



ISSUE 1
2017

COMMUNITIES WITH NATURAL INTELLIGENCE

MESOAMERICAN COVERAGE

Learn more about
**measures for
adaptation
to climate change**

Climate change congresses
incorporate the **ecosystem
based approach to
adaptation**

MIRIAM MORALES MARÍN,
Bribri indigenous woman, talks
about the seed exchange



PROJECT AVE

ADAPTATION • VULNERABILITY
E C O S Y S T E M S



About the International Union for the Conservation of Nature (IUCN)

Created in 1948, IUCN has evolved into the world's largest and most diverse environmental network. It harnesses the experience, resources and reach of its more than 1,300 member organizations and the input of some 15,000 experts. IUCN is one of the main providers of conservation data, evaluations and analysis. Its extensive and diverse membership makes IUCN an incubator and trusted repository of best practices and conservation tools, as well as international guidelines and standards.

IUCN provides a neutral space in which varied actors, including governments, NGOs, scientists, businesses, local communities, indigenous groups and others, can work together to create and implement solutions to environmental challenges and achieve sustainable development.

At the IUCN Regional Office for Mexico, Central America and the Caribbean, we work with more than 100 members, along with other regional partners and nongovernmental organizations interested in building a just world that values and conserves nature through the implementation of projects for conservation of biodiversity, protected areas management, community forestry, application of rights, climate change and water.

Project AVE: Adaptation, Vulnerability and Ecosystems is implemented together with the IUCN Environmental Law Centre through the initiative of the Federal Ministry of Environment, Nature Conservation, Building and Nuclear Safety of Germany. This effort is executed with support from the region's governments, the Trinational Commission of the Trifinio Plan and IUCN members such as Unidad Ecológica Salvadoreña (El Salvador), Fundación Vida (Honduras), Sociedad de Historia Natural del Soconusco (Mexico) and Corredor Biológico Talamanca Caribe (Costa Rica).

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OPENING OUR EYES TO NATURE-BASED SOLUTIONS TO CLIMATE CHANGE

During the past few years, projects in adaptation to climate change have been launched in the Mesoamerican region, either as pilot projects in the field focused on building capacity, or to design national policies or planning tools. But it is no secret that most lack a key element: measurement of results. Few of these projects channel efforts and resources into determining medium- to long-term effectiveness. Since adaptation is a response to the effects of climate change, for reasons of science, accountability or simple curiosity, it is obviously important to try and understand whether this response was effective.

Incorporating viable, fundable and reliable monitoring systems is no small matter, but we still need to make this a part of adaptation processes now on the table in every country of the region.

