

Greening of the Tourism Sector an Effective Mitigation Measure Against Climate Change

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Reflective Considerations

It is important that in today's world, because of the industrial development that has taken place that community, business, government and political leaders be sensitive to environmental considerations for the benefit of the current and future generations. Everyone is fully aware of the damages of climate change as witnessed by various weather phenomena, for example the ice storms in the United States that saw the cancellations of thousands of flights, the ashes in Europe that resulted in no flights across the continent and the delays of flights due to snow-covered runways.

Why Tourism Greening?

This discussion looks at mitigation endeavors by the tourism sector that can be introduced in reaction to climate change. In addition, at this stage, it can only be postulated as to whether these measures by the tourism sector will sufficiently reduce the impact of climate change. The following questions rise:

- Why tourism greening? Is it not just another marketing gimmick – a sales pitch?
- How does it help the climate when tourism is not manufacturing any products nor does it use big industrial equipment/plants?
- Should it be enforced by law or it self-regulation?
- What actions should be taken and by whom?
- Who is responsible for the implementation?

The sustainable tourism industry is inter-connected by three aspects that have environmental, socio-cultural and economic aspects. There is a misconception that greening issues are limited to the environment and yet any socio-cultural and financial initiatives that impact on the bottom line of an organization may indirectly impact on climate change.

The tourism greening should not be used for marketing purposes but should be given some important considerations. People should embrace and share the message.

Background

At a meeting held in Madrid in 2006, the Secretary General of the UNWTO Francesco Frangelli announced, “This is a call to the leaders in the public and private Tourism Sector and ultimately to travelers themselves. Climate change is real; its effects are proven; and the Tourism Sector has to play its part in contributing to the solution of the challenges it poses.” This discussion outlines the symbiotic relationship between the tourism industry and climatic conditions.

Recent events such as the tsunami in Japan or volcanic ashes that spread from Iceland seem to point to the effect that climate change is real and all sectors contributing to economic activities need to ensure that strategies to combat the negative impact of climate change are developed and adopted. It is important to note that a phenomenal growth of tourism sector has a potential for depleting the natural environment leading to climate change thus impacting negatively on the prospects of the growth industry. Thus this discussion proposes strategies to combat the negative impact of climate change to tourism development for consideration by the tourism practitioner.

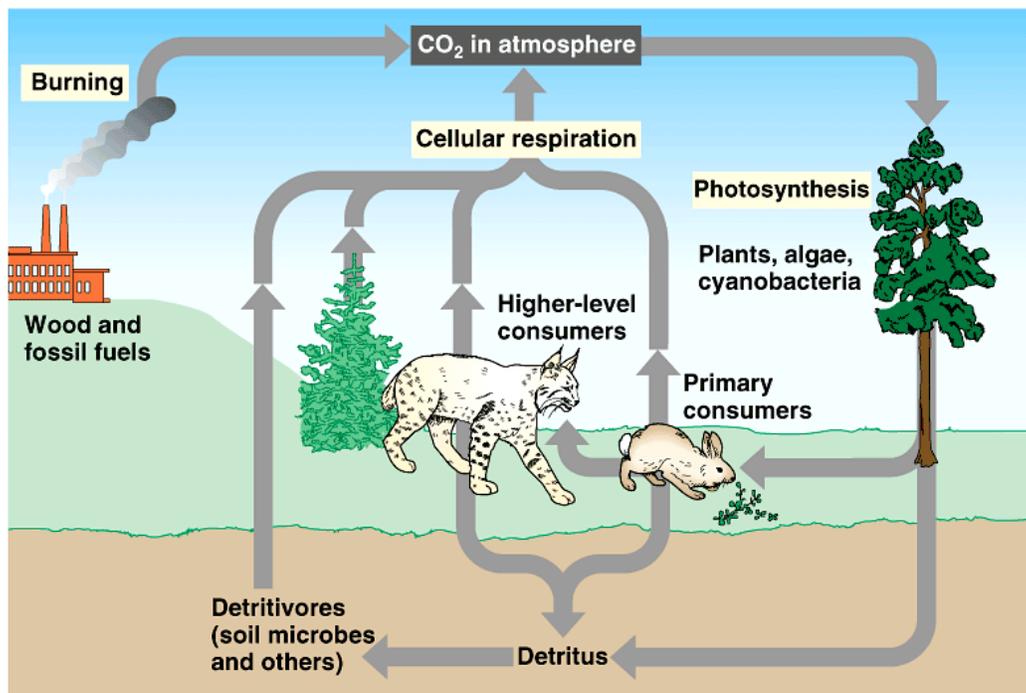
The tourism industry in Africa, and most of the developing world, is leveraged toward outdoor activities such as safaris, which are dependent on good weather conditions for a tourist to have a memorable experience. Any negative development, such as changes of temperatures below or above the norm, affects the performance of the industry, both in the short and long terms.

