



# The Environment and Natural Resources Practice's 2023 Year in Review

April 2024 | Chemonics' Environment and Natural Resources Practice

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## Abstract

**In 2023, Chemonics International's global portfolio of climate and environment programs advanced solutions for sustainable natural resources management; climate and conservation finance; natural climate solutions; the combatting of environmental crimes; inclusive, community-based environmental management; blue economy initiatives; and innovation and technology for people and planet.**

## Executive Summary

For half a century, Chemonics has used strategic collaboration and innovation to advance sustainable solutions to the world's most pressing environmental problems. While tackling environmental challenges across diverse regions, we have focused on empowering communities, promoting all forms of well-being, and leveraging technology — thereby fostering positive change on local, national, and global scales. Our initiatives have demonstrated the value of community partnership, innovation, and cross-border collaboration in promoting resilience, sustainable practices, and mutual prosperity for people and the environment.

In 2023, Chemonics implemented 12 environment and natural resources (ENR) projects and programs in Latin America, Africa, and Asia across a wide array of ENR thematic areas, ecosystems, and socioeconomic contexts. This compendium highlights the approaches we have applied through our ENR projects and the impacts they achieved in the last year across five ENR thematic areas and two crosscutting themes. These highlights provide practitioners and those passionate about ENR issues with valuable insight into promising new approaches in sustainable natural resource management; climate and conservation finance; natural climate solutions; the combatting of environmental crimes; inclusive, community-based environmental management; blue economy initiatives; and innovation and technology for environmental solutions.



**The Feed the Future Haiti Chanje Lavi Plantè project kicks off a tree-planting campaign to protect hillsides from erosion and safeguard farmers' livelihoods.**

### **Sustainable Natural Resources Management**

Natural resource management (NRM) is vital for balancing human well-being and livelihoods with ecosystem functionality and biodiversity preservation. Chemonics prioritizes clear objectives, knowledge dissemination, and inclusive participation in its initiatives to foster sustainable NRM practices.

Across regions, Chemonics focuses on community engagement and capacity building. Innovative approaches in the Gran Chaco address environmental challenges, while transboundary collaboration, exemplified by the [Resilient Waters Program](#) in Southern Africa, promotes partnerships for water security and resilience.

These efforts' impact is evident in enhanced capacity and knowledge among local communities and institutions. Successful models of community-based forest management, such as the

[Páramos and Forests Activity](#), empower communities and promote biodiversity conservation. Still, challenges remain, particularly in regulatory compliance and policy frameworks. Advocacy efforts aim to streamline regulations and make sustainable NRM more accessible to communities.



**Páramos in Colombia.**

### **Climate and Conservation Finance**

Conservation finance involves raising and managing capital to support environmental conservation, whereas climate finance targets climate change mitigation and adaptation. USAID's initiatives, such as the [Climate Finance for Development Accelerator](#) (CFDA) introduced at the 27th Conference of the Parties (COP27), aim to advance ambitious climate goals by broadening access to climate finance to diverse stakeholders. CFDA is a dynamic platform for testing innovative approaches to mobilizing finance for climate adaptation, renewable energy, nature-based solutions, and gender-responsive initiatives.

Key achievements of the accelerator in 2023 include:

- Selection of enterprises for grants under the Adaptation Finance Window
- Launch of the Blended Finance for the Energy Transition (BFET) initiative
- Establishment of partnerships with organizations like the Ocean Risk and Resilience Action Alliance
- Expansion of the Climate Gender Equity Fund to support women-led climate solutions

CFDA fosters collaboration through the Climate Finance Investment Network (CFIN), engaging over 800 members globally, and addressing barriers to investment in high greenhouse gas (GHG) emitting sectors through activities like the BFET. In addition, efforts are underway to promote carbon offset markets and integrate gender equity into climate finance forums.

In Colombia, the [Tierra Dorada Activity](#) focuses on reducing emissions from deforestation and forest degradation through conservation funding mechanisms. The selection of watersheds for payments for environmental services projects demonstrates progress in aligning conservation efforts with private sector partnerships.



**Biodiversity monitoring, Páramos and Forests Activity.**

## Natural Climate Solutions

Natural climate solutions offer strategies to reduce GHG emissions and sequester carbon by conserving and restoring natural ecosystems. Chemonics collaborates with diverse stakeholders to address climate risks, integrate scientific research, and develop systemic solutions. Indigenous Peoples and local communities play pivotal roles, stewarding significant portions of Earth's land and seas and protecting global biodiversity.

The Páramos and Forests Activity exemplifies successful implementation of natural climate solutions, achieving substantial reductions in GHG emissions through conservation measures and alternative livelihood

promotion that yield marketable carbon credits sold on national compliance and voluntary international markets. These efforts advance climate mitigation goals while supporting community self-reliance and sustainable development.

The [USAID Bangladesh Ecosystems/Protibesh Activity](#) protects critical ecosystems like the Sundarbans mangrove forest, fostering climate resilience through climate-smart agriculture and business skill development. Protibesh's Embankment Feasibility Study focuses on nature-based solutions to augment coastal protection infrastructure, providing insights for future decision-making in Bangladesh's coastal regions. Additionally, Protibesh's analysis of pathfinders, followers, observers, and disruptors identifies companies' incentives and capacities to adopt natural climate solutions, guiding and promoting sustainable practices within supply chains.

In urban settings, the [Climate Finance for Cities and Nature in LAC \(Latin America and the Caribbean\) Activity](#) explores financing models linking nature-based solutions with urban climate resilience and adaptation to bolster resilience, reduce GHG emissions, and enhance carbon sinks.

## Combatting Environmental Crimes

Environmental crimes, from illegal mining and logging to land grabs and wildlife trafficking, pose significant threats to ecosystems, communities, and economies worldwide. At Chemonics, we collaborate with stakeholders to understand, monitor, and prevent these crimes, employing technology, advocacy, and networking to promote wildlife conservation, governance, and local livelihoods.



**Investigating elephant tracks in Kruger National Park.**

In Southern Africa, the [VukaNow](#) program, using collective impact theory, fosters stakeholder collaboration to reduce poaching and illegal wildlife trade. With predictive analytics, VukaNow develops algorithms to identify high-risk poaching areas, enhancing park management strategies and safeguarding wildlife populations. By conducting research, hosting learning events, and developing tools like predictive poaching risk models, VukaNow enhances regional efforts to combat wildlife crime. Similarly, in Tanzania, the [Heshimu Bahari Activity](#) trains prosecutors to combat marine wildlife trafficking, addressing biodiversity loss and corruption.

