

AMAZON WATERS

YEAR 1 – NUMBER 4 – DECEMBER 2013

CLOSE - UP

3rd Meeting of the GEF Amazon Project Steering Committee

On 22 November 2013, government Representatives from Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname met in Lima for the 3rd Steering Committee Meeting of the Project “Integrated and Sustainable Management of Transboundary Water Resources in the Amazon River Basin considering Climate Variability and Change.”

Among others, the Meeting offered a chance to present the 2013 Annual Report and the recommendations of the Project’s Mid-Term Evaluation, which were shared by UNEP. In addition, the 2014 Annual Plan of Operations and Budget of the GEF Amazon Project were presented to the Committee for consideration and approval.



Third Meeting of the Project Steering Committee

Main Recommendations of the 3rd GEF Amazon Project Steering Committee Meeting

Various recommendations were made following the reports presented by the PS/ ACTO and by the Project.

The 2014 Plan of Operations will focus on driving the vision for water resources management in the Amazon Basin and preparing a Transboundary Diagnostic Analysis (TDA) in each country, which will in turn feed the Strategic Action Program (SAP) that will

be used to produce a regional proposal.

There will also be activities to assess a proposal for a hydrometeorological and critical events network in the ACTO Member Countries.

Also in the plans is establishing an Integrated Information System (IIS) with a practical approach that is easy for member countries to access.

To increase the project’s visibility, high level meetings will be scheduled in each of the eight Amazon countries with relevant national stakeholders in water resource decisions, sharing the Project’s achievements and main findings. It will also be necessary to promote the Project’s participation in scientific events related to water resources organized by Member Countries.

EVENTS

Validation Workshop: Strengthening Institutional and Legal Systems for Integrated Water Resources Management in the Amazon Basin

On November 21th, 2013, government Representatives from Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname attended the Validation Workshop: Strengthening Institutional and Legal Systems for Integrated Water Resources Management in the Amazon Basin held in the context of the 3rd Steering Committee Meeting of the GEF Amazon Project.

The workshop aimed to review and validate the preliminary results of the institutional and legal strengthening activities

that correspond to Component I - Understanding the Amazonian Society of the GEF Amazon Project – Water Resources and Climate Change.

During the meeting all the Member Countries Delegations gave presentations about integrated water resources management (IWRM). Some countries presented the legal framework for transboundary watershed management and others explained their institutional systems, which in some places include the establishment interministerial committees.



Validation Workshop

Legal framework for IWRM

The consultancy report of the activity "Legal Framework for Integrated Water Resources Management in the Amazon Basin" was presented during the Meeting, showing progress in the Legal Inventory that is revealing the similarities and differences in the countries' legal regimes for water resources. A proposal is being prepared with the general lines for a common legal space for water resources management based on the Amazon Cooperation Treaty.

Among others, this proposal includes an introduction to the Amazon countries' legal systems and constitutional frameworks for the environment and water resources, and an analysis of international legal instruments on the matter.

