

Adventure Travel's Response to Climate Change: A Success Story from India

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This article is based on two previously published reports by Xola Consulting with the permission of Christina Heyniger. The original paper titles are: "Climate Change, Water Scarcity, Sustainability and Adventure Travel in Brazil, Russia, India, China and Mexico," written by Henrietta de Veer and Christina Heyniger; and "Adventure Tourism Companies & Climate Change: Observations from the Himalaya, Amazon, and Polar Regions Spark Adaptation Strategies for Business," written by Ryan Piotrowski and Christina Heyniger.

Abstract

The field of adventure tourism is experiencing the effects of climate change, and businesses across industries operating in sensitive regions around the world are beginning to develop ways of adapting to it. In the tourism sector, the broader tourism industry has mainly focused on adaptation strategies for two major travel sectors, coastal island and ski tourism. In the adventure travel space, tour operators working in remote environments where climate-change effects are more pronounced are also taking steps to modify operations.

The article focuses specifically on some of the climate-change challenges faced by India. In a series of detailed interviews with a tour operator from India's Himalaya mountain region – Snow Leopard Adventures – a portrait of a business in transition, with lessons for other tourism companies, emerges.

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In contrast to leisure tourism, where more emphasis may be placed on man-made settings, adventure tourism's business model is thoroughly exposed to the slightest environmental changes. Adventure tour operators, with products and services that depend on healthy, natural environments, have a regular and direct connection to important environmental issues such as climate change.

India is a leading international tourism destination and was also named one of the top 10 climate-affected nations in the world by the UN World Meteorological Organization (WMO). Six of the other nations were in Asia and include the Philippines, South Korea, Indonesia, Vietnam, China and Afghanistan. With climate changes threatening agriculture in Asia in particular, WMO is recommending increasing investments in urban and indoor agriculture, sustainable farming practices and seasonal prediction and early-warning systems, particularly to guide farmers on when, where and what crop is best to grow.

India is experiencing changes in climate and the impacts of climate change, including water stress, heat waves and drought, severe storms and flooding, and associated negative consequences on health and livelihoods. All of these events, in addition to their effects on agriculture and day-to-day life also have important effects on impact tourism – particularly adventure tourism – with its emphasis on rural and outdoor activities.

The Indian government is focusing on promoting a variety of new tourism products, including caravan tourism, heliport tourism, medical and health and wellness tourism and adventure tourism in addition to its traditional products. The Indian healthcare and medical-tourism market is expected to reach USD \$2 billion by 2012. With respect to adventure tourism, the country is promoting itself as one of the most exciting adventure tourism destinations in the world and intends to focus marketing campaigns in the future on the innumerable adventure and eco-tourism opportunities in the country. The government's focus has been on Ladakh, the Sariska Wildlife Sanctuary, Keoladeo Ghana National Park, and Corbett National Park among others. Areas such as Kaziranga National Park, Corbett National Park and Kanha National Park have also received attention.

In a series of detailed interviews with a tour operator from India's Himalaya mountain region, Snow Leopard Adventures, a portrait of a business in transition emerges. This company is implementing operational and management focus toward climate-change adaptation.

This article, first published as part of a larger study by Cambridge University student Ryan Piotrowski in collaboration with Xola Consulting, discusses and recommends management and business practices for sustaining adventure travel businesses in sensitive environments affected by climate change. An adventure travel company's climate-adaptation model is provided in the final section.

Hypothesis

Under the hypothesis that adventure tour operators experience the effects of climate change sooner and to a greater degree than most other tourism businesses, a case-study approach was used to examine operators in three different countries and environmental regions – polar, mountain and tropical forest. The results of the Indian company operating in the mountain environment of the Himalaya are presented here.

The overall trend that we observe is that climate change has not yet had a significant effect on the polar or tropical region adventure tour operators interviewed, but has affected tour operations in India's Himalaya mountain region. All of the companies interviewed are implementing operational and management focus towards climate-change adaptation.