## Inclusive, Community-Based Approaches

Community-based approaches to conservation, NRM, and climate change recognize the importance of engaging and supporting local communities for long-term success. Chemonics invests in inclusive development practices, integrating lessons from experts across various fields, including gender equality and social inclusion. In 2023, our initiatives showcased inclusive development efforts:

- **COCOA (Creative Options Creating Operational Agreements) Initiative:** Partnering with local organizations in Colombia, [Amazon Alive](#) established conservation agreements with cocoa producers, promoting sustainable livelihoods and community-based monitoring.
- **First Responders Initiative:** Amazon Alive trained first responder groups in wildfire prevention, enhancing resilience and fostering collaboration with local authorities.
- **Inclusive Dam Management:** Resilient Waters facilitated inclusive consultations for the Massingir Dam master plan in Mozambique, ensuring diverse stakeholder participation and equitable decision-making, which is becoming a planning model for the country.
- **Regional Service Centers:** The Tierra Dorada Activity in Colombia opened service centers in key mining areas, providing comprehensive support for biodiversity conservation, legalization and formalization of operations, and sustainable mining practices for artisanal and small gold miners.
- **Spotlight on Carbon Markets:** Chemonics produced a docuseries highlighting community-led carbon projects in Colombia, demonstrating their potential for sustainable development and biodiversity conservation. This initiative garnered attention at COP28, emphasizing the importance of inclusive, community-led nature-based solutions to climate change.



**Apiculture, Oro Legal Activity.**

## Blue Economy Initiatives

Chemonics prioritizes science-based, inclusive models for marine and freshwater biodiversity conservation through its blue economy initiatives. With a focus on supporting countries in achieving the global goal of protecting 30% of marine areas by 2030, our projects empower communities to co-manage marine protected areas, combat illegal fishing, and monitor endangered species.

Key highlights of our blue economy initiatives include:

- **Nature-Based Solutions:** These initiatives implements projects in Bangladesh, Colombia, and South Africa to improve climate change adaptation, restore blue carbon systems, and regenerate essential ecosystem services.
- **Partnerships for Sustainable Blue Economies:** Fostering innovative buyer-linked approaches and collaborating with industries such as sustainable seafood and ecotourism, we are mobilizing resources for sustainable blue economies.
- **Conservation Finance Advisory Services:** These efforts provide expertise in conservation finance, including blue carbon sequestration pricing and blue bonds, to support sustainable coastal development in Egypt.
- **Science-Based Approaches in Tanzania:** USAID/Tanzania's Heshimu Bahari Activity employs scientific methodologies to advance co-management approaches of marine areas and wild-caught fisheries, including mapping artisanal fishing patterns and identifying priority areas for marine protected areas.
- **Blue Carbon Investments:** Recognizing the significance of blue carbon systems in sequestering carbon, protecting coastal ecosystems, and reducing vulnerability to climate change, our initiatives focus on the recovery, restoration, and protection of coastal systems like mangroves and seagrasses.
- **Community-Led Business Models:** These efforts facilitate study tours and partnerships, like the "Crab Sharks" community project in Kenya, where a seafood restaurant by mangrove boardwalks supports mangrove regeneration and conservation.
- **Conservation Finance Facility:** Through the [Coastal Resilience, Carbon, and Conservation Finance Facility \(C3F\)](#), we are collaborating with partners to create mechanisms for identifying, developing, and facilitating investments in blue carbon and coastal resilience projects, ensuring equitable and sustainable partnerships with international capital providers.



**Coral reefs pictured from a Heshimu Bahari benthic ecological survey.**

## Innovation and Technology for Environmental Solutions

Chemonics is committed to leveraging innovation and technology to foster sustainability, community engagement, and data-driven decision-making for effective environmental management. Our initiatives focus on empowering communities, enhancing transparency, and promoting accountability in global supply chains through innovative tools and partnerships.

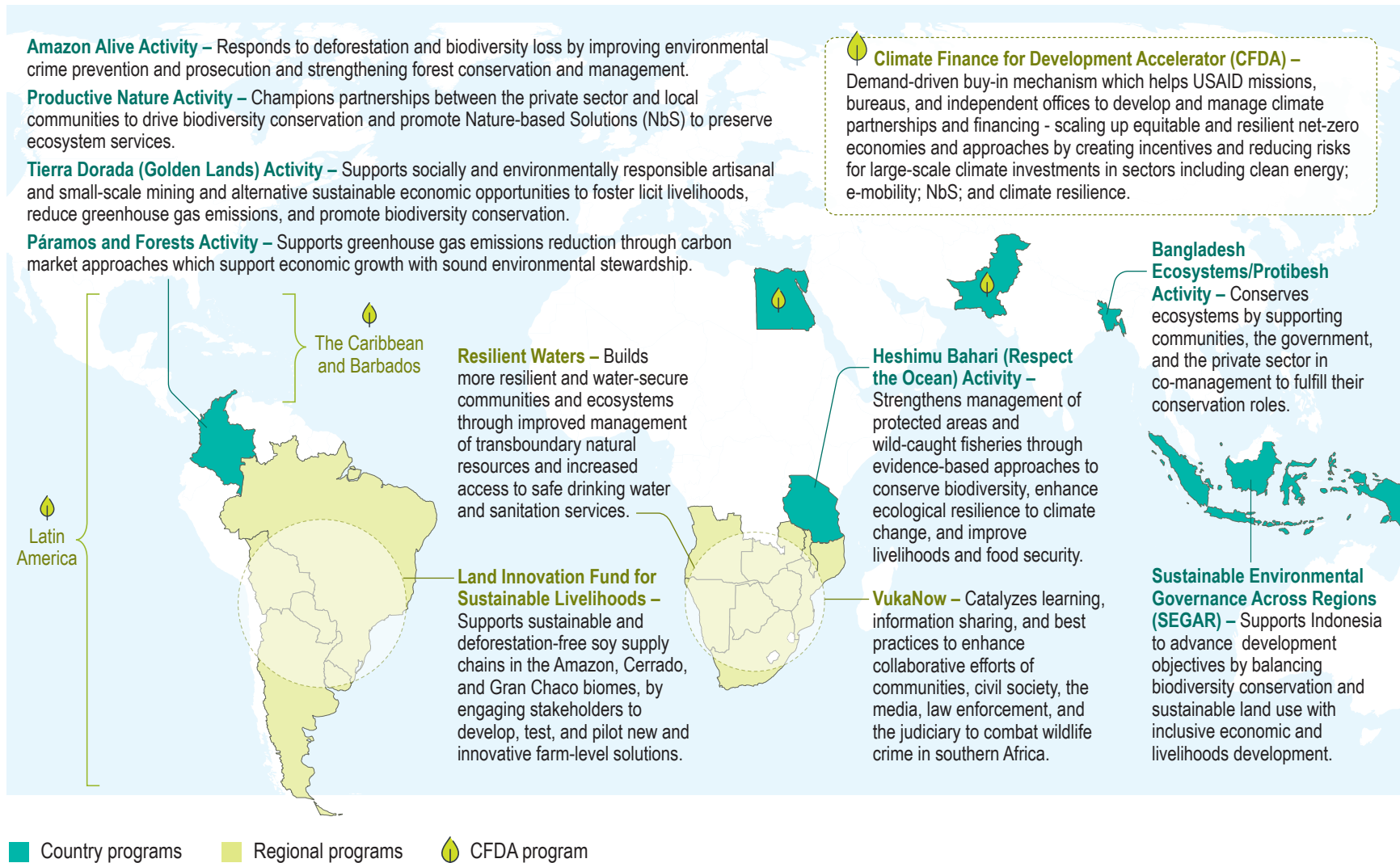
Key highlights of our innovation and technology initiatives include:

