural capital. This will result in a constant maintenance of natural capital.

Some theorists even categorize the response to the concept of sustainable development as strong or weak sustainability. According to Daly, weak sustainability focuses on only maintaining total capital intact. He further argues this is weak as it is based on generous assumptions on the substitutability of capital for natural resources in production. However, strong sustainability requires maintenance of both manmade and natural
capital intact separately, with the assumption that they are not really substitutes but complements in most productive functions (Daly, 1992: 250). Thus sustainable development as posited by the Brundtland Report requires distinction between the basic needs and the extravagant needs. Sustainable development is also about sufficiency as well as efficiency. Furthermore “the ability of future generations to meet their own needs” can be interpreted as requiring either strong or weak sustainability thus the pervasive issue of substitutability is resurfaced. Sustainable economic development should therefore imply technological progress that increase resource productivity and reduce pressure on natural capital stocks (Daly, 1992: 253).

1. The Tourism Dilemma

Norgaard insists that economic models do need to meet the challenges of future generations to ensure they will inherit an approved capital stock and better technology that will equip them to substitute resources and overcome scarcity which is a fundamental argument of sustainable development (Noorgard, 1994). Notwithstanding the thrust in the tourism sector within the framework of sustainable tourism development planning, one can argue the sector has failed to acknowledge that resources bear a relationship to each other in the natural environment, as part of environmental systems. Thus sustainable tourism planning often use market mechanisms, which fail to allocate environmental goods and services efficiently because environmental systems are not divisible and therefore do not reach equilibrium positions and incur changes which are irreversible.

Case study: Water Dilemma Example

It is true the tourism paradigm acknowledges damage is possible to the environment. For instance, the World Tourism Organization clearly states, Nature in the form of mountains, beaches, tropical forests, desserts, or influenced by anthropogenic activity of humans (landscapes, cultural heritage, etc.) which are also an attraction for visitors. Furthermore WTO posits tourism contributes to irreversible damage to the environment through pressure on fragile ecosystems, by construction of resorts or roads that destroy the natural sites and heritage, through pressure exerted on land, air and water and through diverse processes of all kinds that generate pollution, deforestation, discharge of residuals, erosion, etc. Moreover international standards of WTO admonish initiatives at a national and sub national levels to generate indicators to analyze, monitor or evaluate environmental implications of tourism development in specific areas (World Tourism Statistics, 2008: 77). It is clear there is a call for priority regarding tourism sustainability issues.
However this system records the direct link between the cost of tourism degradation and the environment and does not account for the damage by livelihood systems of the local population which serve the tourism sector. It focuses on two principal objectives: Firstly the incorporation of tourism as a specific industry and classification of the consumers within the hybrid flow account of environmental accounts. Secondly, the “Greening” of the tourism GDP derived from the Tourism Satellite Account, which includes consideration of the cost of the degradation of the environment and the use of the natural capital by tourism. As well as expenditures that set out to prevent degradation in the tourism industry.

2. Livelihood System Dilemma

For instance in Jamaica, the largest labour force employer is the Wholesale & Retail, Repair of Motor Vehicle & Equipment sector, followed by Agriculture, Hunting, Forestry and Fishing sector, Construction, and Hotel Restaurant and Services (Statistical Institute of Jamaica, 2009). Each of these sectors has a direct impact on the quality of natural resources and the health of the ecosystem. Furthermore, these sectors include portions of the population who are self-employed or small size business units which operate independent of national formal structures and rules. Thus their activities are often not regulated and the damage not accounted for within the green account system.