Significant Findings

- There is a high level of emphasis by each company to consider future climate-change effects and begin basing strategy for adaptation around it.

- Implementing itinerary changes, education, training and preparedness programs, and good environmental practices, such as reduced emissions, are adaptive strategies used by all the tour operators,
- Documentation and study of environmental and weather conditions varied in degree, but overall none of the companies maintained a database for reference and planning purposes.

SNOW LEOPARD ADVENTURES

History

Snow Leopard Adventures Private Limited was established in 1990 in India and offers adventure tours, throughout the year, that emphasize safety, eco-friendly practices and education. Snow Leopard's tours are based out of Uttarakhand, India, and outbound trips are offered to other Himalayan destinations in Bhutan, Tibet and Nepal.



An ISO 9001:2008 Organization

Activities

Activities include rafting, trekking, cycling, rappelling, skiing, fishing and various types of safaris. A wide portfolio of tours is offered that cater to corporate programs from retreats to outbound training, family adventures and school trips.

Beliefs/Practices

Snow Leopard Adventures practices include sound planning, emphasis on safety and environmental responsibility. "Eco-logical" efforts toward environmental conservation and sustainability are given emphasis. Snow Leopard established SAVE (Study and Value Environment) in order to bring school children together to make them more sensitive to the environment. Additionally, Snow Leopard has written its own Ecological and Safety Codes of Conduct and incorporate environmental-awareness and eco-friendly education into all tours.

Interview Responses

Summer Temperatures Occurring Earlier

- Snowfall in areas around 7,500 feet occurring in late January instead of late December, since 2001 (excluding 2007).
- Temperatures at 7,500 feet increase up to as much as 35° C in place of 32° C. Evergreen species in the Doon Valley region declined from 70% in 1958 to around 25% today. Increased temperatures are partly responsible for changing vegetation patterns, changing soil patterns and a drop in the water table.
- Increased temperatures result in less guest occupancy on trips two weeks earlier than usual. In Shivpuri (at 1,000 feet) temperatures rise up to as much as 42° C in the summer. Guest numbers on tours decline the third week of May instead of the first week of June.

Water Scarcity at Higher Camps

In a region near Chamba, the combination of existing lower water tables due to geography, alpine canopy and stream use by local village and resort development near Kanatal has exacerbated water scarcity resulting in vehicles having to travel as much as 20 miles to fetch water for tours since 2002. Change in vegetation patterns has reduced the soil retention capacity and led to a drop in the water table.

Extreme Precipitation Events

Stormy conditions near beach sites are being felt two months prior to the close of rafting season that officially closes for the monsoons (end of June). The results are a loss in revenue from dismantling campsites earlier than usual. However, extreme precipitation events rarely negatively affect water-based activities.

Changes in Flora

Observations by locals indicate that Ban Oak (*Quercus leucotricophora*) is being replaced by Chir (*Pinus roxburghii*) from a 90:10 to nearly 50:50 ratio. Pines have larger root systems, which lead to a drop in the water table, while oaks keep in moisture and humidity. This escalates the warming process in the region.

Adaptation Techniques

To Cope with Increased Temperatures

- Water-based activities are scheduled for the hottest period of the day.
- Beach campsites are preferred due to milder temperatures from their proximity to rivers. However, extreme storm conditions can offset the gain.
- Conferences for corporate training modules held inside concrete structures.
- Games and other activities take place in the evening during cooler temperatures.

To Cope with Water Scarcity

Tourists are limited to one bucket of hot water a day.

Extreme Precipitation

Camp staff is trained to handle emergency situations and extra tents are kept at fixed campsites away from the beach campsites in case of evacuation. Since weather patterns are highly unpredictable, substitute products to replace lost tour revenue are being created.