Towards institutional integration in the Amazon Basin

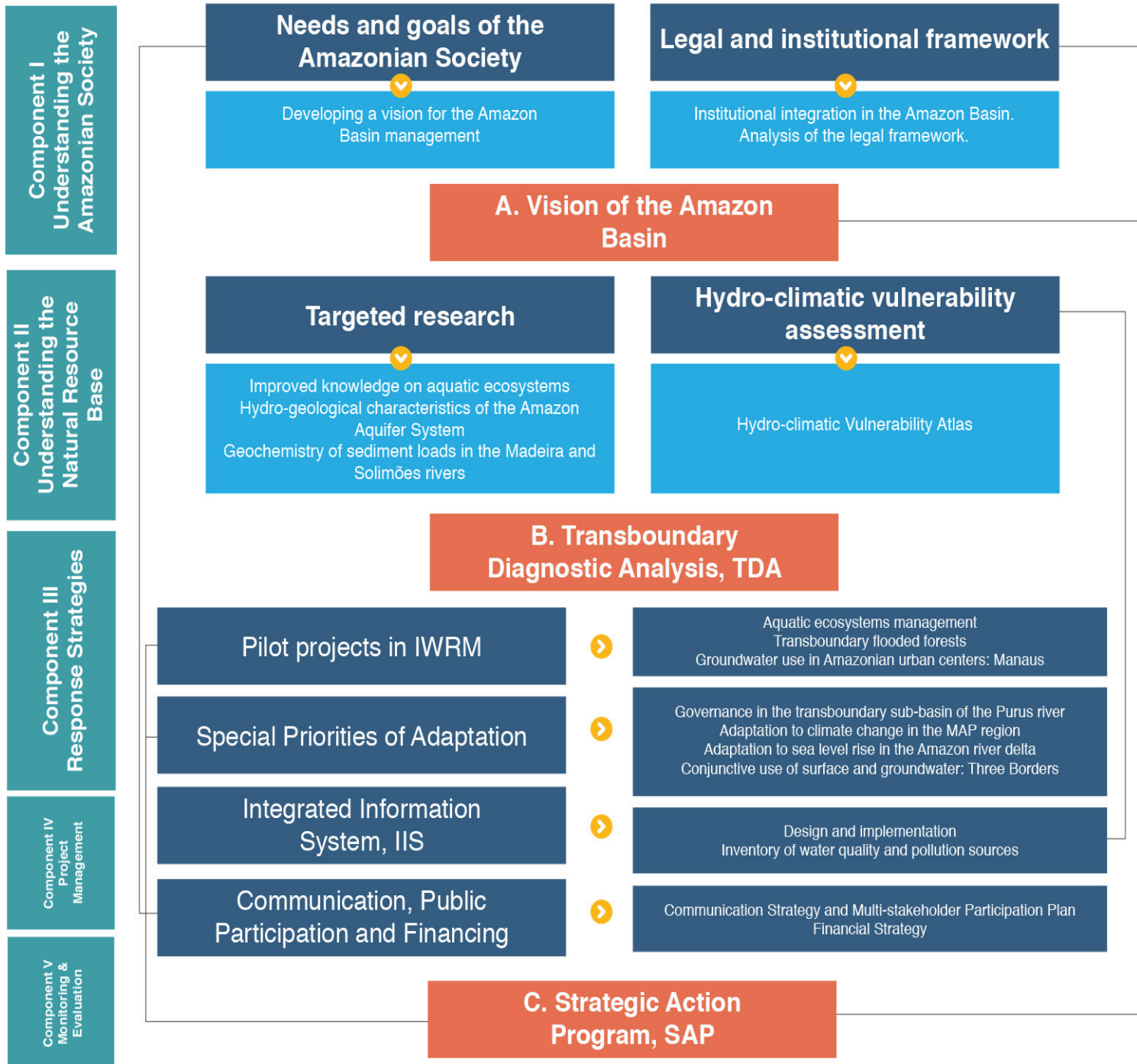
As a result of the consultancy for "Institutional Integration in the Amazon River Basin", the following elements were presented:

1. Strengthening interinstitutional coordination for water resources management in ACTO Member Countries.
2. Strengthening the Permanent National Commissions of ACTO Member Countries.
3. Creating and/or strengthening communication and information sharing mechanisms between the governmental entities in charge of water resources management in the Amazon River Basin.
4. Strengthening institutional capacities (technical and administrative) in the eight Member Countries to improve implementation of water policies.
5. Creating a Regional Working Group for Integrated Water Resources Management in the Amazon River Basin.

Both consultancies will serve as input to prepare the Transboundary Diagnostic Analysis (TDA) and the Strategic Action Program (SAP) of the GEF Amazon - Water Resources and Climate Change Project.