Performance of Tourism Sector

The World Tourism Organization (UNWTO) estimates that international tourist arrivals will reach 1.56 billion by 2020 from the current level of 922 million, and that the top three destination regions will be Europe (717 million), East Asia and the Pacific (397 million) and the Americas (282 million). According to the World Tourism Organization (2009), the tourism industry is considered one of the fastest-growing international industries – having grown from 112 million people employed directly and indirectly in 1991 to 234.3 million in 2006. However, while this is a positive development, the world at large and the planners should then visualize the implications of this phenomenal growth. The growth of tourism should not be viewed in a negative way, as we are all aware that growth in the tourism industry brings with it a rising quality of life in many parts of the world. Simply this means there is need for more planes, ships, trains, hotels, buses and coaches and all this means burning of fuel energy, etc. Even at the destination, the activities, the accommodation, the land transport requires energy. While tourism is one of the major economic sectors, the responsibility of reducing the effects of Green House Gases (GHG) should be a shared responsibility across the sectors as the effects do not recognize borders nor do they segregate economic sectors.

The Carbon Cycle, Climate Change and Impact on Tourism

Carbon is a key element of all living matter as it is released and re-absorbed in a continual process known as a carbon cycle. Generally the cycle involves an ongoing exchange of carbon dioxide (CO₂) between the atmosphere and the earth. Photosynthesis takes place when plants absorb carbon dioxide and then release it back into the air when the plant decays. In general, the cycle has been in balance, however, since the industrial revolution, the levels of carbon dioxide due to a hive of human activity have led to a phenomenon referred to as climate change.



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Tourism, by virtue of its rapid growth and being a key driver of economic development, is a significant contributor to climate change. Recent evidence suggests that the sector's contribution to global anthropogenic CO₂ emissions is in the order of just 5% (in 2005), but may be higher (from 5% to 14%) if measured as radioactive forcing, i.e. the warming caused by CO₂ as well as other greenhouse gases (UNWTO-UNEP-WMO 2008). As this calculation only includes energy throughput, and does not consider the energy needed to construct hotels, airports, highways and runways, it needs to be understood as conservative. Furthermore, it deserves mention that only a minority of the world's population is responsible for these emissions, as for instance less than 2% of the world's population participate in international air travel on an annual basis (UNWTO-UNEP-WMO 2008). The UNWTO is therefore seeking ways for tourism constituents, including tourists themselves as well as providers, both to adapt to climate change and to mitigate GHG emissions while reinforcing the contribution of the sector to socioeconomic development in general and the Millennium Development Goals in particular.

Strategies for Mitigation of Climate Change

One assumption underlying this discussion is that there are already various efforts and strategies focused on reducing the impacts of climate change. These strategies should be tackled both from a macro and a micro level. In addition, an integrated approach from all players is required to ensure successful and effective implementation. It should be noted that emission reductions should be considered in the context of development and poverty reduction objectives of developing countries, considering that many of them depend on international tourism for their tourism revenues and economic development in general. The tourism sector has a responsibility to minimize harmful emissions by encouraging and advocating for sustainable, carbon-neutral transport solutions and low carbon market destination combinations, to improve the use of natural resources (water and energy) and to contribute to the conservation of natural areas. However, these strategies should be implemented in a manner that does not compromise the development of the industry by the developing countries that are the major beneficiaries of the growth in the sector.

In proposing the key greening tourism strategies for mitigating the effects of climate change, it is also imperative to address the issues concerning energy-efficient technologies and transportation. However, to do this it is important to first identify how climate change specifically impacts tourism in Africa and the developing world

A Conceptual Framework

The overall objective of climate change mitigation strategies, policies and activities in the tourism sector is to contribute to the achievement of “carbon neutrality” in the sector. For business and institutions, “carbon neutrality” can be defined by the entire set of policies that an institution or business uses when it estimates its known Green House Gas (GHG) emissions, takes measures to reduce them and purchases carbon offsets to “neutralize” those emissions that remain. Carbon neutrality for a business or institution signifies an entity (organization) that has a zero net contribution of greenhouse gases to the atmosphere. This includes all activities directly controlled by an organization, including travel, purchasing of goods and services, and daily behavior of staff.

