



RISK MANAGEMENT STRATEGY

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Table of contents:

1. Introduction	3
2. The Objectives	6
3. Risk Assessment	7
ANNEXES:	8
ANNEX 1: Risk Assessment Questionnaire	7
ANNEX 2: Risk Assessment Evaluation	7

1. Introduction

The interplay of Climate Change and Tourism is extremely relevant in Mexico, Panama, Colombia and Argentina and specifically to the universities included in this proposal. As per national/regional priorities: The Caribbean (which Mexico, Colombia and Panama are part of) is one of the five hotspots that the UNWTO and the UNEP (2008) identify as tourist destinations highly vulnerable to climate change. Researchers have also recognized regional knowledge gaps about tourism and climate change in the Caribbean and South America (Fang et al., 2018; Scott & Becken, 2010), hence making a project like CLIMAR timely.

Mexico was the second country most visited in the Americas (after the US) in 2018 (OMT). Some regions of the country, such as Quintana Roo in the Caribbean, are highly dependent on tourism. This region is exposed to extreme meteorological events, such as hurricanes and storm surges, which may be intensified by climate change (Government of Quintana Roo, 2013; SEMARNAT, 2012). The offer of pristine beaches sometimes misrepresents the reality of severe erosion areas (Buzinde, Manuel-Navarrete, Kerstetter, & Redclift, 2010), which are now even more prone to degradation because of Sargasso proliferation and sea level rise. In main destinations, as for example Playa del Carmen or Akumal, between 2004 and 2012, the coastline eroded by 1.7m/year and 1.68m/year, respectively (SECTUR, 2013). SECTUR (2013) expects a rise of 3.1 cm/year in sea level for the period 1990–2100 and qualifies the physical vulnerability of Riviera Maya as very high. Diving and snorkel activities attract many tourists every year. Nevertheless, it is possible that the deterioration of the Mesoamerican coral reef will be intensified by climate change and that it will collapse between 2050 and 2070 (IPCC, 2014). This deterioration of the Mexican Caribbean reefs is already leading to biodiversity losses. The Tourism Secretary of Mexico (SECTUR, 2018) assumes that climate change will damage urban areas too. Damages to infrastructure, housing, communication, energy and water supplies are also expected. As such, SECTUR expects an increase in illnesses such as dengue, cholera, malaria, zika and chikungunya.

CLIMAR will strengthen Mexico's policies to deal with climate change and the sustainability of tourism through the university driven research, teaching and

professional development. The National Development Plan 2007–2012 included climate change for the first time. This has a much more prominent place in the current plan. In 2012, Mexico approved its Law on Climate Change, which gives states and municipalities the authority to take adaptation and mitigation actions. The Municipal Programs of Climate Action (PACMUN) are now being developed by Municipalities. Other relevant policies are the Strategic Framework of Sustainable Tourism in Protected Natural Areas of Mexico, the Sustainable Tourism Plan 2030 of Quintana Roo and the ADAPTUR Project to implement adaptation strategies in tourism destinations (San Miguel de Allende, Guanajuato, Riviera Maya y Riviera Nayarit-Jalisco). These plans site human resource development and knowledge transfer as key and have updated their visions to account for urgent investments in the tourism sector given the huge impediments of the global health crisis.

In Colombia, the improved tourism offer, prior to the pandemic, has been evident and substantiated by data. Between 2011 and 2017 international tourist arrivals increased 69% and foreign income increased 52%. New employment positions rose 19% and there was a 74% improvement in the number of new business registrations (MinCIT, 2018). In 2017, tourism represented 3.8% of GDP (MinCIT, 2018). However, tourism in Colombia is not only seen as potential for economic development but also as an instrument for the pacification of rural areas. This is the case in the Coffee Cultural region, where Tourism is promoted by the national policy to support Rural Community Tourism. Beyond the 8.5 million that went to Bogota DC in 2018, most tourists travelled to Departments on the Caribbean Coast (CITUR, 2020), where Cartagena is located. Nevertheless, the Sectoral Tourism Plan 2018-2022 aims to develop tourism in natural areas (adventure, rural, birdwatching, diving...), cultural tourism, health and wellness tourism and MICE tourism. Tourism in natural areas, including coastal tourism is very vulnerable to climate change. Ecosystems such as mangroves, rainforest, beaches, coral reefs and glaciers are threatened by potential climate change effects. The deterioration of ecosystems is already leading to biodiversity losses. High risk of floods and landslides in the Andean Departments and the Sierra Nevada are expected and there is evidence of glacier reduction (Duque-Escobar, 2008).