ILLUSTRATIVE DROP

PROJECT STRUCTURE



NEWS OF COMPONENT I

Achievements of the Legal Experts Meeting of the GEF Amazon Project

Legal experts of the ACTO Member Countries that form the GEF Amazon Project expert team met on 13-14 November 2013 in the ACTO headquarters in Brasilia, Brazil, to present the constitutional and legal framework for water resources management in each country.

This activity is related to the analysis of the Amazon countries' legal framework and corresponds to Component I – Understanding the Amazonian Society of the GEF Amazon Project.

The meeting was attended by National Legal Consultants from Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname. On the occasion, the experts shared the international, regional and bilateral legal instruments related to water resources



Meeting of Legal Experts of the GEF Amazon Project

in force in their countries. They also analyzed the similarities and differences between the basin's various legal instruments for water resources.

In addition to the legislation Inventories, this GEF Amazon Project activity will generate various products that will be reported in due time.

EVENTS

Trinational Early Warning System in the MAP Region

The 1st International Meeting of the Trinational Early Warning System for the transboundary region of Madre de Dios (Peru), Acre (Brazil), and Pando (Bolivia), known as MAP, was attended by governmental Representatives and civil society institutions of the MAP region of Bolivia, Brazil and Peru. The meeting was organized in the context of the Pilot Project "Climate Change Adaptation in the MAP Region" developed under the GEF Amazon - Water Resources and Climate Change Project and took place on 5 December 2013 in Cobija, Bolivia.

Among other matters, the meeting aimed to present the preliminary data collection findings in the MAP region, the trinational thematic maps, and the Ecological Risk Index (ERI) maps, all of which are key inputs for the Early Warning System. Participants also worked on draft adaptation strategies for the vulnerable areas identified.

In the course of the meeting local responsibilities were defined for the Trinational Early



Towards a trinational Early Warning System in the MAP region

Warning System in the MAP Region, a priority task for the GEF Amazon - Water Resources and Climate Change Project.

A trinational geo-referenced Database of the Acre river basin was presented, emphasizing that the data had been standardized

and used to produce thematic maps for the MAP region.

Risk and vulnerability maps with ERI were presented for the basin, and will later be incorporated to the Integrated Information System (IIS) of the GEF Amazon Project.

Those who participated in the Acre river expedition reported on data and information collected in rural communities during the 185 km journey from Assis-Brazil to Brasilia. They also corroborated the accuracy of maps produced in the field.

Participants were introduced to the Terra MA 2 system that is being used by the Acre State Environment Secretariat, which consists of an operational system to monitor, analyze and issue warnings against environmental risks. The group decided to extend the platform to the other areas of the MAP region.

The trilateral meeting represented a major breakthrough for regional cooperation on a priority issue that affects the region.

EVENT

Regional Technical Meeting

Extreme Hydrologic Events: Exchange of experience and technical cooperation between ACTO Member Countries

On 18-20 November 2013, governmental delegates from Bolivia, Brazil, Colombia, Ecuador, Guyana, Peru and Suriname met in Lima, Peru, to take part in the *Regional Technical Meeting "Extreme hydrologic events, exchange of experiences and technical cooperation among ACTO Member Countries"*.

The event was convened under the Amazon Project: "Regional Action on Water Resources" that is being implemented by the Brazilian National Water Agency (ANA) with support from the PS/ACTO.

The Technical Meeting aimed to provide an opportunity to allow ACTO Member Countries to share experiences about how to manage the risks of extreme hydrologic events with a view to improving coordination between participating institutions.

Some of main topics discussed were:

- Managing the risks of extreme hydrologic events
- Institutional coordination for managing extreme hydrologic events (case of Brazil)
- Hydrometeorological monitoring network for extreme events
- Flood vulnerability maps
- Flood risk maps
- Functioning of Situation Rooms (case of Brazil)
- The MAP Initiative, a subject that is in line with the activity for climate change adaptation in the MAP transboundary region of the GEF Amazon Project – Water Resources and Climate Change.

