

Climate Change and Water Governance Capacity

Ecosystem-based adaptation in Mesoamerica

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Project Summary

The Mesoamerican region faces significant threats from climate change, such as increased average temperatures, droughts and severe weather patterns in the form of tropical cyclones and hurricanes (IPCC, 2007). In order to reduce the vulnerability of the most sensitive social groups, the IUCN Environmental Law Centre (ELC) and Regional Office for Mesoamerica (ORMA) joint project seeks to strengthen water governance capacity to enable countries to better adapt to the impacts of climate change through an ecosystem-based approach.

The project addresses the Bali Roadmap call for climate adaptation by building frameworks for governance on climate change responses. Building upon an ecosystem-based approach, the project will enhance governance frameworks for water management capacity that integrate national strategies with international structures as well as with regional and national laws and policies. Additionally, the project will work to develop integrated approaches that provide short-, medium- and long-term interventions to expected climate impacts. At the end of the project, target countries will have improved their ability to address the negative impacts of climate change and better manage and protect ecosystems.

The project envisions disseminating information regarding the need for improved frameworks for adaptation governance capacity in the water sector via an “empowerment of stakeholders” model. By combining a “bottom up” approach with the traditional policy reform cycle, the project will assure the social internalization and institutionalization of best practices for climate change adaptation.

Introduction

Current policy and legal frameworks in the Mesoamerican region fail to address climate change adaptation in a comprehensive manner, including short-, medium-, and long-term strategies and incentives. This is largely due to the fact that climate impacts, such as the melting of the icecaps and lost biodiversity, are commonly seen as hypothetical events happening in the distant future compared to what are perceived as the more immediate issues of national security and economic development.

At a national level, all target countries are parties to the UNFCCC, and all have ratified the Kyoto Protocol. Also all of them have submitted their First National Communication, and Costa Rica has already presented its Second National Communication to the UNFCCC. Climate change is high on the policy agenda, and Costa Rica and Panama have launched National Climate Change Strategies, high level panels and a commission on climate change.

However, these policy initiatives have yet to permeate other sectors and involve key development agencies. For instance, all the target countries still lack integration or development of policies and laws for addressing the role of water in climate change adaptation. Although it is widely understood that climate change will most likely result in extreme precipitation and natural catastrophes (e.g. the intensity and regularity of hurricanes), few policies and legal provisions exist for addressing changes in water conflict and risk management, water availability and scarcity, redistributing concessions or empowering communities, watershed authorities and local water boards. Policies leading to water and ecosystem misuse need to be identified and corrected. Similarly, greater use of incentive systems such as Payment for Ecosystem Services (PES) is needed in order to reduce deforestation and degradation, and to protect the ecosystems that guarantee watersheds' continued functioning. These provisions can be included in a number of new legislative texts, which are already under revision by some parliamentary houses within the region. Where existing legislation or regulations might be interpreted to provide adequate legal substance for climate adaptation, judges and administrative officials need to become more aware of those mechanisms and their importance.

The Project Approach

The project is based on the idea of water governance capacity (WGC), a concept used by IUCN to support reform in order to advance sustainability through water as a cross-cutting issue in key national sectors. It provides a holistic approach, in which foreseen changes must be coordinated and consistent between organizations and with civil society. Governance reform structures from WGC enhance the development of more solid implementation platforms. The present project promotes WGC with an aim of developing national capacities to reform and advance in climate change adaptation through water management, based on an ecosystem approach.

The project builds upon the need for strong governance structures in order to increase water management capacity through stakeholder empowerment. Combining a bottom-up approach with the traditional policy reform cycle (top-down), it aims to seize opportunities of formal change while at the same time preparing the local level for in-the-field implementation. It envisions an institutional and social revision of water management practices, adjusted to the new challenges posed by climate change adaptation. In order to do it, the necessary integration of different frameworks for good governance (legal and policy at the national and regional level) will be promoted.

In order to put into practice this particular approach to climate change adaptation, the project establishes four pilot sites in the different countries where the project is being implemented, where different measures will be tested, such as: spring restoration and maintenance, as well as of recharge areas, rain harvesting, sustainable soil management, reforestation, awareness-raising campaigns, among others.