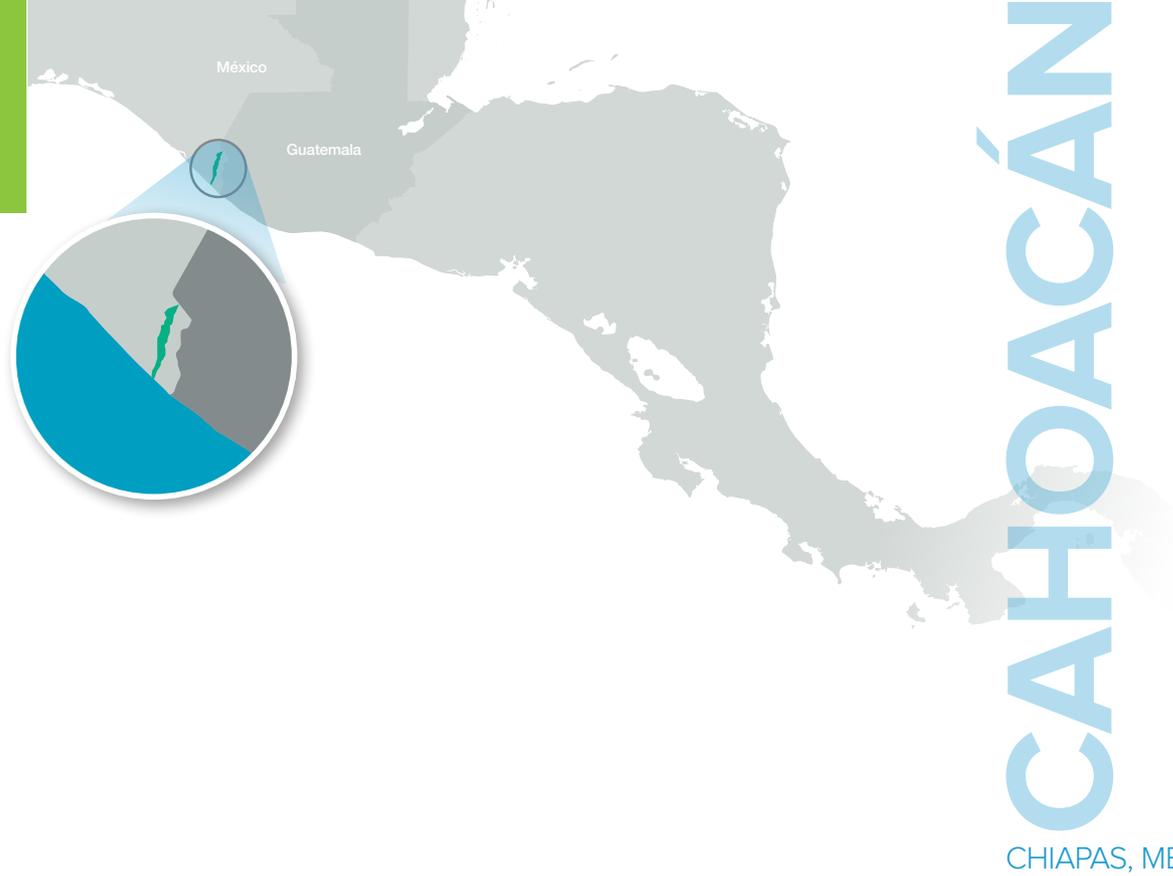


Project AVE was created to address this concern. Its mission is to contribute methodologies and evidence for understanding the effectiveness and impact of adaptation measures, especially those with the approach of ecosystem-based adaptation and integrated water resource management. Initial steps have been taken in six Central American countries and Mexico to ascertain how ecosystem-based adaptation measures relate to the food and water security of Mesoamerican communities. The aim of this first issue of *Communities with Natural Intelligence* is to bring ecosystem-based adaptation to a broad audience, explaining concepts and sharing key testimonials and perceptions of community representatives about climate change in their economic activities. It also describes how the approach of nature-based solutions and ecosystem-based adaptation is gaining momentum in regional meetings and national congresses on climate change throughout Mesoamerica.

Our aspiration is for many more people to understand **why** and **how** ecosystems should be part of the formula in processes and actions for climate adaptation, at all levels and in all sectors.

MARTA PÉREZ DE MADRID
Coordinator of Project AVE: Adaptation,
Vulnerability and Ecosystems





Promoting Community Development

Cahoacán River provided the backdrop for sharing the experiences of the Mixe-Choapam Regional Natural Resources Committee AC (CORENAMICH) of Oaxaca to strengthen capacities of natural resource management and measures of ecosystem-based adaptation, contributing to community development using a basin approach.





Restoration of the Gancho Murillo Mangrove in Chiapas, Mexico

Members of the Conquista Campesina ejido worked on recovering water flow in the mangrove to facilitate its regeneration. They removed dead vegetative material carried by the river and excess sedimentation in ponds and estuaries. Mexico is one of the countries with the most mangroves in the world, totaling more than 700,000 ha. This community adaptation action is aimed at having a healthy mangrove in the future, for protection from hurricanes and as source of food and shelter for fishery species.



Restoration with Microbasin Approach for Adaptation to Climate Change, Coatán River

Representatives of the United States Forest Service and Universidad Landívar, Guatemala, visited the Esquichá microbasin in the department of San Marcos.

During this tour of the upper, mid- and lower microbasin, they observed restoration actions in zones degraded by climate events and poor natural resource management.

While sharing ideas with community members, the visitors learned about the model of land planning and community management with microbasin approach developed by IUCN, an important participatory tool for decisions about EbA that helps strengthen the microbasin councils.