- **[ViSeC](#) (Sectoral Vision for the Argentine Grand Chaco) Platform for Deforestation-Free Soy:** Partnering with Cargill, we are implementing the [Land Innovation Fund for Sustainable Livelihoods](#) to establish ViSeC, an innovative tracking and monitoring platform for soy and other commodities in Argentina's Gran Chaco region. ViSeC integrates sustainability parameters to ensure transparency and accountability in the supply chain, facilitating the sale of certified deforestation-free soy.
- **TIMBY Mobile Application for Environmental Monitoring:** In Bangladesh's Hakaluki Haor region, we have rolled out the encrypted TIMBY mobile application to empower communities to monitor environmental crimes in wetlands. Through citizen reporting, community members can report threats such as illegal fishing and land use change, enabling informed decision-making by relevant authorities.
- **SERVIR Website Enhancement:** Collaborating with NASA and USAID, we have enhanced the [SERVIR website](#) to showcase the global network's impact on strengthening climate resilience, food security, and forest management. The redesigned website highlights [SERVIR's](#) work across various service areas and includes a comprehensive resource library for easy access to information and tools.
- **Biodiversity Innovation Lab in Colombia:** Through the Productive Nature Activity, we are establishing a Biodiversity Innovation Lab in Colombia to promote market-driven nature-based solutions and increase climate resilience. The lab will focus on sourcing innovative technologies for biodiversity monitoring, data collection, and product traceability in key value chains such as cocoa and cattle ranching.



**A detail of a typical Gran Chaco native vegetation in Colombia's Santiago del Estero.**

## Chemonics' 2023 Climate, Environment, and Natural Resource Programs





## Sustainable Natural Resource Management

Natural resource management (NRM) involves planning and acting to guide interactions between people and their environments and thereby optimize ecosystem use and conservation. At Chemonics, our approach to NRM helps foster the productive use of nature and strengthen people's sustainable relationships with their environments by helping to establish clear goals, facilitate the development of essential knowledge and skills, and promote equitable leadership and participation among communities as they engage with natural systems. This work is crucial for supporting livelihoods, maintaining ecosystem functionality, and preserving biodiversity. Below, we highlight activities Chemonics implemented in 2023 that apply our approach to NRM and build the skills, networks, and plans for people to benefit from the sustainable use of natural resources, strengthening the incentives to support conservation and healthy ecosystems.



**Farmer Juan Carlos Cotella, a member of the Good Agricultural Practices and Carbon Sequestration Project, supported by the Land Innovation Fund for Sustainable Livelihoods, at the administrative office of Hacienda Estribo in Santiago del Estero, Argentina's Gran Chaco.**

### Farming and Conservation in the Gran Chaco

Farmer Juan Carlos Cotella, a member of the Good Agricultural Practices and Carbon Sequestration Project, is passionate about sustainably tending to his crops because he cares about the future (see picture). The ProYungas Foundation coordinates the project in partnership with other institutions from Argentina and Paraguay: the Argentine Association of No Till Farmers (Aapresid) and Moises Bertoni Foundation.

## Project Spotlight: Resilient Waters Strengthening Resilience in Southern African Watersheds



**Lower Blyde River in the Kruger to Canyons Biosphere, situated in the northeastern region of South Africa, straddling Limpopo and Mpumalanga Provinces. A Resilient Waters grant supported catchment restoration in the area, including waste management campaigns, invasive species clearing, and water quality testing.**

From 2018 to 2023, Resilient Waters worked with partners in Southern Africa to build more resilient and water-secure communities and ecosystems. The project focused on the seven countries sharing Limpopo and Okavango River Basins, Kavango-Zambezi and Greater Limpopo Transfrontier Conservation Areas, and the Buzi, Pungwe, and Save Tri-basin. Strengthening resilience impact pathways through investments in institutions and information, Resilient Waters bolstered partnerships; advanced the meaningful participation of women, youth, and Indigenous Peoples; and promoted performance management and learning. In five years, Resilient Waters supported 66 regional, national, and local government institutions to improve their capacity in water resources management and protection and supported the implementation of 82 action plans focused on water security, integrated water resources management, or water source protection. Resilient Waters also developed a range of tools and assessments to support information generation and to fill information gaps that were impeding action on transboundary resource management. These efforts included:

- Sponsoring the Centre for Sustainability Transitions at Stellenbosch University to write and edit the Routledge Handbook of Research Methods for Social-Ecological Systems, which continues to inform how researchers, postgraduate students, and development practitioners understand resilience in the Southern Africa region.
- Through a grant to the International Water Management Institute, developed an environmental flows assessment as a decision-support tool for the Limpopo Watercourse Commission to determine the minimum monthly flows to maintain environmental integrity and functionality of the river while accounting for the river flows required by local communities for their livelihoods.
- Supported Botswana Department of Wildlife and National Parks wildlife monitoring system to help avoid and mitigate the impacts from human-wildlife conflicts.
- Disseminated applied research and knowledge products via platforms, such as Resilience Hub, focused on Southern Africa (as well as global platforms like climatelinks). The Resilience Hub platform proved invaluable when COVID-19 lockdowns prevented in-person training; the platform and helped maintain — and grow — the resilience community of practice within Southern Africa.

Since 2020, with funding from Cargill, Chemonics has managed the [Land Innovation Fund for Sustainable Livelihoods](#), which supports agronomists such as Mr. Cotella in applying his experience to address challenging conditions like those in the Gran Chaco region of Argentina and Paraguay, where water is scarce, winds are strong, and temperatures are high. Collaborating with farmers to adopt a landscape approach that incorporates carbon indicators for productive and conserved areas alongside biodiversity monitoring and forest inventory, he says:

**“My drive to help generate knowledge runs throughout my work. The ProYungas project provides information on the entire farm to improve harvests, environmental preservation, and the community's quality of life.”**

### **Nature Pays**

The Productive Nature Activity aims to conserve biodiversity in critical tropical dry forests, wetlands, high Andean forests, flooded savannas, and peatlands in target regions of Colombia: Andean, Caribbean, and Orinoco. To maximize conservation and livelihoods outcomes, the Productive Nature Activity implemented a multi-criteria analysis — or threat-based assessment for biodiversity conservation — examining social factors and sustainable value chain opportunities. The activity mapped around 200 relevant actors (private and public sector entities, NGOs, and civil society organizations) operating in the target regions and identified 41 value chains driving ecosystem transformation or sustaining ecosystem services. Ultimately, the activity selected 12 value chains to support in Year 1, including dairy, carbon markets, coffee, and non-timber forest products. The analysis sets up the activity for success, ensuring that stakeholders essential to nature conservation also reap the benefits, fostering mutual prosperity.