Reduced Flora and Wildlife

A healthy amount of vegetation is maintained in and around campsites to protect the environment and offer an alternative habitat to birds and other animals. As an example, bird watching became an unintended additional activity as a result of attempts to reduce dust from nearby highway development at the Shivpuri campsite by maintaining approximately 50 different species of trees and plants. In turn, this allowed migrating birds to inhabit the site in addition to reducing dust.

Business Model Trends and Strategy

Operations

Adaptation combined with mitigation.

Adaptation

Itinerary timeline adjusted to cope with temperature increase. Utilize structures and sites to alleviate discomfort of increased temperatures. Staff trained to react to extreme weather events. Proactive promotion and increased product mix by increasing the number

of flyers to attract guests and creating products that are in less-affected regions or are tied to cultural or historical sites.

Mitigation

Reduce driving when possible to reduce emissions (trek up the last mile to temporary campsites where roads are barely passable). Use solar lanterns in place of kerosene at beach campsites. Instead of investing in infrastructure for electricity at high-altitude campsites, use a generator for two or three hours a day.

Philosophy

Remain prepared and vigilant to unpredictable weather. Educate and keep staff updated on latest climate trends and research in the Himalayas. Reduce consumption wherever possible and maintain the environment. Educate travelers and community members on climate-change and individual best practices. Influence stakeholder policy to promote environmental conservation.

Advice and Future Thoughts

- Continue proactive and sustainable practices while educating staff and guests on climate change and the environment.
- Frequent weather audits need to be conducted, once every quarter, and on these lines safety and feasibility measures at sensitive campsite areas (like beaches) need to be evaluated.
- Visitor-number control procedures are a must in fragile higher-altitude regions. In low-lying regions with less traveler environmental impact, regulation numbers can be formulated on a daily basis in response to the season and the number of tour operators.
- Adventure tour products will inevitably experience change based on their dependence on the preservation of natural resources. “The only concern is that product components are being curtailed due to unpredictable weather patterns, but from a broader perspective, it can be considered a positive development that is actually pushing reform measures.”
- Continued marketing and sales promotions combined with product-mix diversification.

RECOMMENDATIONS FOR OTHER COMPANIES BASED ON THE SNOW LEOPARD ADVENTURES EXPERIENCE WITH CLIMATE CHANGE IN INDIA

Companies must focus on key questions for how to cope and develop the business, rather than become complacent or resort to a reactionary strategy. Failure to adapt now can become more costly as a result of not having the necessary resources in place ahead of time. A commonly referred to example of failing to adapt in business comes from Kodak and digital-photography technology. Kodak was first to possess the digital camera, but failed to understand its customer and offer it as a product for the masses. Kodak’s strategy resided in complacency around its proven products. Adventure tour companies need to adapt in terms of climate change as necessary and not miss the opportunity as Kodak did in terms of realizing the value of change.

Adventure travel companies rely on very specific core competencies based on the environments in which they operate – such as whitewater river rafting or high-altitude

climbing. Competitors should find it difficult to enter the market and compete against such companies because of the rare, non-substitutable or costly to imitate aspects of their core competencies (Sloman and Hinde, 2007, p. 284). Instead of solely focusing on competition, climate change poses threats and opportunities that can either enhance or diminish niche skills and product offerings. Adventure travel companies need to treat climate-change impacts as one of their greatest competitors.

Creating climate-change expertise through a committee or designated individual staff can provide competitive advantage against climate change. Outsourcing expertise may prove costly for a small tour company and it is rare for a consultant to possess such specific knowledge about a niche company and climate change. Creating expertise is vital toward dedicating the time and effort to gain the best intelligence to combat climate impacts and educate leadership and staff. Analysis of internal and external factors should drive strategy.

As part of the education process and the need to manage difficult-to-predict weather and climate scenarios, research is key. The appointed climate-change person(s) should work throughout the organization to track and maintain climate, weather, physical changes encountered and other methods/examples of climate-change impacts. Additionally, the climate-change specialist(s) should be well read on the latest research and encouraged to interact with other tour operators, academic institutions, NGOs and local communities to better understand the climate setting. Annual reports and educational events can become deliverables as well. Accurate information will provide more weight for effectively engaging in policy discussion and in dealing with the media and customers.