<https://portals.iucn.org/library/sites/library/files/documents/2009-095.pdf>



Local Communication Media, Important Allies in Tackling Climate Change

In Guatemala, IUCN works with the communication media of the Tacaná and Ixchiguán municipalities on topics related to climate change and the concept of ecosystem-based adaptation.





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Esquichá Microbasin, Pilot Site for Adaptation Measures

Representatives of communities living in the Esquichá microbasin, in Guatemala, took a field trip to learn about ecosystem-based adaptation measures, observe the actions being carried out, and talk about the benefits of landscape restoration, reforestation of recharge areas, protection of pinabete forests and management of communal forests through forest incentives.



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Minister of Environment and Natural Resources Learns about the Microbasin Approach

Mr. Sydney Alexander Samuels Milson, Guatemala's Minister of Environment and Natural Resources, learns about the microbasin approach and the IUCN's model of participatory community planning and comprehensive land management during a visit to the department of San Marcos.



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Municipalities Learn about the CRiSTAL Tool

Representatives of the Tacaná and Ixchiguan municipalities identified strategies of ecosystem-based adaptation to climate change using CRiSTAL (Community-based Risk Screening Tool- Adaptation and Livelihoods). With the tool, they identified frosts, droughts and storms as the main threats to which the community is exposed. Based on these findings, an ecosystem-based plan is being prepared for the Esquichá microbasin and Cotzic ridge.

GOASCORÁN

HONDURAS - EL SALVADOR



Adaptation in the Central American Dry Corridor

Maintaining soil moisture and improving fertility are key aspects for communities' adaptation to climate change in Central America's Dry Corridor.

Actions have been implemented in rural areas of the Goascorán River's upper basin in Honduras and El Salvador (located in this corridor) to facilitate natural regeneration and maintain soil moisture. These include stubble management, green fertilizers, directed planting or contouring and zero or minimum tillage.

Soil fertility has been improved through living barriers and several types of terracing, which improves the texture and structure of soil and water filtration, leading to more resilient production.

Communities located in the microbasins of Lituy (Honduras) and Honduritas (El Salvador) now have an adaptation plan featuring ecosystem-based measures.



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TREES AND BASIC CROPS

Sixty families in the communities of Conchas de Munuaque and Teupe work with fruit trees, basic crops and vegetative material for soil conservation. Some 3,200 fruit trees of different species have been incorporated in the microbasins of the Honduritas River, in El Salvador, and Lituy River, in Honduras. These are some of the actions carried out during 2016.



Art and Culture: Part of the Environmental Message of Goascorán Communities

There are 16 Honduran municipalities and 13 Salvadoran municipalities in the Goascorán basin. Communities in these municipalities prepared a variety of artistic representations with environmental messages (folkloric dance, dramas, comedies, string ensembles, poetry and songs) first presented at local festivals and finally during the Water Governance Forum and Fair in Marcála, Honduras, on November 16 and 17, 2016. This important national forum brought together all of the basin communities and was attended by the Honduran Minister of Environment, Mr. Jose Antonio Galdámes, as well as representatives of donor agencies, government entities, nongovernmental organizations and members of the basin communities.

Salvadoran Stakeholders Organize in Technical Environmental Panels

Two technical environmental panels have been formed in the department of La Unión to coordinate actions for sound management of the Goascorán river basin, enabling stakeholders to join efforts in tackling the challenges of climate change.



RIVER PAZ

EL SALVADOR



SUMPUL

HONDURAS - EL SALVADOR

Festival Helps Publicize Conservation Efforts in the Garita Palmera Mangrove

Communities in the lower zone of the Salvadoran department of Ahuachapán participated in the second celebration of the “Roots” festival, informing attendees about work to protect and restore the Garita Palmera mangrove by Asociación Istatén.

The presentation focused on the different mangrove species, reforestation and actions to clean out the canal, and the benefits mangrove provide as reproduction area for fish, shrimp, crab and other fauna. Mangrove forests are vital for adaptation.

Community Leaders Learn about Communication Techniques in El Salvador

Leaders of the San Francisco Menéndez, Jujutla and Guaymango communities in the department of Ahuachapán finalized training in communication tools, which included connecting communities with media to facilitate the spread of environmental news.



