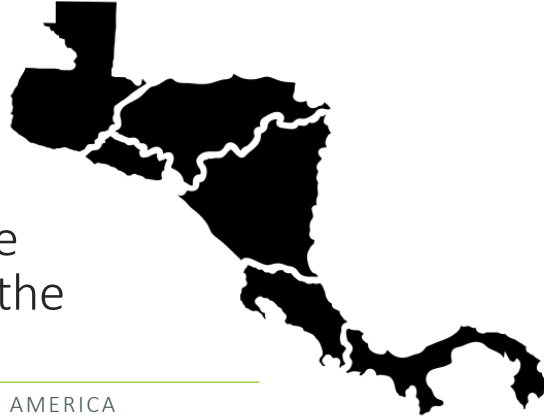


Climate Change Adaptation by the Private Sector

EXPERIENCES IN CENTRAL AMERICA

M.SC. MARÍA JOSÉ GUTIÉRREZ
MAY, 2016



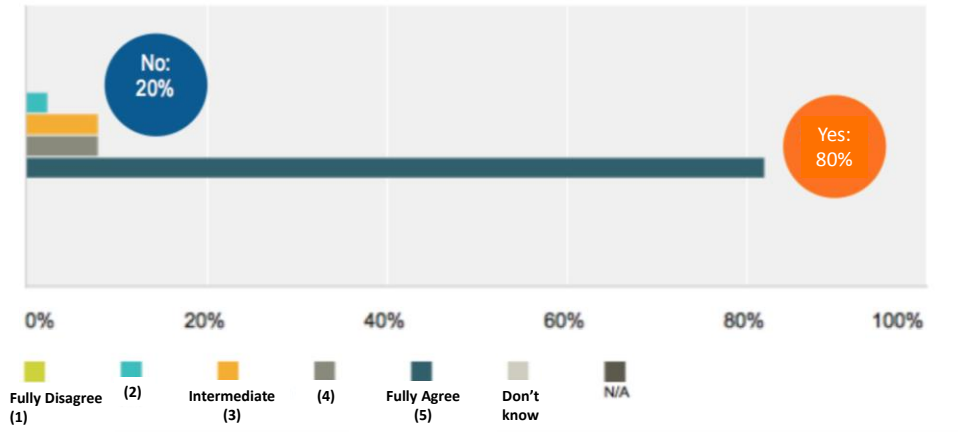
PROJECT

Climate Change Adaptation Business Strategies in
Central America

General Objective

To improve 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.

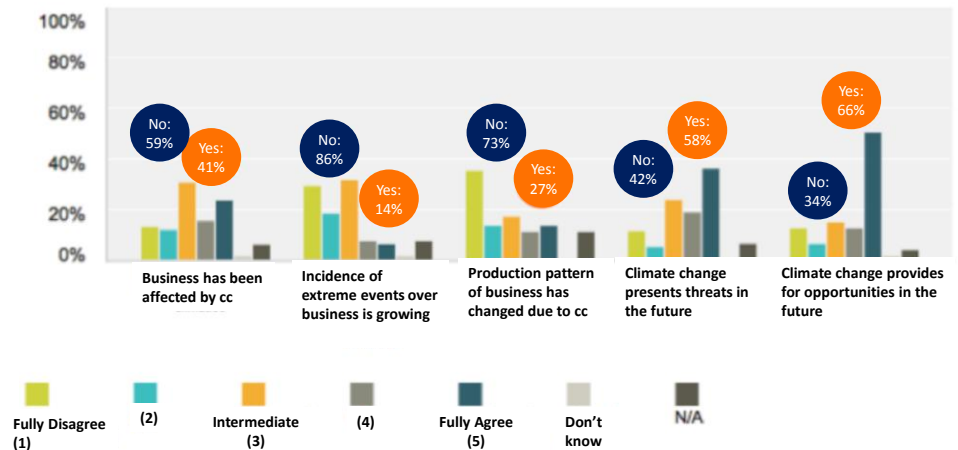
80% of surveyed company representatives considered climate change as an important topic for their business.