Strategic simulation exercises for coping with various degrees of climate impact are effective tools for planning and decision-making. A team can discuss or work out rough plans for minimal to extremely high climate-change impacts. Addressing the natural environment and resource impacts on tours and what can be done ahead of time will reduce organizational myopia toward the need to adapt. Resource and fiscal planning will also be important. Resources and capabilities may be assessed in terms of strategic importance and relative strength in order to determine the potential for sustainable competitive advantage against climate change (Grant, 2008, p. 157).

Education on climate change and measures to adapt as a community is important for relationships between tour operators, other value-chain members and stakeholders. Encouraging combined efforts can be achieved when all parties are knowledgeable about the stakes at hand. Policy development between stakeholders and tour operators is necessary to advance sustainable adaptation beneficial to all parties. Additionally, strategic alliances between tour operators in the same regions and/or members in their value chain may reduce costs and improve adaptation results.

While the product offers for such niche adventure tour companies typically remain their core business, strategy must be focused on adapting to maintain the business through product resilience combined with new product creation for some companies. Snow Leopard Adventure provides an example of a company that has begun to diversify its

product mix in order to maintain and attract customers. Adventure tour companies compete more through product differentiation than cost leadership as a result of the unique products that they feature. Providing products and services to a niche client base will require change to maintain market share and profitability while competing with the tourism industry.

Defining strategic direction based on informed approaches and shared effort is vital for sustaining any adventure travel business. As climate change inevitably influences and reshapes business models, companies need to incorporate climate-change adaptation into their strategic planning.

Moutinho provides a useful summary when he writes about managing in an uncertain environment in “Strategic Management in Tourism,” “An industry faced with turbulent environments cannot cope simply by relying on the accumulated experience of those within it, or on conventional formal strategic planning processes to develop strategies which can cope. In the future, strategies based on prediction and predetermined planning will have to give way to strategies which emphasize preparation, detection of environmental change, flexibility and responsiveness” (2000, p. 36).

Operations

Operational changes are very specific to location and types of activities. Regardless, common themes and flexibility to alter transportation, accommodation, resources, programs, schedules and other factors based on climate impacts need to be understood. Adapting activities and product offerings will be vital to maintaining a customer base, as original activities may no longer exist over time or during certain seasons. A key to reducing the impact of lost revenue from trip limitations is to create new activities or combine activities to complement gaps in original tour models from climate change. Diversification of product offerings can spread risk and provide protection from seasonal and extreme weather impacts. Additionally, decentralization of operations and employee education can promote successful flexibility to adjust tours on the spot and ensure customer satisfaction.

Sound environmental practice is an essential part of normal operations, including water conservation, waste storage and removal, bio-security and other practices. Snow Leopard planted trees initially to reduce dust from nearby highway development and unintentionally ended up creating a habitat to sustain wildlife. Building on this lesson, companies can offer solutions to their environment and create attractions. Snow Leopard Adventures ended up with the added activity of bird watching as a result. Despite the challenge to sustain core business activities, opportunities exist to promote further adventure and environment-based products.

Policy involvement and stakeholder management are important business activities. Interaction with other tour operators and the local community can strengthen relationships toward confronting climate change. Sustainable-supply and value-chain management should become a focus to not only reduce emissions, but to encourage good environmental practices. Through codes of conduct and assessment of supplier

compliance, companies may collaborate with their suppliers to satisfy customers and gain competitive advantage as well (Font et. al., 2007, p. 262).