AS PART OF THE CONCLUSIONS, THE COUNTRIES DECIDED TO:

- Share information among the ACTO Member Countries: including hydrometeorological data, flood forecasting models and action procedures to face extreme hydrologic events.
- Develop studies about hydrometeorological balances in the Amazon Basin to support the proposed basic hydrometeorological Network and an Information System for the Amazon Basin.
- Develop a Flood Vulnerability Map for the Amazon Basin, as a tool to guide the installation of new hydrometeorological gaging stations, thereby creating a warning system in the region.

Regional Technical Meeting in Lima



NEWS OF COMPONENT III

Pilot project for Climate Change Adaptation comes up with solutions for the Amazon Basin

Adaptation to climate change in the MAP region is being addressed through integrated water resources management pilot projects developed under Component III - Strategic Action Program - of the GEF Amazon Project.

The trinational region known as MAP includes Madre de Dios Department in Peru, Acre State in Brazil and Pando Department in Bolivia. In this region, the three countries share the Acre river basin and other transboundary rivers that cross the area. More than 900,000 people live there, 120,000 of them in Madre de Dios, 700,000 in Acre and 90,000 in Pando.

Extreme events are occurring increasingly often in the MAP region. Among them are strong rains that cause great floods, as well as prolonged droughts. In addition, due to the extended periods without rain, the fire used to burn wood often spreads out of control and causes large forest fires.

In this context, the MAP region is making efforts to strengthen cooperation between the various Agencies to improve coordinated response to the challenges posed by adaptation to climate change.



Three countries sharing the Acre river

GEF Amazon Project achievements in the MAP region

Consultant Elsa Mendoza called attention to the Project's progress: "We built a trinational database in which technicians from each State and university experts helped us to prepare an assessment of land use and its effects in the Acre river basin. For example, we know what area has been burned, among close to 17 variables, everything in one single trinational database. We still need

some information, but we're working on it." As part of the process, the Project is working with the participating countries to validate the data and implement the warning system.

"There is also the 'Terra MA2 Platform' that is currently used by the Acre State Government of Brazil, and we hope that the Pando and Madre de Dios Departments can use it as well," noted Elsa Mendoza.

"Our Project is a pilot, it's experimental, hopefully it will be replicated in other borders that share rivers, for the benefit of the society. It will certainly be one more solution for the Amazon Basin," concluded the Coordinator for this MAP region activity. To this end, the Pilot Project findings will be shared with all the Member Countries of ACTO.

NEWS OF COMPONENT III



Risk Governance Model in the Purus River basin

Risk Governance Model: Climate Change Adaptation in the Purus subbasin

The Pilot Project related to Priority Climate Change Adaptation Measures called “Risk governance in the transboundary subbasin of the Purus River” is being developed under Component 3 of the GEF Amazon Project - Water Resources and Climate Change.

Its aims to empower local governments to mitigate critical problems resulting from

climate change in the Purus subbasin, which plays a fundamental role in the Amazon Basin due to its location in the transboundary region of Brazil, Bolivia and Peru.

Its strategy consists of preparing an operating Model for Risk Governance and Climate Change validation based on three components: preparing a climatic and hydrologic model, assessing the

communities’ adaptation capacity, and analyzing institutional capacity in selected locations. According to Nirvia Ravena—PhD in Political Science by the Rio de Janeiro University Research Institute, the activity Coordinator and leader of an interdisciplinary team of project consultants—this will lead to the construction of three specific databases.

Climate change effects in the Purus subbasin

The Meteorologist Adriano Souza, PhD in Water Resources and Environmental Sanitation by the Federal University of Rio Grande do Sul, is in charge of modeling hydrological aspects, including climate and surface hydrology, in the low, medium and high Purus river, which are very different in hydrologic and meteorological terms.