### **Smoked Chili Production in El Itilla Indigenous Reserve**

Under the grant to [El Itilla](#) Indigenous Reserve in Guaviare, USAID/Colombia's [Amazon Alive](#), implemented by Chemonics since 2021, supports sustainable livelihoods centered on smoked chili production, where Indigenous women lead in cultivating, packaging, and selling eight chili varieties in local markets. The activity has collaborated with communities to develop a biocultural calendar, enhancing ancestral monitoring practices and promoting sustainable land use across approximately 8,000 hectares. It has also helped establish a biocultural monitoring group to inform sustainable management and biodiversity conservation efforts.



The Páramo Pan de Azúcar is a high-altitude ecosystem in Colombia, spanning the departments of Cundinamarca and Boyacá. It is an integral part of the Andean páramo ecosystem, celebrated for its remarkable biodiversity and ecological importance. The Andean Region is one of the focus geographies of the USAID Colombia Productive Nature Activity, which advances nature-based solutions in value chains such as coffee, dairy farming, fruits, and carbon.

### **Community-Based Forest Management**

The [Páramos and Forests Activity](#) supported a community-based forest management initiative on the Pacific coast of Colombia to address forest degradation caused by traditional logging practices. Instead of replacing logging with alternative livelihoods, the activity allowed loggers to continue while adopting a sustainable management approach. Páramos and Forests established Forestales de Darien, a community-owned company, with support from grants and technical assistance. Forestales de Darien manages 9,000 hectares of forest using a polycyclic 20-year rotation, with sustainable harvesting practices. With 40% female staff, the company handles planning, extraction, logistics, and commercialization of timber products. Páramos and Forests assisted in building the technical and business capacities of Forestales de Darien and in facilitating agreements with buyers. Regulatory compliance proved challenging and costly and led to advocacy efforts aimed to streamline regulations and make sustainable forest management more accessible to communities. Forestales de Darien is a promising example and a reminder of the barriers to successful community-based forest management, highlighting the need for regulatory reform and community empowerment in similar projects.

## Climate and Conservation Finance

As an umbrella term, “conservation finance” refers to the practice of raising and managing capital to support environmental conservation. Conservation finance is interdisciplinary by nature and encompasses climate finance. The term “climate finance” refers to finance aimed at achieving climate change mitigation or adaptation outcomes. Sources for conservation and climate financing include public, private, and non-profit entities.

### Accelerating Climate Finance for Development

At the 27th Conference of the Parties (COP27) to the United Nations Framework Convention on Climate Change held in Dubai in 2023, USAID made significant strides by introducing innovative initiatives aimed at achieving the ambitious target of holding the rise of global temperatures below 1.5 degrees Celsius. Among these initiatives, the [Climate Finance for Development Accelerator](#) (CFDA) stands out.

This flagship platform is designed to mobilize \$2.5 billion in public and private climate actions and investments by 2030. CFDA convenes stakeholders across the public and private sectors to develop and scale effective partnerships and innovative investment solutions that increase financial flows for tackling the climate crisis in frontier and emerging markets. The accelerator is a dynamic testing ground, designing and implementing financing solutions for climate adaptation, clean and renewable energy, nature-based solutions, and women-led and women-benefitting climate solutions. Throughout 2023, the accelerator launched several initiatives to mobilize capital faster, at greater scale, and in areas where it will have a greater impact.

During its first year, CFDA has operated with exceptional agility to achieve multiple milestones:

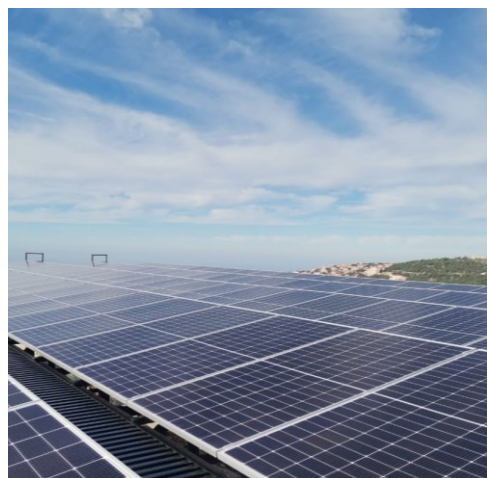
- Six enterprises with promising adaptation solutions to receive grants under the first round of the [Adaptation Finance Window](#).
- [Launching](#) of a second call for proposals under the Adaptation Finance Window for adaptation-focused investment funds and vehicles.
- [Naming](#) of two awardees under the [Blended Finance for the Energy Transition](#) (BFET) initiative.
- [Welcoming](#) of the Ocean Risk and Resilience Action Alliance as the anchor partner under the [Coastal Resilience, Carbon, and Conservation Finance](#) (C3F) initiative.
- [Addition](#) of a first cohort of women-led organizations selected to receive grants, a new founding member, and an additional \$5 million commitment from USAID to the [Climate Gender Equity Fund](#).
- Facilitation of USAID’s support for the [Green Guarantee Company](#), the first privately run guarantee company devoted to catalyzing green bonds and loans in partner countries in Africa, Asia, and Latin America.

See more in the video [What on Earth Is Climate Finance?](#) from Chemonics’ Climate Group.

## Climate Finance Investment Network Advancing Climate Finance

CFDA has also launched the USAID [Climate Finance Investment Network](#) (CFIN), which brings together diverse finance seekers, finance providers, and other ecosystem actors from various sectors and markets to increase investment in climate solutions. These firms represent a broad spectrum of climate expertise, institutional capabilities, and regional experience in frontier and emerging markets. The CFIN is used to share opportunities to partner with USAID under CFDA, as well as avenues to strengthen the broader climate finance ecosystem through knowledge sharing tools and resources and several sector-specific communities of practice.

As of February 2024, the CFIN includes over 1,000 member organizations. Organizations and platforms interested in supporting the development, testing, and scaling up of solutions to increase the availability and accessibility of private sector finance for climate mitigation and adaptation in emerging markets may join the CFIN by completing this [partnership form](#).