Goal

To develop climate change adaptation capacity through water governance emphasizing the role of local knowledge in policy making processes and based on the ecosystem-based approach.

Objectives

1. Enhance ecosystem resilience to climate change by the introduction of improved governance arrangements that provide the basis for the rehabilitation and conservation of ecosystem services, biodiversity and carbon sinks in pilot watersheds.
2. Improve capacity for developing and implementing legislation, policy development and regulatory planning tools, towards securing a comprehensive climate strategy for water management.
3. Strengthen governance of transboundary waters and their shared biological corridors in the region through participatory empowerment of community stakeholders.
4. Contextualize on-site interventions into the broader regional political and strategic integration process, as a specific contribution to the Central American Integration System and its mandate towards promotion of social equity, governance, and integrated natural resources management, especially water.

Project components

- *Decision-Support Knowledge Base:*

The first area has two main elements: (a) analysis of the current climate change governance mechanisms relevant to water management in the project countries; (b) validation and dissemination of the results of the study.

- *Discourse building and policy development:*

Consists of fostering public participation, capacity development, promoting dialogue and negotiation among experts and representatives of government institutions, as well civil society in the selected pilot sites. This broad-based consultation process will

facilitate consensus on a set of key principles for promoting effective ecosystem-based water management as a means to foster climate change adaptation.

- *Improved policy and institutional environment in pilot intervention sites*

This will consist of using four sub-basins to pilot test a range of six different tools for climate change adaptation, with a view to influencing and promoting climate-related water management reform in the target countries.

Outcomes

The outcome of the project will be improved capacities to develop national plans, strategies and policies for climate change adaptation that incorporate ecosystem approaches and frameworks for effective climate change governance responses. In addition, it is expected that key information for decision making will be compiled, distributed and shared in order to inform constructive dialogues and collaborative processes around water governance in the region. This implies that key stakeholders and public officials act as promoters of the new water culture as a means to adapt to climate change, since they have also developed, implemented and learned from the pilot activities developed at the micro basin level.

Multiplying effects

The key findings of the project, including the consultation process, the demonstration experiences, the stakeholders' role and others, will be synthesised and compiled within a specific methodology, with a view towards facilitating its replicability and up-scaling in the region, as well as in other similar regions where IUCN is present (West and East Africa, Oceania).

Thanks to the International Climate Initiative of the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) of the German Government, the lessons learned and the good practices of this project will contribute to the strengthening of governance capacities in relation to climate strategies for sustainability, poverty reduction and ecosystem conservation.

Duration

July 2010 – December 2012
First phase: July 2010 – February 2011

Contact Details

IUCN Regional Office for Meso America and Caribbean Initiative
San Pedro de Montes de Oca, Los Yoses, del Automercado 50 metros Sur
Apartado Postal 0146-2150
San José, Costa Rica
Phone: +506 22838449
Email: mesoamerica@iucn.org

IUCN Environmental Law Centre
Godesberger Allee 108-112
53175 Bonn, Germany
Phone: +49.228.2692-231
Fax: +49.228.2692-250
Email: alejandro.iza@iucn.org

Vulnerability

Vulnerability is the degree to which a system is susceptible to, in this case, climate stimuli. Developing countries are the most vulnerable to climate change impacts because they have fewer resources to adapt: socially, technologically and financially.

Climate change adaptation

Vulnerable people generally have a variety of alternatives to increase their adaptability and decrease their risk in times of stress and shock. Anticipation and preparation for climate change in planning is essential for sustainable development. Adaptation is a vast task, requiring the coordinated efforts of different actors within and also beyond the State.

Ecosystem-based approach

Ecosystem-based adaptation is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change. As one of the possible elements of an overall adaptation strategy, ecosystem-based adaptation uses the sustainable management, conservation, and restoration of ecosystems to provide services that enable people to adapt to the impacts of climate change.

Risk management

Approaches toward the management of climate change impacts also have to consider the reduction of human vulnerability under changing levels of risk. A key challenge and opportunity therefore lies in building a bridge between current disaster risk management efforts aimed at reducing vulnerabilities to extreme events and efforts to promote climate change adaptation.