Training for Communities to Improve Food and Water Security in Response to Climate Change

More than 75 families in the upper basin of the Sumpul River are working with agroforestry systems, crop diversification (incorporating fruits, vegetables and forest species) and conservation of soil and water as adaptation measures to improve their food and water security.

The quality of drinking water and access have improved in the area, thanks to frequent monitoring and reforestation of recharge zones with fruit trees and forestry species.

Communities have also been trained in organic production, use of biofertilizers and other areas.

Water boards and committees have also received training to ensure good water management and service.





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SIXAOLA

COSTA RICA - PANAMÁ



Costa Rica and Panama Unite to Reforest the Sixaola River Basin

For one day, borders ceased to exist and dozens of children and young people from primary and secondary schools in communities near the Sixaola River, volunteers and government and civil society representatives in Costa Rica and Panama planted 2,500 trees during the 3rd Binational Reforestation Day.

The objective is to raise awareness in civil society, municipal institutions and the academic sector about the importance of conserving biodiversity, protecting ecosystem services and maintaining vegetation cover in watersheds to address the effects of climate change.

Species were selected according to their different functions in an ecosystem, such as food, shade and/or soil protection, among others. Those chosen on this occasion included *sotacaballo*, *almendro*, *sangrillo*, *roble sabana* and *caobilla* or *cedro macho*.

Before planting began, a talk was given in both countries about the importance of trees in ecosystems and techniques for their care. Afterwards, the goal is to track the number of trees that survive, measure them periodically and provide maintenance.

BASINS WITH RESTORED RIVERBANKS AND FOREST COVER HELP MINIMIZE THE IMPACT OF FLOODING.





“WHAT I LIKE MOST ABOUT THE ACTIVITY IS BEING ABLE TO EXCHANGE SEEDS.”
 JOSÉ LUIS ZÚÑIGA,
 TALAMANCA.



© Pablo Cambrero / IUCN



IV Feria de Agro Biodiversidad



Seed Exchange Fiesta Rescues the Culture and Ancestral Forms of Cultivation

“I’m very happy to be able to participate and be part of the committee that organizes this activity. Talamanca was declared a transgene-free territory and activities like this help us have a healthier life,” commented Gonzalo Moreno, known as the “Seed Guardian,” and owner of Loroco Integrated Farm. Gonzalo belongs to a group of 90 Talamanca producers who participated in the 2016 Agrobiodiversity Fair. Attending were representatives of the Yorkín and Guabo indigenous communities, producers from Puerto Viejo and Paraíso and farmers invited from the neighboring Panamanian community of Las Tablas.

The purpose of this activity is to raise awareness about agrobiodiversity, promote the use of local seeds and foster ancestral values related to cultivation.

Recovery and protection of agrobiodiversity is a vital adaptation measure for rural communities in the area and throughout the Central America region.

In the Sixaola basin, ten integrated demonstration farms have been launched as measure for adaptation to climate change.

Cooperation between Farm Producers Teaches Better Adaptation to Climate Change

The training program on integrated farming launched its first initiative with the sharing of experiences among 10 producer families from the communities of Yorkín, El Guabo, Shuab, Paraíso, San Miguel, Guachow and Barranco, located in the Costa Rica-Panama border zone. An integrated farm is a social production system (generally family) where livestock raising, agricultural production and environmental protection activities are integrated efficiently and sustainably through sound resource management.

Ultimately, the object is to increase food quality and quantity, thus improving food security and generating environmental goods and services. The purpose of the training is for producers to share knowledge and information leading to their strengthening and cooperation.