To help us to understand the effects of climate change on populations of the Purus subbasin, the Project Consultant mentioned two extreme examples: droughts and floods. "During the dry season we have a problem of population displacement. Since there are no roads, everything is done by the river, and when there is an extreme drought it's impossible to send medications, water, or even an ambulance, which in the Amazon is called an 'ambulancha' or ambumotorboat".

"When the river rises there are other

types of problems", explains Dr. Souza. "At times people have to leave their homes because of the water coming in, which creates public health problems like water-borne diseases."

The expert also explained that meteorological data was collected for the Hydrologic Model being prepared by the GEF Amazon Project. This will enable simulations of what may happen in ten years time, particularly intense droughts and floods. "The Hydrologic Model we use is the SWAT, developed by the University of Texas. Known as an open box, it has more than a thousand equations to describe phenomena. The model will receive the databases we were able to obtain and will start working mathematically to generate the series. Its value lies in that it works spatially, which is what we are hoping for, since the basin is very big and trans-

boundary and we need to be able to see it all at once. Our data collection process was successful in Bolivia and we hope to continue collecting data in Peru."

The GEF Amazon Project - Water Resources and Climate Change provides knowledge about the basin, which is a first step in establishing partnerships between neighboring countries and share research findings to learn about the Amazon as a whole.

The Project will generate information for the period of 2010 to 2020 using the Italian climate model RegM3 to achieve a credibility of 80% to 90%, which is fundamental to understand the atmospheric phenomena that generate droughts and floods. It will also strengthen capacity-building efforts by involving graduate students and providing science education while performing studies.

Analyzing future scenarios: Climate forecasts in the Purus subbasin

In order to feed the Risk Governance Model, a database about climate change, adaptation measures and extreme events associated to public disasters and emergency situations will be prepared based on information provided by Civil Defense organizations at the state and national levels and other entities that work with climate and the effects of El Niño and La Niña in the Purus subbasin.

Meteorologist Isabel Vitorino, who holds a Master's degree in Atmospheric Sciences from the Geophysics and Astronomy

Institute of the Sao Paulo State University and a PhD in Meteorology from the Brazilian National Institute for Space Research (INPE), is also preparing a diagnostic and prognostic assessment of climate conditions in the Purus subbasin.

"To conduct this assessment, first we need to know the history of the climate in Purus, its predominant features: the shape of the Purus river, precipitation, wind, evaporation and others factors like the El Niño and La Niña phenomena and extreme events in the region, learning how they be-

have and why. We are currently starting to analyze the data to prepare a climate database", says Project Consultant Dr. Vitorino.

This stage is fundamental to produce a more precise forecast. "This information will be put into the REGCM3 (Regional Circulation Meridional), a climate forecast model that will be used to produce future scenarios for the region using rainfall parameters. This will allow us to forecast river level rises and impacts in the area in 2015, for example, which will be done in a meteorology laboratory", adds Dr. Vitorino.



©ACTO 2013 Amazon Cooperation Treaty Organization- Permanent Secretary (ACTO/PS). Secretary General **Amb. Robby Ramlakhan**, Executive Director **Amb. Mauricio Dorfler**, Administrative Director **Carlos Aragón**, Transport, Tourism and Communication Coordination **Carlos Arana Courrejollés**, Indigenous Affairs Coordination **Sharon Austin**, Science, Technology and Education Coordination **Germán Gómez**, Environment Coordination **Antonio Matamoros**, Health Coordination **Antonio Restrepo**, Photos: ACTO Archives. ACTO Address: SHIS QI 05, Conjunto 16, Casa 21, Lago Sul, CEP 71615-160 Brasília, DF, Brasil Tel. +5561-3248-4119. www.otca.info
GEF Amazon Project: Regional Technical Coordinator Norbert Fenzl Contacteugenia.corvalan@otca.org.br
<http://gefamazonas.otca.info>

Project Address: SHIS QI 09, Conjunto 03, Casa 12, Lago Sul, Brasília DF, Brasil CEP 71625-030 Tel. +5561-3248-7730