CLIMAR will increase the adaptation capacity of Colombian tourism by improving research, knowledge and training. CLIMAR is premised on national strategies such as the National Adaptation Plan to Climate Change (PNCC), the Law to manage climate change (1932/2018) and the Development Strategy with Low Emissions and the Sectoral Tourism Plan 2018-2022. Given the setbacks of the global pandemic to the tourist sector in Colombia, a project like CLIMAR is extremely timely.

Argentina is the most visited country in South America. Tourism contributed 10% GDP and 9.4% of employment in 2018 and the tourism GDP increased twice as much as the general GDP of the country (WTTC, 2019). The government aims to develop the tourism sector according to the Federal Strategic Plan of Sustainable Tourism 2025. This Plan considers eighteen ecoregions, linked to the environmental value and diversity of the country. Argentina is divided into six tourism regions (North, Littoral, Cuyo, Centre, Buenos Aires and Patagonia) which represent a wide variety of offers, natural resources and climates, and consequently different sensitivities to climate change. The increase in temperature is expected in all regions (SADSN, 2015). In the North and Central regions, more intense and frequent precipitation may generate floods and landslides. However, in Tucumán, La Rioja and Catamarca, there will be drought periods. In the Littoral and Buenos Aires regions, hotter springs and summers will increase electricity and water consumption and illnesses such as dengue and chikungunya will grow due to more humidity. In the Cuyo region, snow precipitation for ski will decrease and floods are expected in Mendoza and San Juan, where wine production will be also affected. In Patagonia, the increase of temperatures will reduce glaciers and more fires are expected, especially in Nahuel Huapi area (SADSN, 2015).

CLIMAR, via reinforcing university research and teaching capacity, will subsequently reinforce tourism activity in Argentina with sustainability, adaptation and resilience. This is made possible through research, knowledge and transfer to all stakeholders implicated. Argentina has already developed some policies and instruments that will be supported by CLIMAR, such as the Federal Strategic Plan of Sustainable Tourism 2025, the Sustainable

Tourism Observatory of Mendoza, the National Plan of Adaptation and Mitigation to Climate Change and the National Inventory of Green House Gases.

Finally, in Panama, Tourism is worth 7 billion dollars, more than the income of the Panama Canal and the financial sector. It is for this reason that it is of top importance in the growth strategy of the country. Concerns regarding sustainability and biodiversity are also raised, and public and private sectors are investing in sustainable and innovative projects, within the framework of the Panama Invest in Tourism forum, organized by Forbes Latam in collaboration with the Panama Tourism Authority and ProPanama. The role of universities in providing relevant research and training has become acutely evident, which is why CLIMAR could make a considerable contribution to the linkage of the higher education and economic sectors in Panama, while underpinning efforts to combat climate change.

2. The Objectives

CLIMAR has the following 4 objectives:

1. Support the creation of transnational and multidisciplinary research groups specialized in CC, Circular Economy & Tourism (CC&T), among HEIs from EU and LA and reinforce their capacities to increase regional knowledge on CC&T
2. Promote research-based collaborative teaching in CC&T, via the development of a transversal study module that can be inserted in different courses at the postgraduate level.
3. Enhance university-NGO-industry-public administration knowledge transfer so as to contribute to sustainable development and new employment opportunities, via a professional development course in CC&T
4. Ensure sustainable academic relations and strategic partnerships among HEIs from EU and LA, based upon multi-disciplinary approaches

3. Risk Assessment

The CLIMAR project counts with a risk assessment where the partners and coordinator can anticipate the possible actions.