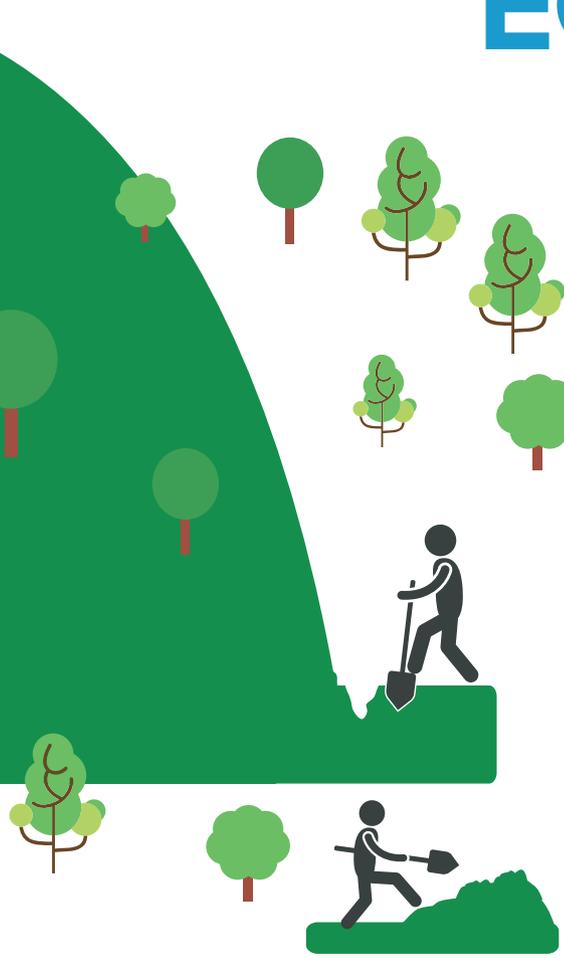
Topics included food security, the importance of integrating the family in farm activities, soil degradation and restoration, use of forest resources (wood, water, leaves, etc.), agrobiodiversity and organic farming, green fertilizers, crop rotation, rescue and use of seeds, climate change and other topics.

Producers had the opportunity to learn about the process of adapting to climate change through the implementation of natural solutions deriving from the ecosystem.



ECOSYSTEM-BASED ADAPTATION MEASURES

WE CAN FIND RESPONSES TO CLIMATE CHANGE IN NATURE FOR ADAPTATION. THE EXAMPLES BELOW CAN BE APPLIED IN THE UPPER BASIN OR MOUTH OF RIVERS.

