

Ríos Tropicales

Costa Rica

Development of climate change adaptation strategies for companies



Central America is ranked as one of the most vulnerable regions worldwide. Facing the impacts of climate change is a key challenge of this century - not only for governments and communities, but also for businesses. Changes in weather patterns and a shift to more extreme events; rising prices for raw materials, energy and water; damages of transport routes; or more frequent gaps in the supply of goods are some of the causes for new climate-related risks that businesses are now facing. At the same time climate change offers them a range of business opportunities.

This case study was developed under the INCAE Business School, INTEGRARSE and GIZ project “Climate Change Adaptation Business Strategies in Central America” (2012-2014) which aimed at improving the analysis and management capacity of the private sector in Central America for incorporating the business risks and opportunities arising from climate change into their corporate plans and strategies.

About the company

Ríos Tropicales is an eco-adventure company founded in 1985 by 2 Central Americans, Rafael Gallo and Fernando Esquivel. It was named in 2007 as “#1 Costa Rica Adventure Outfitter” and “#5 Rafting Company in the World” by the renowned online magazine National Geographic Adventure. The company has always been characterized by its environmental policy and quest for sustainability, exemplified by the opposition they had to take in 1985 to a massive environmental destruction through the construction of a hydroelectric dam due to their strong sense of conservation. This is also manifested through purchase of forests, hunting prohibition, groundwater protection and other actions over time. It’s sustainability objectives include, for example: to protect, conserve and restore the rivers and tropical forests of Costa Rica; to prevent and mitigate as most as possible the contamination and other negative environmental impacts from their activities; and monitor the scope of the Sustainability Policy to ensure continuous improvement of the environmental performance of the company. Services offered are only adventure activities with human propulsion, in order to avoid emitting greenhouse gases. The company is always attentive to carbon neutrality or “carbon negative” opportunities.

Location	Costa Rica. Operates in both coasts, mountains and tropical forest, and the western region of the country.
Sector	Eco-Tourism
Services	Offers adventure activities such as rafting, kayaking, canoeing, cycling, among others. Also have an Eco-Lodge located in the forest, previously accessed only by rafting.
Company Size	60 employees in Ríos Tropicales, 100 including franchises



Clients rafting in the Pacuare River, Eco-Lodge visible in the background.

How is the company affected by climate change?

The company is dependent for most of its activities and services upon weather conditions, and the water level of several rivers nation wide. Changes in weather patterns and more frequent extremes (intense rains or extended dry periods) severely affect their operations. Given the nature of the company’s activities, dealing with climate events had always been an intrinsic part of their business. Therefore, identification of risks, as well as past, present and future impacts from climate change over the company was relatively quick, also because similar impacts affect the Eco-Lodge, the Operations Centre and the adventure tours. Although none of the climate events and risks were significantly revealing for the company’s manager, the exercise was deemed valuable as it allowed for recognition that the issue requires more thought as more drastic peaks and extremes are expected over time.

Key climate phenomena

More extreme weather events, such as intense rains that make river levels rise quickly or extended dry periods that difficult activities on the low river level, were affecting the adventure activities offered and the access roads to the activity locations and Eco-Lodge.

Climate Change Adaptation Business Strategies in Central America Company Case Study Eco-Tourism

Climate risks and Adaptation measures

Climate Phenomenon / Impacts	Climate Risks	Adaptation measures
Heavy rains 	<ul style="list-style-type: none"> Substantial increase in river levels, making rafting insecure for participants Disruption of roads due to increased landslides, affecting access to adventure locations and the Eco-Lodge 	<u>Identified:</u> <ul style="list-style-type: none"> Create a guide of alternative routes and suppliers in case of landslides Generate a system to enter and exit the Eco-Lodge by foot <u>Implemented:</u> <ul style="list-style-type: none"> Use of foot trails to access the Eco-Lodge rather than only by rafting, to avoid issues in case the river conditions change drastically and impede rafting activities.
Extended dry season 	<ul style="list-style-type: none"> Low river levels that difficult rafting activities 	<u>Identified:</u> <ul style="list-style-type: none"> Investment in smaller and lighter rafts for lower river levels. <u>Implemented:</u> <ul style="list-style-type: none"> Fewer participants are put on each raft, fulfilling the same objective of a "lighter raft" Lunch break is added mid journey instead of lunch at the end of the journey as was accustomed, to allow for variations in the river to pass, and because the journey takes much longer with a lower river so a refreshment becomes necessary. These two measures however, have a clear impact on the company's costs and reduce their cost efficiency. In the case of the lunch break, for example, the cooks at the restaurant they reach at the end of the journey are still hired, despite lunch not occurring at the site.
Limited water availability 	<ul style="list-style-type: none"> Limited water availability affected electricity supply to the Lodge, as it is based on hydroelectric production. 	<u>Identified:</u> <ul style="list-style-type: none"> Considerations for a larger reservoir are being taken or simply not offering electricity in the rooms and depending on a gasolina generation plant for the washers and dryers. <u>Implemented:</u> <ul style="list-style-type: none"> Other water streams had to be added to the tank.
Other risks related to climate change		Adaptation measures
	<ul style="list-style-type: none"> When river is inadequate, the first choice is rafting in another river, second choice is another product, or otherwise they have to turn to cancellations and refund. Unfortunately, the latter has a reputational and economic negative impact over the company. 	<u>Implemented:</u> <ul style="list-style-type: none"> The company has invested in diversification, through innovation in other products that are not as river dependant, always with an environmental and adventure signature but with more options, such as horseback riding tours, forest restoration, visit to the local communities and knowing their rural sustainable development practices, cycling and kayaking.

Reflections from management

Rios Tropicales participated in the project through direct involvement of the co-founder and manager Rafael Gallo. Adaptation actions taken by the company over time and reflections from the co-founder and manager indicate that measures that require a high initial investment are the most difficult to implement. In fact, possible measures such as increasing prices in the future are foreseen, translating the increase in cost to the client. From participating in the project, a value is recognized in the learning to incorporate adaptation actions, which used to be more responsive to need, into their mission and decision making process. Although economic analyses have not been carried out yet, management is now ensuring to gather necessary information for a statistical and economic analysis if need be.

Business opportunities

Rios Tropicales has diversified the services and adventure activities offered to broaden the options available in case of weather conditions that difficult rafting activities, and diluting impacts from climate change on the company's revenue.

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