**A solar farm in Mazraat et Teffah, North Lebanon, aims to enhance water provision to 2,000 residents.**

## Unlocking Capital Flows Toward High Greenhouse Gas Emitting Geographies and Sectors

Although the energy transition in emerging markets has begun attracting private investment in recent years, it has yet to reach the scale necessary to significantly contribute to global emissions targets. The [BFET](#) initiative leverages a unique partnership between USAID, the U.S. Department of State, the U.S. Special Presidential Envoy for Climate, and the Danish Ministry of Foreign Affairs and Investment Fund for Developing Countries to mobilize \$1 billion to accelerate emerging markets' efforts to achieve a just and resilient energy transition and limit global temperature rise to less than 1.5 degrees Celsius. As a

first step, CFDA did a market sounding exercise, speaking directly with private finance leaders to identify barriers to investment and optimize catalytic funding to attract new high-quality partners. This exercise provided nuanced insights on how to structure and design BFET's streamlined solicitation process, which garnered over 40 proposals from fund managers worldwide, almost all new to partnering with USAID. Through a competitive selection process, BFET [selected](#) two private sector partners launching innovative financial vehicles that will mobilize and deploy capital into investments that accelerate the just energy transition in emerging economies with high emissions. These partners will receive catalytic grant funding from BFET to better align investment opportunities with the needs of institutional investors and other capital providers, making deep pockets of capital for the energy transition available.

## Expanding Natural Climate Solutions Financing

Global interest in carbon offset markets is high, but encouraging private sector involvement is challenging due to complex mechanisms involved. To address these challenges, CFDA focuses on creating an enabling environment for natural climate solutions financing. These efforts involve synthesizing USAID's experience with carbon markets and external resources in user-friendly materials, providing direct support for small-scale analytical work, and promoting cross-agency learning. USAID's flexible approach aims to adapt to specific contexts, promote development where appropriate, and engage constructively to mitigate social and environmental risks in carbon markets. The emphasis is on finding suitable ways to engage rather than advocating for carbon markets in general or any specific approach.

## Advancing Gender Equity in Finance Forums

Women and girls are powerful change agents in designing and leading climate solutions for their communities. Women are innovators, leaders, entrepreneurs, workers, and customers in climate-related fields. But in the broader climate finance ecosystem, gender equity is poorly integrated or not incorporated at all. Although climate finance flows amounted to more than \$600 billion in 2021, only 2% integrated a gender lens, revealing a major opportunity for change and growth.

Launched by USAID, with support from Amazon, the [Climate Gender Equity Fund](#) has a goal to leverage \$60 million in capital from corporations, foundations, bilateral and multilateral institutions, and other sources to open access to climate finance for gender-responsive, women-led, and women-benefitting organizations. The Climate Gender Equity Fund will harness the power of collective action to bridge the gender-climate finance gap with Amazon, Reckitt, Visa Foundation, and The UPS Foundation as founding members of the alliance. The fund is one of the first major activities under CFDA, and 2X Global was selected as the fund's grants management partner in August 2023.



**Afro-descendants and Embera Katio Indigenous women from Tierralta, Colombia, march for the recognition of their women's rights.**

## **Facilitating Private Sector Investment in Clean Energy and Climate Adaptation in the Caribbean**

Under CFDA, USAID/Dominican Republic launched the Caribbean Climate Investment Program in April 2023, coordinating with USAID/Eastern and Southern Caribbean and USAID/Jamaica. The Caribbean Climate Investment Program will support private businesses (with a focus on small and medium-sized enterprises), financial partners, communities, and partner governments to deploy technologies and approaches that advance clean energy and climate adaptation goals across the Caribbean region. As of February 2024, the Caribbean Climate Investment Program has received 44 eligible concept notes for its grants program and launched a project preparation facility to build investment readiness for 40 project developers over the next three years.

Another core activity under the Caribbean Climate Investment Program is the establishment of the Blue Green Bank. Co-funded by USAID/Eastern and Southern Caribbean mission, the Barbadian government, and Green Climate Fund, the Blue Green Bank is an investment vehicle that will finance climate change mitigation and adaptation projects, including resilient housing, renewable energy, green transportation, and water conservation. The Blue Green Bank will improve financing capacity and infrastructure that draws in other financing players such as banks, credit unions, pension funds, and insurance companies and will build the wider community's support of a more resilient and sustainable Caribbean region.



**Wetland ecosystems damaged by artisanal and small-scale mining operations in the Serranía de San Lucas, Colombia.**

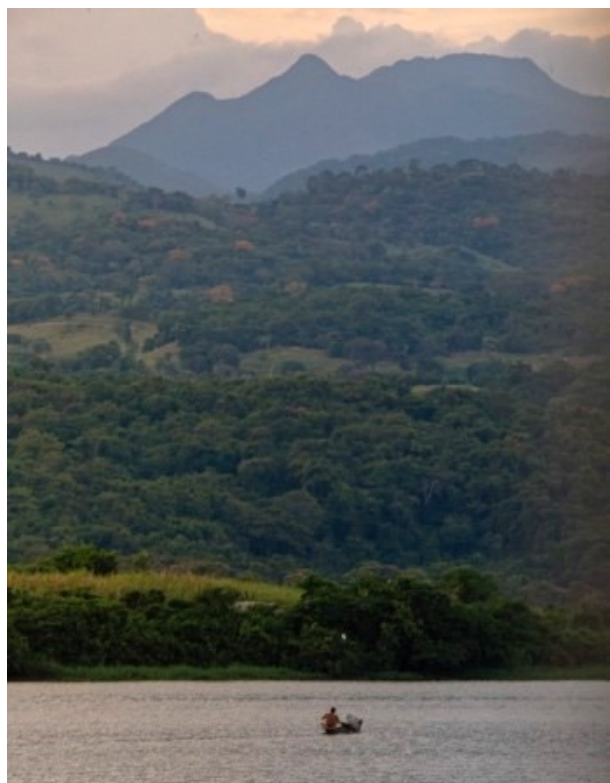


## Progress in Reducing Emissions from Deforestation and Forest Degradation

USAID/Colombia's [Tierra Dorada Activity](#) worked closely with Colombia's Ministry of the Environment and Sustainable Development Office of Sustainable Green Businesses, Regional Environmental Authorities of Chocó and Bolívar departments, and local communities to select the first three watersheds for designing conservation funding mechanisms through payment for environmental services with an implementation roadmap. The Tierra Dorada Activity aims to lower the threat to biodiversity from illegal artisanal and small-scale mining. The three micro-watersheds — Inanea, Platanal, and Caribona rivers — were prioritized because of their high conservation values, favorable conditions for working with small miners, and potential for results-based payment-for-environmental services projects. The projects will be co-financed through a private sector partnership with Mineros del Caribona Gold (Minecar Gold), a private gold mining company based in Sur de Bolívar, through a tax credit mechanism that enables companies to offset a percentage of their fiscal obligations by financing payment-for-environmental-services and public-works type projects.



The Tierra Dorada Activity is supporting the Annatto value chain, one of the productive chains with the greatest potential in the Chocó region of Colombia for the generation of income alternative to mining.



Simití, one of the municipalities in northern Colombia that is prioritized by the Tierra Dorada Activity, is nationally recognized for the rich biodiversity of its swamps.