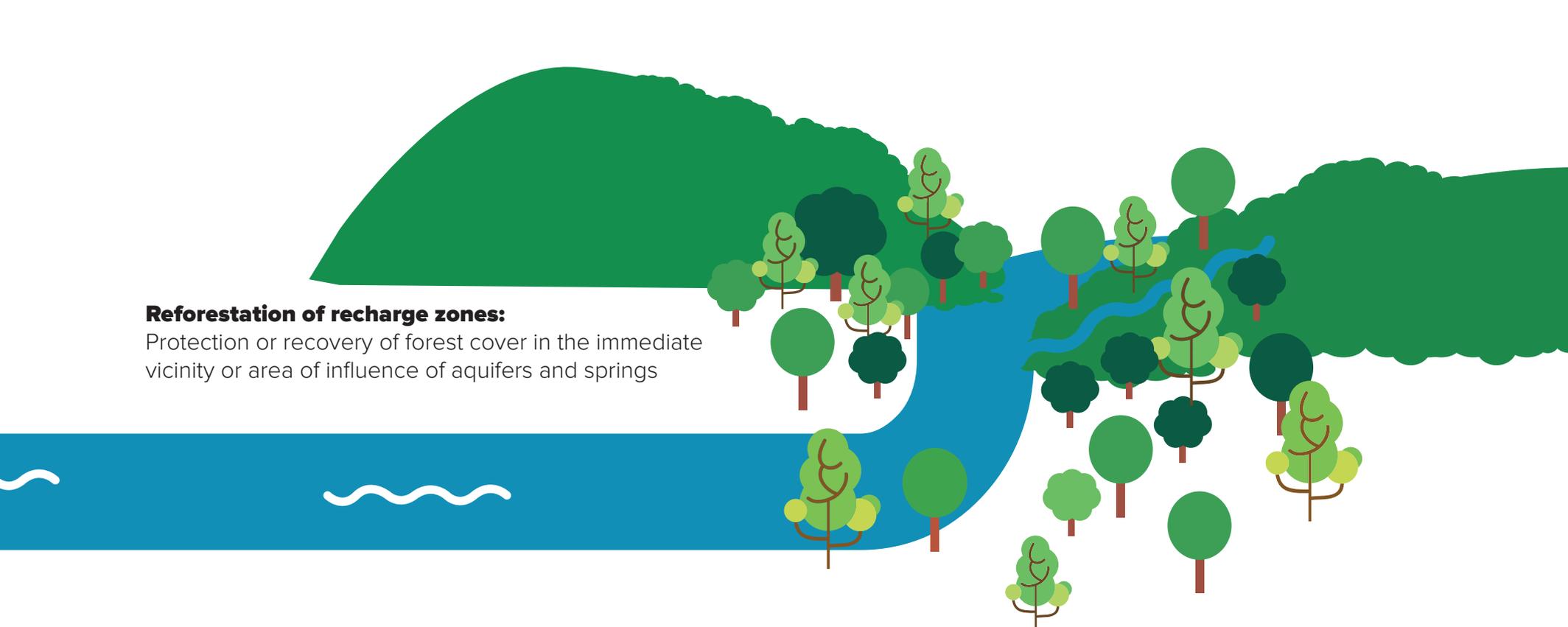


Soil protection works:
actions to restore soil production and infiltration capacities and improve their support function.



Restoration of ecosystems:
Long-term process for the recovery of ecological functionality and human wellbeing in degraded landscapes

Source: IUCN 2014.



Reforestation of recharge zones:

Protection or recovery of forest cover in the immediate vicinity or area of influence of aquifers and springs



Agroforestry systems:

Systems to diversify agricultural production while conserving local biodiversity are part of strategies for adapting to climate change in various ecosystems of Central America.



Planning for resource use (e.g., responsible fishing plan):

Tool that plans and regulates natural resource extraction and use, taking into account both the survival needs of people and the carrying capacity of ecosystems

MIRIAM MORALES MARÍN

lives in the Bribri indigenous community of Yorkín, in the Sixaola river basin. Like many farmers in the area, she plants corn, beans and rice for subsistence and cacao and banana to sell.

How is her production adapted to climate change?

She tells us in this video...





MARTA PÉREZ DE MADRID

explains the concept of ecosystem-based adaptation and gives us some examples of measures that can be implemented in the field.

In Honduras, Guatemala, El Salvador, Costa Rica, Panama and Chiapas, Mexico, IUCN collaborates with the International Center for Tropical Agriculture (Ciat). Ciat is constructing a baseline on food security in communities involved in implementing ecosystem-based adaptation measures through Project AVE. With this baseline, a monitoring system can be set up to assess how the adaptation measures impact on improvement of families' food security.

LAYING SOLID FOUNDATIONS FOR ADAPTATION

Interviews were conducted with families (generally adults in the household) engaged in processes of climate change adaptation with an approach of integrated river basin management and ecosystem-based adaptation. Social, economic and environmental aspects are important for understanding the population's food security conditions, so visits to the field were required beforehand in order to understand the particular context of each community and define the appropriate research tool.

Melissa Marín, IUCN technical officer, indicated that findings from the monitoring system on adaptation measures and plans will be used to design better adaptation measures and nature-based solutions that can improve communities' wellbeing in relation to food and water security.



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FAMILIES THAT IMPLEMENT ECOSYSTEM-BASED ADAPTATION MEASURES OR BENEFIT FROM THEIR APPLICATION WERE THE MAIN SOURCE OF INFORMATION TO LEARN ABOUT THE SITUATION OF PROJECT AVE PILOT SITES.



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MEXICO, GUATEMALA AND HONDURAS GIVE VOICE TO ECOSYSTEM-BASED ADAPTATION

IN NATIONAL CONGRESSES ON CLIMATE CHANGE

October was the month of national congresses on climate change in Mexico, Guatemala and Honduras, attended by hundreds of representatives of government agencies, nongovernmental organizations, and private, academic, and civil society sectors, among others.

The congresses are national forums for dissemination, sharing and the creation of synergies between different types of actors in dialogue on the challenges of climate change and adaptation and mitigation measures being adopted.