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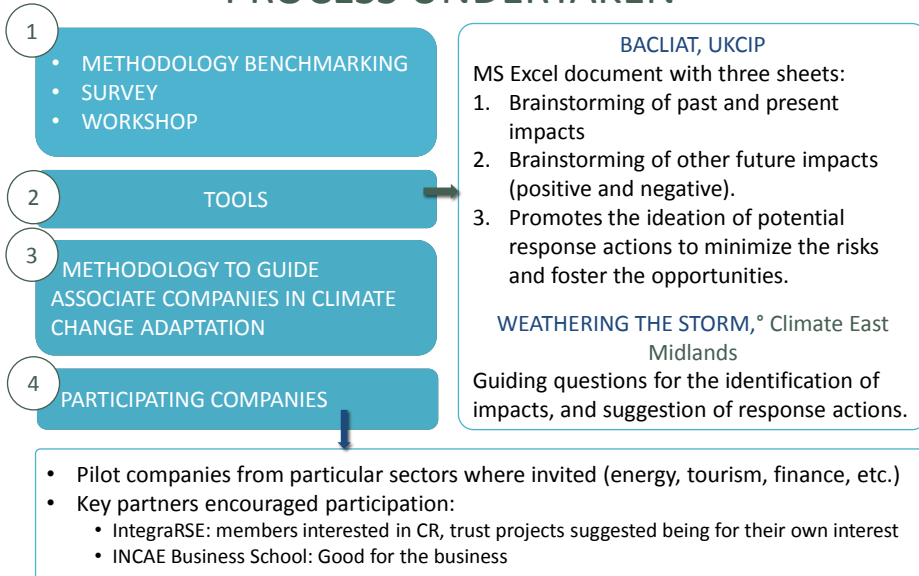
Companies tended to view impacts of climate change over their business as future only

With respects to the effects of climate change over their business:



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PROCESS UNDERTAKEN



RESULTS

Greatest risk lies outside of their offices and within their investments and clients' investments

- Stronger rains: Strengthen gutters and drains to lessen impact.
- Increasing high temperatures: Incorporating according infrastructure.

Copa Airlines

DAVIVIENDA

Rios Tropicales
Geotourism Leaders
COSTA RICA

Florida Bebidas

FOGEL

GUACALITO DE LA ISLA
NICARAGUA'S EMERALD COAST

GRUPO TERRA

Villa Serena
CADENA DE HOTELES

Becamo

Chiles de Nicaragua, S.A.



**Rafting and Eco-Tourism Company
COSTA RICA**



- Eco-adventure company founded in 1985 by 2 Central Americans, Rafael Gallo and Fernando Esquivel
- Operates in both coasts, mountains and tropical forest
- Offers **adventure activities** (rafting, kayaking, canoeing, cycling, etc.), and has an **Eco-Lodge** located in the forest, previously accessed only by rafting.
- Company characterized by its environmental policy and quest for sustainability



**Rafting and Eco-Tourism
COSTA RICA**



PROJECT RESULTS

Identification of risks was quick as similar present and future impacts affect the Eco-Lodge, the Operations Centre and the adventure tours, none were revealing for the manager

Main climate change derived impacts over company operations identified:	Potential adaptation actions, to minimize suspension of activities:
<ul style="list-style-type: none"> • Increased landslides due to heavier rains • Substantial increase in river flow where rafting is carried out making it insecure for participants • Droughts that generate a low river flow making it difficult for rafting 	<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 • Investment in equipment (new rafts) in case of drought



Rafting and Eco-Tourism Company
COSTA RICA



(> 2 years) AFTER THE PROJECT

Adaptation measures taken:

- Use of trails to access the Eco-Lodge
- Instead of investing in smaller rafts, they:
 1. put fewer people on each raft, and
 2. have moved the lunch to mid journey
 - These increase costs and reduce cost efficiency (eg. Cooks are still hired for restaurant at the end of the journey)
- When river is inadequate, 1st choice is rafting in another river, 2nd choice is another product, otherwise they have to turn to cancellations and refund (image and cost impact)
- Innovation in other products that are not as river dependant, always with an environmental and adventure signature but with more options
 - Horseback riding tours
 - Forest restoration
 - Visit the local communities and knowing their rural sustainable development practices
 - Cycling and kayaking

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Diversification of services and products offered, always under adventure tourism activities

The screenshot displays the website's interface for 'Rios Tropicales'. At the top, there is a navigation menu with links for 'ECOLOGE', 'EXPERIENCES', 'TRIPS', 'ECOTOURISM', 'ABOUT', and a 'RESERVE NOW' button. The main content area is titled 'FEATURED TRIPS' and features three trip cards:

- PACUARE RIVER RAFTING - 1-DAY**: 1 Day, Adventurers, Central Caribe, Families.
- ARENAL & GUANACASTE RIVERS & VOLCANOES**
- TORTUGUERO JUNGLE KAYAKING**

Below the featured trips, there is a section for 'LODGE ADVENTURES'. It includes a paragraph: "When you stay at the Rio Tropicales Lodge and its 2,000-acre private reserve, you can choose from several different guided tour experiences, make a difference through tree-planting, and enjoy a host of other unstructured activities. Of course, the longer you stay at Rio Tropicales Lodge, the more likely you'll get to experience everything we offer. And, the more likely you will return to your daily routine refreshed, rested, and recharged. Availability of certain activities depends on the length of your stay at the lodge." Below this text is an image of a lush green hillside.