Water governance capacity

River basins, floodplains and coasts are the geographical base where water is managed and they are the 'natural infrastructure' for adaptation. People need to be encouraged, allowed and supported to sustain and improve their local ecosystems in ways that support their livelihoods and adaptive capacities such as protecting natural wetlands for hydrological services and provision of food and fodder.



Partners

- Ministry for the Environment, Energy and Telecommunications of the Republic of Costa Rica (MINAET)
- Vicepresidency of the Republic of El Salvador
- National Environmental Authority of Panama (ANAM)
- Volcán Tacaná Biosphere Reserve - National Commission of Natural Protected Areas (CONANP), South Border of Mexico
- National Water Commission (CONAGUA), Mexico
- National Meteorological Institute of Costa Rica
- CCAD Central American Commission for Environment and Development /Central America Integration System - SICA
- CRRH /SICA Regional Committee of Hydraulic Resources /Central America Integration System
- CC-SICA CIVIL SOCIETY Advisory Committee of the Central American Integration System SICA
- CEPREDENAC - Coordination Center for Disaster Prevention in Central America
- Tri-national Commission of the Trifinio Plan- Bi-national Commission BID-Sixaola



Coatán/Cahoacán River Basin

General information:

Coatán River Basin : 73.200 Ha.

- The basin is in México (63%) and Guatemala (37%)
- Population: 204,231

Cahoacán River Basin: 28.000 Ha.

- The basin is in México (100%)
- Population: 200.000

Both basins share territory with the Tacana Volcano Biosphere Reserve.

Municipalities:

Tapachula, Mazatán, Cacahoatán and Motozintla (Coatán); Cacahoatán, Tuxtla Chico, Tapachula, Frontera Hidalgo and Suchiate (Cahoacán)

Threats:

Risk of landslides, increased river siltation, soil degradation, heavy rainfall and loss of crops

Possible measures to implement:

Reforestation, payments for ecosystem services, organic tianguis, soil management practices, participatory risk management and pollution reduction

Sixaola River Basin:

General information:

Sixaola River Basin- □289.000 Ha.

- The basin is in Costa Rica (81%) and Panamá (19%)

Protected Areas: PILA (La Amistad International Park), Chirripó National Park, Hitoy Cerere Biological Reserve, Palo Seco Protective Forest. Ramsar Sites: Gandoca-Manzanillo Wildlife National Refuge San San Pond Sack Wetland. Indigenous Territories on both sides of the borderline, of Cabécar, Bri Bri, Naso and Ngöbe groups

Municipalities:

Talamanca (CR) and Changuinola (PA)

Threats:

Risks due to precipitation and floods in the mid and lower parts of the basin. The watercourse is irregular and changes constantly in reaction to heavy rainfall, which in turn leads to border conflicts

Possible measures to implement:

It is expected that there will be a coordination of efforts with the Bi-national River Basin Committee, towards a methodology for micro river basin management.

Lempa River basin:

General Information:

Total area: 18.240 km²

- The basin is in El Salvador (56%), Honduras (30%) and Guatemala (14%)

The downstream part of the basin is prone to floods and has a high agricultural potential. In terms of bioclimatology, dry forest in transition to rainforest is located in the middle-lower parts of the Lempa River Basin. The middle-lower parts of the basin are drained by other rivers.

Threats:

There is a risk of floods during winter in the downstream part of the basin at sub-basins such as the Acelhuate River. Another associated risk is epidemics like Dengue. In recent times, drought has impacted some areas.

Possible measures to implement:

To be determined within the project.

Paz River Basin

General information:

Total area: 2.647 Km²

- The basin is in El Salvador (34%) and Guatemala (66%)

Municipalities:

Municipalities in El Salvador: Ahuachapán, Apaneca, Atiquizaya, Concepción de Ataco, San Francisco Menéndez, Tacuba, Turín, El Refugio, San Lorenzo; Santa Ana, Candelaria de La Frontera, Chalchuapa, El Porvenir, San Sebastián Salitrillo; Juayua from the Departments of Ahuachapán, Santa Ana and Sonsonate

Threats:

Deforestation, pollution and urban expansion; as well as floods, loss of crops and cattle; freshwater siltation in coastal zones and droughts

Possible measures to implement:

Reorganization of the micro-watershed committees, reactivation of the Bi-national Commission of the Paz River Basin, revision of the ethic code and transboundary good governance project