Carbon neutrality can be achieved by improving the way the organization operates (e.g. through modified procurement considerations), by improving efficiency of operations (e.g. communications and meetings) and equipment (e.g. vehicle fleets and building). Carbon neutrality also recognizes offsetting as last resort an option to achieve full neutrality. The tourism sector is composed of a wide range of businesses, from small, local operations that service a single local market to very large transport, hotel and tour operator companies that serve global markets across entire regions and sell or facilitate millions or tens of millions of tour packages to foreign destinations each year.

The industry provides tourists with products and services such as accommodation, transport, food and drink, attractions to visit and souvenirs to purchase. It is clear that the

industry shapes demand through its marketing strategies, but consumers (tourists) ultimately make the final choices. Recognizing that tourists have an important role in creating business interest in sustainable tourism products, the sector should consider mitigation options and being proactive in addressing climate change. In response to the growing awareness of consumers as to the contribution of tourism to climate change, the sector should be looking more actively into exploring strategies for becoming carbon neutral since there is no universal blueprint for achieving such a goal in the sector.

At the macro level, governments can formulate regulatory procedures that provide for mainstreaming of the green issues in any policies on tourism development, such as regulations on registration and licensing of new facilities, greenhouse gases emissions, energy-efficiency standards for new products and compulsory environmental impact assessments for tourism projects among other initiatives.

Governments should also incorporate climate change issues into tourism legal frameworks and enabling policies, including the development of minimum standards in mitigation of GHG emissions and other pollutants, which should be met for infrastructural developments and equipment such as airplanes. It is recommended that incentives such as tax credits should also be put in place to encourage companies to adhere to these requirements and to even propose their own initiatives.

Environmental issues should be incorporated in the educational curriculum to create awareness of the climate change challenges at an early age and in a broader scope. A deliberate effort should be made to engage the various forms of the media to spread the news about the challenges of climate change and the need to address the causes of this phenomenon.

In relation to the carbon neutrality concept, a successful mitigation policy could consider four main steps that any tourism-related business or institution can implement as a practical response to climate change.

1. Eliminate the emission of greenhouse gases by keeping away from certain activities that can be avoided without a considerable change to the tourism product or service quality.
2. Reduce the emission of greenhouse gases by focusing on energy-efficiency practices in specific activities.
3. Substitute practices that are responsible for a large amount of greenhouse gas emissions with practices that have a lower carbon footprint.
4. Institution or business unit can offset remaining emissions to achieve full carbon neutrality.

The industrial greening concept thus reduces the impact of the industry on the environment.

Tourism sector operators and professionals can adopt green tourism practices with emphasis on application in the context of profitability and efficiency and also through self-monitoring initiatives such as code of conduct on environment management. Outlined below is case study where creativity in terms of eco friendliness was the ultimate in the development of the Eco-tel in Mumbai, India.

CASE STUDY: THE ORCHID, FIVE-STAR ECO-TEL HOTEL, MUMBAI, INDIA

Tourism Destination and Situation: The Orchid, a Five-Star Hotel, was opened in September 1997, focusing on economically viable pro-environmental measures. The hotel, belonging to Kamat Hotels Ltd., is interesting in that it takes a strictly profit-oriented approach to environmental measures, providing figures of financial savings through pro-environmental management on its website. Simultaneously, the approach taken is a whole-systems perspective, including all aspects of the environment, consistently focusing on best practice.

Climate Change Impact: The Orchid Hotel shows that it is economically feasible to implement a wide range of environmental practices, including virtually any aspect of the lifecycle of the hotel. This shows that five-star hotels can financially benefit from environmental management, make huge contributions to resource savings, create markets for innovative and green technology and involve their guests in pro-environmental management.

Mitigation Tools, Techniques, Policies or Measures: The hotel has engaged in a wide range of measures to reduce its impact on the environment, many of these unique:

Architecture and Construction:

- Passive-energy conservation efforts in design.
- Depressions and protrusions in the facade reduce surface radiation.
- The building is designed with 72 rooms facing the atrium, reducing the heat load.
- A skylight detailed in a manner of doubly layered domes reduces heat load and noise levels yet admitting maximum natural light in the atrium space.
- The swimming pool is located on the rooftop with 4 feet of water body, which acts as an insulator from the heat.