Next to the image is the heading 'RAINFOREST RESTORATION TOURS' and a paragraph: "Here at the top of the Pacuare Gorge, the lodge plant a tree as part of our reforestation project at our 2000-acre rainforest reserve, the largest private reserve in Costa Rica. Reforestation began in 1990s, and by 2008 we participated in the United Nations Environment Program (UNEP) Billion Trees campaign. We are engaging our visitors and have planted over 20,000 trees to date. Our local communities, Costa Rican vacationers, and international vacationers together participate in and support our ongoing tree-planting campaigns." Below this text is a small caption: "As of June 2013, we increased our pledge to 25,000 trees."

On the right side of the screenshot, there is a vertical menu with the following items: RAFTING, NATURE, KAYAKING, BIKING, HIKING, TEAM BUILDING & CORPORATE GROUPS, INCENTIVE TRAVEL TRIPS, CRUISE ADVENTURE PACKAGES, and RECOMMENDED GEAR.



Rafting and Eco-Tourism Company
COSTA RICA



REFLECTIONS FROM THE CO-FOUNDER AND MANAGER

- Participation in the project generated a new perspective of addressing the issue of climate change
- They have always had to deal with nature, but now with more drastic peaks and extremes the situation is different.
- Measures that require high initial investment are hardest to implement.
- Foresees possible measures such as increasing prices in the future, translating the increase in cost to the client.
- Although economic analysis have not been carried out, they are now ensuring to gather necessary information for a statistical and economic analysis if need be.

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Tabasco Chili Producing Company
NICARAGUA



- Family owned agroexporting company with 25 years of experience in producing and exporting Tabasco variety of chili to the U.S.
- Increasing network of producers country wide who are their suppliers of fresh chili
- Company highly committed with the environment and corporate responsibility practices.
- Implementation of early adaptation actions





Tabasco Chile Producing Company
NICARAGUA



PROJECT RESULTS

Main climate change derived impacts/risks over company operations identified:

- Drought
- Strong winds
- Flooding
- Rivers grown
- Excess of rain
- Implications from impacts to suppliers

- Crops do not develop in rainy season due to lack of rain.
- Water sources and crop irrigation levels affected
- The tabasco chili fruit is comercialized by weight, and must be sufficiently hydrated to be juicy, reach the correct weight and achieve the exportation quality.

- The product is lost if producers cannot transport and deliver the fresh produce at the processing plant on the same day of cropping or at most the next day (access issues due to river growths, flooding or road destruction from heavy rains)

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Tabasco Chile Producing Company
NICARAGUA



Losses exceeded \$40,000 USD

Chili plantation damaged due to overboard of river El Jobo, Matiguás, Matagalpa, 2nd week of May, 2010

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Tabasco Chile Producing Company
NICARAGUA



PROJECT RESULTS

Priority potential adaptation actions, to minimize suspension of activities:

- More careful planning process and exhaustive analysis of producing farms before signing contracts with them, related to:
 - Climate behaviour in the micro zone
 - Impacts that the property has perceived in the past
 - Access roads (better accessibility and roads)
- Production under controlled agriculture through:
 - First time installation of shadow houses.
 - Encourage and request installation of drip irrigation systems preferably in all of the crops to reduce risk and be able to grow all year round.
 - Encourage the use of mulch or padded plastic to make a rational use of irrigation water and avoid evaporation

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Tabasco Chile Producing Company
NICARAGUA



IMPLEMENTED ADAPTATION ACTIONS

- Incorporation of climate change into their Strategic Plan 2013-2015
- Analysis of the vulnerable zones to climate change impacts and with better road infrastructure to map their production zones.
- Share climate report with producers and keep a historical track of geographical zones of particular interest.
- Migration of production to a new zone, leaving the Pacific and moving towards the humid tropic
- Preparation of four-wheel drive trucks to aid suppliers if they cannot transport their product to the processing plant.
- Implementation of shadow house technology in three different zones of the country
- Installation of drip irrigation systems in all of their cultivation areas
- Increase use of mulch or padded plastic.
- Construction of water reservoirs for rational use of the resource and irrigation in shadow houses.