Continuous improvement is an inherent business goal to maintain competitive advantage and provide positive customer experience while reducing costs. Climate change is bound to further impact the supply-and-demand elements of adventure travel. The supply of natural resources, communities and sites to visit needs to be balanced with demand changes as a result of climate and customer psychographics. The ability for tour operators to shape both dimensions will be a result of modifications to maintain and/or create new activities in a fragile environment while providing truly positive experiences. Managing resources and traveler demand while overcoming environmental change may be achieved based on forecasts, shared information and flexibility. Monitoring the effectiveness of adaptation and management techniques is essential for achieving optimal levels of service and diffusing vulnerabilities.

Overall business strategy should promote operational adaptation and response to reduce threats and increase opportunities.

Marketing

As travelers begin to travel to different regions as a result of temperature and weather changes, marketing plays an important role in maintaining business success. Market trends and customer needs will be increasingly influenced by climate change and companies will have to adapt their marketing plan. Product mix, promotion and price are variables that can be altered to retain and increase customers, while product place and distribution tend to be fixed.

An active campaign to highlight a diversified and reliable portfolio of adventure activities is important. Repositioning and redirection of activities based on sites and season should be considered in terms of local climate impacts, but also in terms of what travelers demand on a global level and when. Product promotion should provide clear information and generate excitement for activities that may not make the most sense in the minds of traditional travelers. Contingency planning will provide preparation for extreme-weather incidents and communication about them. Companies should continually promote the environment and adventure as reasons for travelers to challenge themselves and seek enjoyment in the face of climate-change conditions. For example, Snow Leopard explained the following approach as “instead of just focusing upon the adrenaline rush of rafting, greater emphasis is given to activities like treks, highlighting that the experience proves to be more enlightening and rewarding from a broader perspective” (Joshi, 2009).

Travelers are interested in climate change and what is happening to the environment; therefore, companies should continue to educate and promote environmental programs. Adventure travel itineraries that include conservation activities provide an opportunity for travelers to help maintain the environment as well as the tour operator’s activity base. Other programs via the Internet and media can educate and assist “wannabe” travelers to contribute to environmental causes from home. Local, community engagement is another important media relations and marketing event to attract attention for the business and

promote the environment and climate adaptation. Interacting with schools and other organizations can increase network effects to attract customers as well.

In some cases, targeting local customers versus global customers may provide more sustainable business. As niche companies, adventure tour operators will most likely not consider changing their target audience. Most of Snow Leopard's customers are from India, but promotion may be pushed more toward international travelers unaccustomed to the weather of India. It may be easier at times to encourage people in the surrounding area to engage in activities during off-peak seasons with discount offers. Redefining the target customers and product mix will become important in maintaining customers for tour operators in regions facing adverse climate-change impacts.

Price is difficult to change or compete on for traditionally niche companies; however, packages and other deals during off-peak seasons or incentives to travel despite higher temperatures or weather variability should be considered. An important aspect of marketing in response to climate change is providing a sense of security. Accurate and honest information is essential to maintain company image. Travel insurance against adverse weather and other climate-change mitigation policies for customers should be offered if possible. Such campaign incentives can reduce the number of customers avoiding such trips and encourage others to join trips that otherwise would not have. Also, customer service is an integral part of maintaining and encouraging future customers via word-of-mouth promotion or other sales campaigns. Adventure tour company staff will be better prepared to deal with climate change through effective change management and leadership emphasis on climate education and discussion. Providing employees with an understanding of the "why" behind strategic, operational and marketing decisions can ensure increased satisfaction, job focus and improved customer service.

Conclusions

Strategy, operations and marketing are areas that tourism companies should consider now and use to assist in determining and preparing for impacts of climate change. Adventure travel companies closely related to their environment are beginning to adapt to climate-change impacts in order to sustain their business and their experiences provide useful lessons for other tourism businesses.

As tour operators make small changes now, they should remain proactive and dynamically manage their future-business strategy. While confronting climate change, leadership, communication and education will assist in reducing costs, easing operational change and sustaining a potentially fragile business over the long run. Similar to trekking, responsible terrain and weather analysis, planning and packing will enable tour operators to successfully reach their destination.

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