- Cement used for constructions is PPC (Portland Pozzalana Cement) containing 15-20% fly ash, as compared to OPC (Ordinary Portland Cement).
- Internal partitions are made from so-called “Quite Easily Done” wall panels, which are made from fertilizer waste, instead of using red bricks made from topsoil.
- Autoclaved Aerated Concrete is used for external walling and wet walling. AAC is eco-friendly as it manufactured using approximately 60% fly ash. It has thermal insulation properties and a better sound absorption coefficient than ordinary bricks.

Reduce, Reuse and Recycle:

- All taps contain aerators, which increase the water’s force and reduce outflow, saving up to 50% of water. The restaurant has taps operating on timers.
- Geberit Concealed Cisterns use only 6 liters of water per toilet flush as against 15-20 liters used in conventional flushes, while the use of Geberit Urinal Flush Valve’s infrared detectors ensures a definite flush after every use preventing the unwanted flushing of timer set systems.
- Wastewater is treated and then reused in areas like air conditioning and gardening.
- Drip irrigation reduces water use for gardening.
- Aqua Zone is a system using ozone to destroy microorganisms including bacteria, virus, spores, fungi, etc. The water is safe for drinking and free from chlorine.

Interior Design:

- Window frames, master control panel in the guestrooms and shutters are made from rubber wood. After producing rubber sap, the tree is cut down and cannot be used for other purposes.
- Medium Density Fiber Wood is used instead of real wood throughout the hotel. MDFW is manufactured from cotton stalks, which grow to a height of 5-6 feet, and are cut down after yield and are usually not used for other purposes.
- The restaurant uses recycled wood from old buildings.
- Triple-glazed windows with added reflective glass block heat from the sun, reducing energy for air-conditioning.
- All lamps are PL lamps or florescent tubes.
- All rooms have key card light switches so that all lights and air conditioning are switched off once the guest leaves the room.

- Mini bars sense the load inside the refrigerator and cool it accordingly. Mini bars are CFC free.
- Air conditioning uses R22 instead of CFC refrigerants, a far more climate friendly alternative.
- Attached to the air-conditioning system is a tank to store cold energy during off-peak hours. This stored energy is then used during the peak hours/periods reducing compressor overloading and cutting power consumption.
- The heat generated from the air conditioners provides hot water to the guestrooms, laundry, toilets and kitchen.
- Hangers in guestrooms are made from sawdust.
- Only herbal products are used in the hotel, which have not been tested on animals.
- Paints used in the hotel are eco-friendly. The exterior of the hotel is painted with water based paint with negligible VOC (Volatile Organic Compounds) content of only 0.0125% and the paint used for interiors has 0% VOC.

Educating Customers:

- The control panel in the guestrooms has a feature known as the green button. On pressing the green button the thermostat of the air-conditioning unit is stepped up by two degrees. The saving in electricity resulting from the 2 degrees increase in temperature is translated into rupees and displayed on the guest folio and profile. A certificate is then issued to the guest who has voluntarily participated in conserving energy.
- Guests who have left their emails are informed about ongoing environmental activities.

Garbage:

- The Orchid seeks to become a “zero garbage” hotel and has taken various measures to reduce the waste being generated. This includes vermiculture on the hotel site to recycle kitchen waste.
- Reusable cloth laundry bags are used instead of standard paper or plastic bags.
- For shopping, cloth shopping bags are provided to guests.
- Garbage bags are made from recycled plastic.
- Cut flowers are used sparingly, and the hotel uses potted plants instead.

Use of Chemicals:

- Anti Cockroach Herbal Treatment has been recently introduced and is the first of its kind in India to eradicate cockroaches. The herbal paste poses no health hazards, as there

is no use of any poisonous chemicals. No cleaning is required after the treatment is done hence there is no wastage of water, detergents, etc. It is applied in the form of a paste and placed on nooks and corners in the form of small globules.

In conclusion, the case study of THE ORCHID ECO-TEL HOTEL highlighted above has brought to light the fact that at micro level a strategy of self-regulation of developing a code of conduct for tourism greening adopted by operators if implemented in comprehensive manner can play a positive role on the operations of a company. The Orchid became Asia's first five-star hotel to win the ECOTEL® certification shortly after opening in May of 1997 and as of January 2011 is the only Hotel in the world to win over 74 international/national awards in 13 years from inception. Under the management of The Orchid Owner, Vithal Kamat, the hotel has earned more environmental accolades than any other hotel in the world.

At the macro level, it should be noted that the appreciation of an entire picture of environment pollution or climate change issues cannot be created by analyzing country by country because they transient geo-political boundaries drawn by human beings. Thus to ensure the mitigation of climate change at a global level requires a more holistic approach such as international conventions that cascade down to continental, regional and eventually national level for effective implementation.

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