Nature-based Solutions

For the first time, at the 6th National Congress on Climate Change Research in Mexico, the topic of nature-based solutions was included in the lecture portion, presented

by Marta Pérez de Madrid, IUCN technical officer. Her presentation opened a panel dedicated specifically to EbA that included experiences in Chiapas of The Nature Conservancy and Pronatura Sur AC, (which recently became a member of IUCN in the region).

The experience of Project AVE permeated the agenda of Guatemala's 2nd National Congress on Climate Change, in "Communities with Natural Intelligence: The Ecosystem-based Adaptation Approach" as a natural solution to problems afflicting communities affected by climate change.

The speech by Dr. Alejandro Iza, Director of the Environmental Law Centre, at the 1st National Congress on Climate Change in Honduras, underscored adaptive governance as an innovative approach providing guidelines for decisions in a scenario marked by uncertainty about climate, and enabling collaboration

between different sectors and levels of governance, including nature-based solutions as approach for efficient adaptation.

Results in Communities

Communities' experiences in climate change were present on the agenda for day two of Mexico's 6th National Congress on Climate Change. Space was provided to community representatives for dialogue on the adaptation work being carried out in their territories, and how these improve living conditions through better use of ecosystem services.

Antonio Hernández Salas, community leader in the La Azteca *ejido*, was among them, describing his more than ten years' of work in community forest development, microbasin management and climate change. He spoke about sustainable use



of Mesophile forest, best management practices in cultivation areas, diversified production and the use of non-timber forest resources.

Guatemala's 2nd National Congress on Climate Change was noteworthy for the extensive participation of representatives of local communities and indigenous peoples from all over the country. They interacted with organizations working in diverse fields connected with the environment, in dialogues about climate science, mitigation, adaptation, indigenous peoples and good practices.

Decision-Making Tools

All of the congresses addressed conceptual aspects and practical examples in different areas of climate change, endeavoring to give participants clear and timely information. For example, the Map of Indigenous Peoples of Central America was presented, revealing the intrinsic relation and overlap existing between forests, natural marine and terrestrial resources, protected areas and the indigenous peoples who have inhabited and traditionally occupied those important spaces. Dialogue also centered on the ecosystem-based approach to disaster risk reduction, forest landscape restoration, national commitments and governance challenges for adaptation in Mesoamerica, among other issues.

TOPICS ON THE CONGRESS AGENDAS INCLUDED MITIGATION, ADAPTATION, INDIGENOUS PEOPLES AND OTHERS.



“ADAPTIVE GOVERNANCE, IN PARTICULAR, IS AN INNOVATIVE APPROACH THAT PROVIDES GUIDELINES FOR MAKING DECISIONS IN A SCENARIO MARKED BY UNCERTAINTY ABOUT THE CLIMATE.”

Dr. Alejandro Iza, director del Centro de Derecho Ambiental



ENGAGING IN DIALOGUE TO TACKLE CLIMATE CHANGE

In El Salvador, Costa Rica, Honduras and Guatemala, dialogue to find nature-based solutions for adaptation to climate change was consolidated through the meetings held with the Regional Office for Mexico, Central America and the Caribbean and the IUCN Environmental Law Centre. Topics focused on the governance, coordination and development of actions for integrated management, conservation of natural resources and biodiversity, diversified sustainable production, strengthening of the institutional framework and sustainable development of the territory. These dialogues will continue throughout 2017.

For example, in the Coatán river basin it was agreed that adequate governance must include the promotion of a negotiation and coordination space for equitable benefit sharing among the communities. In Sixaola, the focus was primarily on impacts of climate change in the basin.

Leaders of the collectives comprising the Network of Environmentalists in Action (RAA) in El Salvador shared experiences and information about the work and activities being carried out in each territory.

The meeting provided opportunity for a terrestrial and maritime tour to show protection and restoration work in the Garita Palmera Mangrove, municipality of Ahuachapán, and defense of the zone's ecosystem.

Unidad Ecológica Salvadoreña (UNES), IUCN member organization, affirmed the importance of empowering communities to dialogue with authorities so that their problems and proposals are heard.





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The original name of the project was "transforming Evidence into Change: A Holistic Approach for Governance and Ecosystem-based Adaptation GO\$EbA, now called Project AVE (Adaptation, Vulnerability and Ecosystems).



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