## Natural Climate Solutions

“Natural climate solutions” refers to a set of approaches to reduce greenhouse gas (GHG) and sequester carbon by conserving and restoring natural ecosystems (tropical forests, mangroves, páramos, and wetlands) and sustainably managing ecosystems subject to diverse land uses. Those applying natural climate solutions work at the intersection of rural and urban natural areas. Well-managed landscapes and natural resources elevate people’s well-being and underpin sustainable development; thus, natural climate solutions support both climate and human development goals. Indigenous Peoples and local communities are key stakeholders and knowledge holders in addressing the climate crisis. Despite representing less than 5% of the world's population, Indigenous Peoples steward more than a quarter of Earth's land and seas and protect 80% of global biodiversity.

### Project Spotlight: USAID/Colombia’s Páramos and Forests Activity

The [Páramos and Forests Activity](#) builds on the Chemonics-implemented BioREDD+ (Biodiversity-Reduced Emissions from Deforestation and Forest Degradation Program) that prepared Afro-Colombian and Indigenous communities along Colombia’s Pacific coast to develop eight reduction of emissions from deforestation and forest degradation (REDD+) projects for the voluntary carbon market. Páramos and Forests supported Colombia’s climate mitigation goals concerning agriculture, forestry, and other land use sectors while enhancing community self-reliance and sustainable development post-conflict.

Páramos and Forests applied market-led approaches; leveraged public and private resources and partnerships and emphasized capacity building through governance and technical skills. The activity advanced conservation of strategic ecosystems, namely Pacific rainforests and high Andean *páramos* and forests, by promoting alternative livelihoods, conservation measures, and stronger governance to counter illegal timber harvesting and poor agricultural and livestock practices. In total, more than 12 million tons of carbon dioxide equivalent GHG emissions were avoided.

In high Andean ecosystems, the activity reduced GHG emissions by 32.4% by removing GHG from previously agriculturally used forest areas and peatlands, now undergoing active or passive restoration. The first carbon project in these ecosystems is in development through a partnership involving private landowners, the national non-profit Cataruben, and LATAM Airlines.

The BioREDD+ projects have spurred a surge in carbon finance, influencing national and international perspectives on the potential of the REDD+ mechanism. This momentum set the stage for payment-for-results schemes and carbon investment in the *páramos* to drive locally led sustainable development and advance peace and climate agendas. A realistic model for successful value chains, community enterprises, and livelihoods options that remove pressure from forests and *páramos* ecosystems has been demonstrated. These experiences offer a blueprint for other conservation projects to bring the benefits of private ecosystem services finance to some of the poorest areas in Colombia.

Chemonics convenes government officials, local and Indigenous communities, the private sector, academia, and civil society to assess climate risks and vulnerabilities and build systemic, landscape-wide solutions to climate and environmental challenges. We integrate scientific research into our technical solutions, assisting governments in developing action plans that meet their climate change adaptation and mitigation milestones. We also work directly with Indigenous communities to create enabling conditions to build their capacity to influence and lead climate solutions and to co-design nature-based livelihood diversification options as part of an adaptation strategy, such as incentivizing tropical dry forest conservation in Indigenous reserves in Colombia. Our multi-stakeholder approach focuses on advancing equity, mobilizing finance for nature, promoting conservation-oriented and deforestation-free value chains, and improving laws and governance.

## **Nature in Cities**

Natural ecosystems in the Latin America and the Caribbean (LAC) region are critical for global climate change mitigation and adaptation efforts. At a global level, forests in the region remove vast quantities of carbon dioxide from the atmosphere and store almost half of the above-ground carbon in the tropics. Cities and the people who live in them also depend on natural capital (e.g., forests, mangroves, and páramos) to mitigate and adapt to the impacts of climate change. However, natural capital and the essential ecosystem services it provides are often poorly protected and undervalued.

To address urban climate resilience challenges and identify opportunities to scale up promising financial models for climate adaptation and mitigation in the LAC region, the [Climate Finance for Development Accelerator](#) (CFDA) launched the [Climate Finance for Cities and Nature in LAC Activity](#). This activity explores financing models that link nature-based solutions with urban climate resilience and adaptation to bolster resilience of urban areas, reduce GHG emissions, and increase carbon sinks in high carbon ecosystems.

## **Embankment Feasibility Study in Bangladesh**

[The USAID Bangladesh Ecosystems/Protibesh Activity](#), implemented since 2021, focuses on protecting critical forests and estuaries from degradation in the Sundarbans mangrove forest. A UNESCO World Heritage site, this forest is home to the Royal Bengal tiger and part of critical forest and freshwater wetland ecosystems in the Sylhet border region in northeastern Bangladesh. Protibesh helps communities build long-term climate resilience by adopting climate-smart agriculture practices and learning business skills to diversify production and increase their incomes through alternatives to the current overreliance on unsustainable forest-based livelihoods.

Under a crisis modifier, Protibesh continued to implement the Embankment Feasibility Study and the northeast flood relief work. The study focused on nature-based solutions that could augment grey infrastructure coastal protection works in southern Bangladesh. Key takeaways of the study included recommendations for a pilot study to benefit government planners and implementers in maximizing return on investment in nature-based solutions activities and guiding future decisions on how and where to best use these solutions to augment coastal protection infrastructure.



**Located in northeast Bangladesh, Tanguar Haor, Sunamganj, is one of two Ramsar sites designated as ecologically critical by the government of Bangladesh.**

### **Pathfinders, Followers, Observers, and Disruptors**

During Fiscal Year 2023, USAID/Colombia's Productive Nature Activity team conducted a business model and production segmentation analysis of 12 prioritized value chains, assessing 37 companies' capacities, plans, and interests related to nature-based solutions. The analysis categorized 30% of the companies as pathfinders, 11% as followers, 43% as observers, 5% as disruptors, and 11% as not relevant due to low capacity and low interest in adopting nature-based solutions. The analysis also yielded valuable insights into companies' motivations for implementing nature-based solutions. Companies are keen to integrate nature-based solutions into their supply chains if these solutions ensure more resilient supply chains in the face of climate change, lower environmental impacts, or opportunities to enhance productivity or quality. Other factors include opportunities to capitalize on sustainable consumption trends or compliance with environmental regulatory requirements, such as the European Union's deforestation policies, to preserve and grow market share. The team will use this information to develop interventions that highlight these opportunities.

## Combatting Environmental Crimes

From illegal mining and logging to the trade of ivory and rhino horn, environmental crimes negatively affect the land, biodiversity, communities, and countries where they occur. Environmental crimes also negatively affect institutions and the rule of law, fueling corruption, violent crime, and influence peddling. Studies (such as by the insurance firm [Swiss Re](#) and the [World Wildlife Fund for Nature](#)) consistently show that the long-term value of environmental services and biodiversity — from food provision, water security, and intrinsic value to benefits to countries' economies and communities' health and stability — far outstrips the short-term gains that may seem to stem from environmental crime. Environmental crime ultimately leads to overconsumption and poverty. At Chemonics, we work with communities, mining organizations, Indigenous Peoples, and governments to better understand the costs of environmental crimes, improve monitoring and prevention measures, and strengthen judicial processes for greater accountability. Our projects use technology, advocacy, and networking to help wildlife, ecosystems, governance, and local livelihoods survive and thrive across the globe.