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**EXPERTOS EN PRODUCCIÓN Y EXPORTACIÓN
DE CHILE TABASCO A ESTADOS UNIDOS**

Company website, Apr 2016

INICIO

QUIENES SOMOS

PRODUZCA CON NOSOTROS

SERVICIOS

CREEMOS EN LA RSE

PROYECTOS Y ALIANZAS

GALERÍA DE FOTOS

VIDEOS

PRODUZCA CON NOSOTROS

Somos un total de 211 productores trabajando bajo contrato de compra/venta con Chiles de Nicaragua, que incluye a tres cooperativas (incluidas 90 mujeres con huertos familiares).

Requisitos técnicos: suelos adecuados, acceso a fuentes de agua, instalación de sistema de riego por goteo. No despale.



Le sugerimos leer el Manual de Buenas Prácticas Agrícolas para la Producción de Chile-Tabasco en Nicaragua (BPAV) (Descargar aquí).

Temporada de siembra: Durante todo el año.

Costos de producción: Le ayudamos a elaborar el presupuesto de su futuro cultivo.

Precio de compra: Pre establecido en el contrato.

Financiamiento: Opcional de cada productor, podemos servirle de facilitador para conseguir créditos con empresas proveedoras de insumos agrícolas.



Tabasco Chile Producing Company
NICARAGUA



REFLECTIONS FROM TOP MANAGEMENT

- The tool used was an excellent practice, the opportunity to make a halt, an x-ray of the company in face of climate change that otherwise would not have been possible
- There is a need to learn from experiences of other companies and institutions to reduce the learning curve and related costs.

“For the first time we sat down to value climate change impacts on each aspect of our company’s value chain.”

“The last two and a half years of drought have impacted the company sales and production, but if adaptation measures product of the analysis during the project with the adjusted BACLIAT tool had not been carried out, the damages would have been more severe”

– Lucía Hurtado, Vicepresident and Exports Manager

Comparative analysis of these and other cases

- **Company size:**
 - smaller companies (SMEs) proved to have an advantage of agility
 - bigger companies have an advantage in terms of power and authority at a national level
- **Counterpart's position** (top management / operational): Both things are crucial: commitment from top management, and, knowledge and capacity on how to incorporate a climate change analysis and work plan at an operational level.
- **Type and visibility of climate change impacts:** cases in which climate change impacts are substantially more visible and inherent, businesses have a clearer mandate for immediate action.
- **Supply chain opportunity:** adaptation is a matter that needs to be analysed throughout the supply chain; a broad supply chain analysis is crucial to ensure correct identification and prioritization of adaptation actions.

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Challenges and Lessons Learned

Challenges

- Initial interest and commitment harder to get (specially directives), but once they understand the importance of the topic it varies in most cases.
- Most companies have difficulties understanding the application of climate change adaptation and its implications
- Look for alliances between public and private sectors. These alliances will improve the engagement companies have related to Climate Change adaptation.
- Show companies real and actual cases related to their own economic sector.
- Objective and timely documentation of successful cases of Climate Change adaptation by visiting company's facilities.
- There is a fear for strong economic investments, and competing priorities

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Challenges and Lessons Learned

Lessons Learned

- Ensure companies know and understand the difference between “mitigation” and “adaptation”. This distinction helps companies identify current Climate Change adaptation actions.
- Many companies have implemented Climate Change adaptation actions, however, they have not identified them as such.
- Personnel with direct knowledge of operations, maintenance, etc. are key to finding out the reality of Climate Change adaptation within the company.
- Topic needs to be seen as a risk management / business sustainability issue

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1.5 years later



- Climate change adaptation is increasingly understood and recognized as important
- Use of developed tools has extended in the region through installed capacity in Integrarse organizations
- Most companies have not followed up on their own on proposed activities
- Initially proposed activities have been substituted for those with no initial cost, but possibly more expensive in the long run
- Interest is rising in high levels, but does not get to implementation (need for building of capacities at all levels)
- Internal struggle between sustainability and risk management departments
- Need for sector specific advisory and follow up – led to new project in tourism sector in Costa Rica

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¿Questions or Comments?

Thank you

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