According to the proposal, the critical risks in the implementation of the project and afterward, are:

- **Time plans are too ambitious or deadlines are not met:**

Mitigation measures: Most CLIMAR partners have long experience in planning and carrying out projects on the national or/and European level. This experience will help to monitor the scheduling of the activities and adjust deadlines feasibly. Progress reports and internal monitoring will identify when deadlines are not met why, and what measures need to be taken.

- **Management challenges related to transnational collaboration and internal communication:**

Mitigation measures: Even though such problems are inherent to transnational partnerships, given the diversity of individuals and organizations with various linguistic, cultural and professionals' backgrounds, the activities will contribute to the progressive strengthening of working bonds and effective communication. The coordinator will actively schedule bi-lateral meetings online with individual partners if needed if more support is required.

- **Mismatches of results vs. initial objectives are identified:**

Mitigation measures: The operational and evaluation plans foresee periodic monitoring. This mechanism enables the partnership to refine activities and actions in case the results do not meet the objectives. One common risk relates to "not clear/ not detailed" task assignment. Partners have agreed on the task assignment since the application stage, but a shared understanding will be reinforced during transnational meetings, when deeply discussing specific plan for

outputs implementation. The fact that there will be one project contact point in each partner, and that other staff will be engaged at various levels of the project, will help to ensure buy-in.

- **Disruption in event planning due to force majeure or the global pandemic:**
Mitigation measures: All events will entail contingency plans, which will foresee online activities if needed. The partners are disposed of with adequate connectivity and project online event platforms.

Through the next annexes, the project will have its control.

ANNEXES:

ANNEX I: Risk Assessment Questionnaire

ANNEX II : Risk Assessment Evaluation

Annex II - RISK ASSESSMENT CLIMAR														
SO 1	Support the creation of transnational and multidisciplinary research groups specialized in CC, Circular Economy & Tourism (CC&T), among HEIs from EU and LA and reinforce their capacities to increase regional knowledge on CC&T													
SO2	Promote research-based collaborative teaching in CC&T, via the development of a transversal study module that can be inserted in different courses at the postgraduate level.													
SO3	Enhance university-NGO-industry-public administration knowledge transfer so as to contribute to sustainable development and new employment opportunities, via a professional development course in CC&T													
SO4	Ensure sustainable academic relations and strategic partnerships among HEIs from EU and LA, based-upon multi-disciplinary approaches													
Objectives					WP No	Risk	How to mitigate the risk	Additional information to explain the value	How to measure the indicators	Progress towards task	Achieved	If not why	New Risks	Next steps to take and Comments
SO 1	SO 2	SO 3	SO 4											
				1	Time plans are too ambitious or deadlines are not met	Most CLIMAR partners have long experience in planning and carrying out projects on national or/and European level. This experience will help to monitor the scheduling of the activities and adjust deadlines feasibly. Progress reports and internal monitoring will identify when deadlines are not met and why, and what measures need to be taken.				Please Select	Please Select			
				1	Management challenges related to transnational collaboration and internal communication	Even though such problems are inherent to transnational partnerships, given the diversity of individuals and organisations with various linguistic, cultural and professionals' backgrounds, the activities will contribute to the progressive strengthening of working bonds and effective communication. The coordinator will actively schedule bi-lateral meetings online with individual partners if needed, if more support is required.				Please Select	Please Select			
				1	Mismatches of results vs. initial objectives are identified	The operational and evaluation plans foresee periodic monitoring. This mechanism enables the partnership to refine activities and actions in case the results do not meet the objectives. One common risk relates to “not clear/ not detailed” task assignment. Partners have agreed on the task assignment since the application stage, but a shared understanding will be reinforced during transnational meetings, when deeply discussing specific plan for outputs implementation. The fact that there will be one project contact point in each partner, and that other staff will be engaged at various levels of the project, will help to ensure buy-in.				Please Select	Please Select			
				1	Disruption in event planning due to force majeure or the global pandemic	All events will entail contingency plans, which will foresee online activities if needed. The partners are disposed with adequate connectivity and project online event platforms.				Please Select	Please Select			