### **Project Spotlight: VukaNow Catalyzing Collective Action to Combat Wildlife Crime in Southern Africa**

From 2018 to 2023 [VukaNow](#) worked with USAID implementing partners, the Southern African Development Community, national government agencies, and local communities to reduce poaching and the illegal trade in wildlife. VukaNow's approach was rooted in collective impact theory: the idea that with the right connections and information, collective action by stakeholders and partners will be greater than the sum of their individual efforts. To provide this support and catalyze collective action, VukaNow served as a backbone organization driving four pillars of collaboration: a common agenda, shared measurement systems, mutually reinforcing activities, and continuous communication. With this approach, VukaNow worked across a range of activities, including:

- Conducting research and studies on poaching “hotspots,” cultural norms relating to wildlife, and the impact of the illegal wildlife trade on regional, national, and local economies
- Hosting learning and sharing events — the “Special Platforms for Action, Reflection, and Collaboration in CWC (SPARCC)” series that addressed partner needs and critical topics like countering corruption and engaging communities in countering wildlife crime
- Developing tools and technologies, such as predictive poaching risk models to locate virtual fences in Kafue, Zambia, and the “Eye in the Sky” vulture tracking application with SANParks in South Africa
- Creating an online database, eVukaLearn, to build the capacity of judiciary, customs, and park management officials to combat poaching and illegal wildlife trade
- Strengthening forensics capacity in by training laboratory staff, upgrading critical forensic facilities, and developing reference databases, such as the Lion Localizer and ForCyt
- Supporting wildlife crime policy, working with the Southern Africa Development Community on law enforcement and anti-poaching strategies and mutual legal assistance protocols
- Developing wildlife crime networks, like the Monitoring, Evaluation, Learning, and Communications working group, African Wildlife Forensic Network, and journalism fellowship

## **Enhancing Forensic Capacity in Southern Africa**

With the TRACE Wildlife Forensics Network, VukaNow worked with southern African governments to establish or support national wildlife forensic laboratories to more efficiently produce evidence admissible in court. By the end of the program, VukaNow had assisted Eswatini, Malawi, Namibia, and Zambia to build human resources and material capacities in forensics and provide mentorship and training on operating procedures and forensic techniques. For example, through a grant to the All Out Africa Foundation, and in collaboration with the South African National Biodiversity Institute, VukaNow helped establish EWILD at the University of Eswatini — the first forensic laboratory in Eswatini that has significantly improved the country’s ability to process forensic evidence from wildlife crimes. VukaNow also supported the Victoria Falls Wildlife Trust to draft and implement the Protocols for Species ID and Geographic Origin of Elephants and create a biobank of 64 DNA samples for research and comparison, both of which are now in routine use.



**Working with the University of Illinois, VukaNow assisted in the creation of an open-source Lion Localizer website to assist forensic laboratories in identifying the geographic source of confiscated trafficked lion products.**

## **Empowering Prosecutors to Safeguard Marine Life in Tanzania**

USAID/Tanzania's [Heshimu Bahari Activity](#) teamed up with TRAFFIC, an international NGO, to train prosecutors on effective implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The training focused on marine resources and wildlife — marine turtles, whales, dugong, sharks, rays — to equip prosecutors with techniques to tackle criminal networks' poaching of endangered marine life, leading to biodiversity loss, environmental degradation, economic loss, and corruption. The main purpose of the training was to increase awareness of the extent and impact of wildlife crime and inspire this key constituency to vigorously prosecute these types of crimes, leading to convictions and the clear message to the public that wildlife crimes will not be tolerated in Tanzania.

## **Harnessing Predictive Analytics to Combat Poaching**

Using a range of variables and data, including image identification, topographic information, and historical incident data, VukaNow worked with South African partner the Awareness Company to develop a predictive modeling algorithm to identify high-risk poaching areas. With a promising 98.5% accuracy for the first iteration model using non-temporal information from existing park data, a second version was developed with additional temporal variables, such as moon phases and weather, to produce more time-bound forecasts. A third iteration incorporated socioeconomic data from surrounding areas, and a fourth added aquatic conditions of areas near bodies of water. This work was part of a grant to Game Rangers International in Kafue National Park to enhance the existing "virtual fence" across Lake Itzhi-Tezh with machine-learning to automate the detection of boats crossing into the park. The work has freed up park control-room operators — who had been bogged down in reviewing large quantities of images to confirm alerts — to focus instead on other tasks, like updating the data model for the Spatial Monitoring and Reporting Tool (SMART) tool to track incursions into the park and visually display data in EarthRanger. The availability of more data and advanced analytical tools empowers park managers to enhance patrol planning and prioritization. This enhancement enables a clearer understanding of vulnerabilities to poaching and trafficking, facilitating more effective and proactive measures to safeguard wildlife populations.

## Inclusive, Community-Based Approaches

Community-based approaches to conservation, natural resource management (NRM), and climate change promote the idea that long-term conservation success requires engaging with and providing benefits for local communities. Chemonics invests in people, systems, and practices to facilitate the exchange of ideas and best practices in inclusive development. Below, we include examples from 2023 that show how we advance inclusive development by promoting Indigenous Peoples' rights, forging partnerships with and recognizing the diverse contributions of all persons, creating safe spaces and promoting the rights of communities, and investing in positive youth development.

### **COCOA: Creative Options Creating Operational Agreements**

In collaboration with local grantee [Asociación Nacional Cacaotera de Colombia](#) (Red Cacaotera), [Amazon Alive](#) established 60 conservation agreements with cocoa producers in Puerto Rico and Florencia (Caquetá). This initiative is driving the conservation and restoration of 1,614 hectares, with 854 hectares already showing improved biophysical conditions. Amazon Alive provided biodiversity conservation training to 253 individuals, supported sustainable livelihoods for 178 people, and facilitated the creation of two community-based monitoring groups involving 66 members, including children and youth. These efforts have contributed to increased awareness and sustainable resource management in the area.

### **What's That Smoke? Building Resiliency Through the First Responders Initiative**

Under the First Responders initiative, Amazon Alive created 12 first responder groups in Guaviare, trained 113 people in wildfire prevention and first aid, launched the [Salvemos la Selva campaign](#) in coordination with Ministry of Environment and Sustainable Development, and established two municipal wildfire response roadmaps, which were endorsed by the mayor's offices of Miraflores and El Retorno.



Salvemos la Selva campaign material.