Case Study: Water Cycle

For instance, livelihood activity of the local population can lead to inequality of the hydrologic equation. This influences the quantity and quality of natural water resources available to current and future generations. According to the World Health Organization...
while total supply of water in the Caribbean is approximately 85% of the population the total sanitation coverage is slightly lower at 78%. Furthermore, WHO report highlights large disparities between urban and rural areas, with an estimated 87% of the urban population with access to sanitation coverage, however only 49% of the rural population benefit from sanitation facilities. Moreover, with regards to water supply, 93% of the urban populations have coverage, while only 62% of the rural population is covered.¹

Figure 3. Cockpit country Area (Jamaica)

Water quality statistics on Cockpit Country, indicate high levels of nitrate of natural water for which the principal contaminants are not the tourist, but due to the local population waste practices. It must be noted that Cockpit Country (fig.3) is a 600 km² area significant as a habitat for many endemic species. Most of the karst remains forested; however there are communities which live in the immediate vicinity. Furthermore, agricultural, domestic and industrial pressures are mounting. Even though this area has a high level of hydrological and biological significance, the effective conservation of the Cockpit Country is laissez-faire and minimal (Sean et al. 2001). In contrast to the tourism sector which has put in place environmental conservation practices such as privately owned waste systems. The rural area also lacks sanitary landfills in the rural areas, which also encourages the use of fire at disposal sites (photos 1-8).
Photo 1. Community without spring in the Cockpit also without a reserve tank in current use

Source: N. Miller, 2011

Photo 2. Water tank in Ulster Spring

Source: N. Miller, 2011
Photo 3. Contaminated spring in Ulster spring Cockpit Country

\[\text{SOURCE: N. MILLER, 2011}\]

Photo 4. Contaminated water tank in Spring field Cockipt (Jamaica)

\[\text{SOURCE: N. MILLER, 2011}\]
Photo 5. Farmer creates access to water for the community by creating access to sinkholes

Photo 6. Farmer dependent on agriculture grows bees to monitor the ecosystem

SOURCE: N. MILLER, 2011
Photo 7. Local community build tanks to stock water

SOURCE: N. MILLER, 2011

Photo 8. Natural spring not used by population due to depth

SOURCE: N. MILLER, 2011
Conclusion

Treatment of organic waste is also a crucial factor, as organic waste from “manure” cross contact with water sources. Water quality indicates high levels of phosphate concentrations, due to soil erosion. This adds significant amounts of suspended phosphate to streams, linked to the local population. The water quality statistics reflect high levels of chloride, linked to the contamination of water by domestic activities such as washing. Samples indicate high levels of Faecal Coliform and high levels of Biochemical Oxygen demand due to organic pollution.

There is a clear need for a revision of national planning and sub national environmental units to regulate the cost of damage by the local population to natural resources that disturb ecosystems which are part of the tourist attraction. It is clear sustainable livelihood systems must be examined to balance the socioeconomic needs of the local population and the health of the ecosystem.

BIBLIOGRAPHY


NOTES


ABSTRACTS

The tourism industry has realized that the goals to protect the environment and goals of the economy are often not compatible. Thus countries such as Jamaica whose principal economic earner is tourism are seeking methods to green their national accounts and policies. However livelihood socioeconomic systems of the local population often conflict with sustainable policies. Furthermore these livelihood systems to eke out a living are often not regulated and fall outside the formal structures of governance, and sustainable regulation systems and policies. This article examines this Pandora’s Box within the context of Jamaica, Cockpit country with a focus on water, as natural resource used by both the tourist sector and the local population.

L’industrie du tourisme a réalisé que les objectifs de protection de l’environnement et les objectifs de l’économie ne sont souvent pas compatibles. Ainsi, des pays comme la Jamaïque dont le principal soutien économique est le tourisme économique sont à la recherche de méthodes écologiques de leurs comptes et les politiques nationales. Systèmes de subsistance Cependant socio-économiques de la population locale sont souvent en conflit avec les politiques de développement durable. En outre, ces systèmes de subsistance pour gagner leur vie sont souvent pas réglementés et tombent en dehors des structures formelles de gouvernance et des systèmes de régulation et des politiques durables. Cet article examine cette boîte de Pandore dans le cadre de la Jamaïque, pays de cockpit en mettant l’accent sur l’eau, ressource naturelle utilisée à la fois par le secteur du tourisme et de la population locale.

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