Full Solution

A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

by CONANP Mexico
National Commission of Natural Protected Areas

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Summary

In the face of climate-related challenges, and various socioeconomic pressures in Sian Ka'an, CONANP has created an innovative multi-actor alliance to increase local adaptive capacity through an EbA strategy based on mangrove rehabilitation & income diversification. A key step was to engage farmers using targeted public financial mechanisms. CONANP has supported the fishing sector to diversify its productive activities. The academia has also played a prominent role in planning, and regulation.

Classifications

Region
Caribbean, North America

Scale of implementation
Local

Ecosystem
Freshwater ecosystems, Mangrove, Marine and coastal ecosystems, Wetland (swamp, marsh, peatland)

Theme
Adaptation, Ecosystem services, Fisheries and aquaculture, Gender mainstreaming, Outreach & communications, Protected area governance, Sustainable livelihoods

Challenges
Erratic rainfall, Land and Forest degradation, Loss of Biodiversity, Salinization, Tropical cyclones / Typhoons, Lack of access to long-term funding, Poor governance and participation

Sustainable development goals
SDG 11 – Sustainable cities and communities , SDG 13 – Climate action , SDG 14 – Life below water

Aichi targets
Target 1: Awareness of biodiversity increased , Target 2: Biodiversity values integrated , Target 5: Habitat loss halved or reduced , Target 6: Sustainable management of aquatic living resources , Target 10: Ecosystems vulnerable to climate change , Target 11: Protected areas , Target 14: Ecosystem services , Target 15: Ecosystem restoration and resilience , Target 20: Mobilizing resources from all sources

(I)NDC Submission
Directly addresses the explicit mention of EbA for the Adaptation Actions for the period of 2020 -2030

Location

Sian Ka'an, Mexico

Challenges

The maintenance of long term funding is a great challenge, if all the activities related to the rehabilitation, vigilance and monitoring of the mangroves ecosystem are to continue. Investment in staff, infrastructure and technical equipment is indispensable. To ensure that a balance between tourist activities, local livelihoods and ecosystem conservation is maintained well into the future, it is necessary to be continually communicating with, involving, and providing technical and moral support to local communities both inside and around the Sian Ka’an reserve. Rehabilitating the mangroves is not done cheaply nor quickly. One does not move machinery in and out of mangroves, nor carry rubbish out, easily. A lot of planning and resources are needed. In addition, studies are essential to be able to aid the identification of efficient rehabilitation actions.

Beneficiaries

Local fishing communities. Local agricultural communities. Local women. Visitors.

Building blocks

Increasing the resilience of alternative local ecosystems that can provide habitats to lobster species
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

Thinking “out of the sector”: Intelligently targeted payments for key actors
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

Increasing the adaptive capacity of local community fishing businesses
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

Increasing markets for local sustainable products from the mangroves
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

Realizing the entrepreneurial capacities in local housewives for adaptation to climate change
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

Evidence-based problem solving
A multi-actor alliance to reduce the risks of cascading hazards in Sian Ka'an.

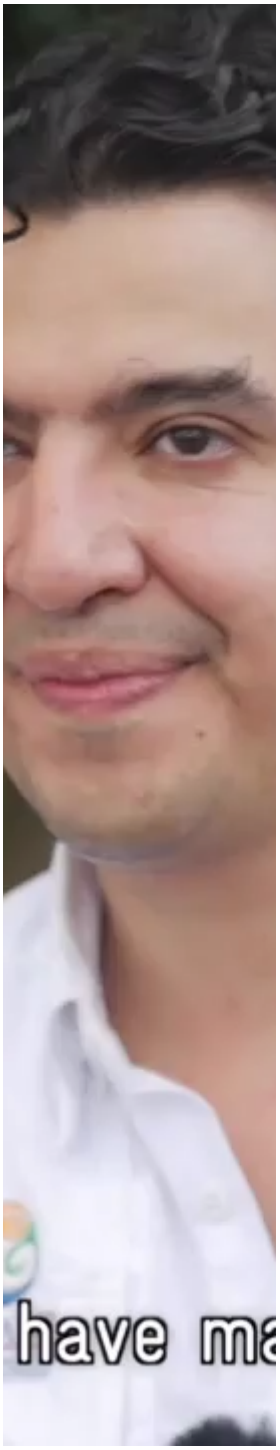
Impacts

1) Local mangroves have started to be rehabilitated providing added protection to the local area against storm hazards. 2) As a result, local lobsters now count with a larger area of habitat to support their early developmental stages, thus increasing their own capacity to adapt to storm hazards. 3) Lobster fishermen have increased their adaptive capacity by being supported to diversify their livelihoods into providing sport-fishing opportunities for local tourists, not just selling lobsters to local and regional hotels. 4) Local farmers have increased their awareness about the importance of mangroves to local ecosystem health and resilience, and the farmers’ economic capacity to adapt to climate-change induced reduction in precipitation have been boosted by being involved in the payments for ecosystem services programme related to mangrove rehabilitation.

Story

The Biosphere Reserve of Sian Ka'an, is one of the most important biodiversity hotspots in Mexico. It is inhabited by fishing and agricultural communities. The reserve is constantly under the pressure from touristic and real estate development activities. Maintaining the geographical integrity of the reserve, and thus the benefits to locals and visitors alike, is a long-term challenge that CONANP and other partner organizations are dedicated to addressing. In terms of climate hazards, both ecosystems and local communities face cascading risks. An example is the increasing strength of tropical storms that, apart from causing damage to property and people, is causing the erosion of sand banks, which in turn damages some of the habitats necessary for lobster lifecycles. Ecosystem services provided by mangroves in the area have been weakened due to previous storms, infrastructure development and by problems of salinisation. Reducing this cascade of risks, has required innovative alliances across multiple sectors. CONANP has collaborated closely with local civil society and academia.They have created an evidence-based strategy for reducing the salinity of the mangrove system by building channels under the road that reconnected freshwater-saltwater fluxes. This was only the first step in rehabilitating the mangroves. CONANP has also promoted natural regrowth. It has built "tarquinas" – little islands of sediment entrapped in netting – that permit the growth of new mangrove trees. Corridors were then excavated to augment the natural flow of nutrients and water between the existing parts of the mangrove system. Rubbish collecting has also been carried out. Reducing vulnerability and increasing adaptive capacity has been pivotal in these efforts. CONANP employed agricultural communities to support the rehabilitation activities in the mangroves. This supports their economic wellbeing and contributes to increase their resilience to climate-change induced precipitation and harvest losses. It also reduces the pressure of extractive activities on local resources that would otherwise have occurred as a result of communities' attempts to counter losses in harvests. For the fishing communities, CONANP supported the diversification of activities to increase their capacity to adapt to the potential reduction of lobster populations. Training, certification and mentoring has been provided. Local women are being organized and trained to manage eco-tourism businesses.

Videos



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Other Organizations

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Portals

This solution is published in the **Ecosystem-based Adaptation**, Protected areas and Marine and coastal portal.