### **Inclusive Management for the Limpopo River's Largest Dam**

[Resilient Waters](#) worked with Mozambique's Southern Regional Waters Administration to put inclusion and equity at the center of decision-making for a master plan for the Massingir Dam — the Limpopo River Basin's largest dam. Resilient Waters facilitated participatory, multi-stakeholder consultations at the international, national, and municipal levels, convening



traditional leaders and men, women, and youth from agricultural producers, associations, and fisheries within impacted areas. To encourage meaningful attendance and participation, the meetings were advertised via newspapers, posters, and community radio; translated to Changana; and designed to include illustrations and maps that helped the diverse audiences better understand the discussions. The final master plan formalized the creation of a local dam management committee, including members representing youth and women. The committee's structure institutionalizes equity and inclusion at the center of dam management so these key stakeholders, who are often underrepresented, will continue to participate meaningfully in dam management. This committee for the Massingir Dam master plan has set the bar for what inclusive management should look like in other master plans and in Mozambique generally.



**Aerial view of páramos within the Guambia Indigenous Reservation in the Western Andes of Colombia (Cordillera).**

### **Addressing Gender Issues in Mining**

We support the meaningful participation of women as a priority in all our programs and in commemoration of International Women in Mining Day, on June 15, the [Tierra Dorada Activity](#)'s communications team produced two videos amplifying the voices of women gold panners. In the videos, women share testimony highlighting needs and challenges related to gender issues in mining. Tierra Dorada gathered these testimonies from women who work in gold panning during an event organized in partnership with USAID's Women of Gold program and Mineros Colombia in El Bagre. The challenges the women shared include gender-based discrimination that results in fewer job opportunities and barriers to participating in gold mining.

## Project Spotlight: How Carbon Markets Support Communities in Colombia

In 2023, Chemonics, with technical support provided by Akorde Media based in Colombia, produced a [docuseries](#) to spotlight how nature-based carbon offset projects in Colombia have supported community-led development that opens up livelihood options, conserves biodiversity, and strengthens inclusive governance and sustainable land use. This series was informed by Chemonics' experience from more than 10 years of implementing climate change, biodiversity conservation, and NRM projects in Colombia: [Páramos and Forests](#); the [Natural Wealth Program](#); [BioREDD+](#); [Oro Legal](#); [Amazon Alive](#); the [Tierra Dorada Activity](#); and the Productive Nature Activity. This [Foreign Policy article](#) by Brian App summarizes the docuseries:

*Carbon is everywhere, and locally led carbon projects have the power to support communities' sustainable development while contributing to global climate action and biodiversity conservation. With growing revenues in carbon markets, and a growing demand for countries and companies to address climate change with greater urgency, carbon markets have gained significant attention recently. The global community is pressuring emitters to reduce, not just offset, emissions, and demanding that carbon projects be more transparent, share benefits more equitably, and adhere to more rigorous standards. Addressing these issues is top of mind for countries and corporations alike, and carbon finance is expected to be a major topic at the COP28 currently underway.*

*Over the past ten years, Chemonics implemented several USAID-funded climate change, biodiversity conservation, and natural resource management projects in Colombia that have supported people-centered carbon projects in one of the world's most biodiverse countries. Carbon markets offer a range of opportunities to the people of Colombia: supporting the indigenous Misak people in the high Andes to reconnect with their traditions; encouraging ranchers in the eastern plains to improve sustainable practices and enhance revenues through conservation; and allowing Afro-Colombian communities on the Pacific coast to invest in the health and livelihoods of their community. The documentary below features the voices of Colombia's carbon stewards – including private landowners, Indigenous and ethnic groups, and rural communities – who have played a central role in the identification, design, and implementation of these carbon projects.*

*For carbon projects to succeed there needs to be trust on all sides. Carbon credits need to be closely scrutinized, validated, verified, and open to the public. As the scientific methodologies and reporting requirements supporting carbon markets become more rigorous, nature-based carbon projects must also evolve. This evolution should be underpinned by supporting the stewards of carbon to take leadership roles in climate action.*

*More than generating high-quality credits, Chemonics takes a “development first” approach to carbon markets, where carbon markets are vehicles for resource transfers to support those most impacted by climate change to finance their own vision for sustainable, local development. For Ana Clemencia Aranda, a teacher in the Guambia Indigenous Reservation in the Western Andes and member of the Misak community, the pressures for unsustainable conversion of the land must be met with viable alternatives for conservation to succeed: “If this is our life's blood, how are we going to maintain it? What if we receive a payment for the environmental services our páramos produces?” With the promise of carbon markets, the Misak have begun to restore the páramos and invest in community-driven education.*

This docuseries also influenced a panel discussion at COP28 focused on Accelerating Women-Led Nature-Based Solutions to Climate Change event, organized by Foreign Policy. Luis Fernando Jara represented Chemonics on the panel, highlighting interdisciplinary themes related to climate change, including social and gender inclusion, finance and markets, natural climate solutions, cities, and more.

## Blue Economy Initiatives

Chemonics' blue economy initiatives, grounded in science-based methodologies, prioritize inclusive models for locally driven marine and freshwater biodiversity conservation. We support countries dedicated to the global goal of protecting 30% of marine areas by 2030. Our projects empower communities to co-manage marine protected areas; combat illegal fishing; and monitor and protect endangered, threatened, and protected species. In Bangladesh, Colombia, and East Africa, we implement nature-based solutions that improve climate change adaptation, facilitate investment in **blue carbon systems**, and regenerate essential ecosystem services. We scale up blue carbon and coastal resilience projects and foster innovative buyer-linked approaches, establishing partnerships with industries like sustainable seafood and ecotourism to mobilize resources for sustainable blue economies.

Sadiki Laiser, Chemonics' chief of party on the USAID Heshimu Bahari Activity, says:



**Tanzania's coral reefs.**

**“I have a distinct memory of seeing youth and women, often with children on their backs, earning their living fishing from the sea. This experience energizes me to support policy and partnerships that will restore and sustainably manage these same resources for future generations.”**

### **Making Waves with Science-Based Approaches**

Tanzania's coral reefs rank among the 50 most climate-resilient reefs in the world based on their biological and oceanographic attributes. Tanzania's coastal and marine environments encompass a diverse array of coral reefs, seagrasses, open-ocean pelagic habitats, and mangroves. The ecosystems are home to species such as the dugong, sea turtles, sharks, and rays and are the foundation for a variety of livelihoods, including artisan fishing, aquaculture, and marine tourism activities. Unfortunately, overfishing, poorly planned infrastructure projects, climate change, lack of financing and underdeveloped governance systems threaten not only these ecosystems but people's livelihoods and food security.

The USAID/Tanzania [Heshimu Bahari Activity](#) puts science at the forefront of efforts to advance co-management approaches of marine areas and wild-caught fisheries in Tanzania. The activity conducted artisanal fishing pattern mapping, benthic ecological surveys, and socioeconomic surveys to identify priority areas for no-take fisheries replenishment zones and protect vital fish life-cycle processes (e.g., spawning and juvenile development). Management plans for the zones consider factors like size and remoteness, ecological connectivity, duration of closures, and community acceptance.

## Safeguarding Shores with Blue Carbon Investments

Blue carbon systems are some of the richest carbon stores on the planet, and the recovery, restoration, and protection of coastal systems, including mangrove and seagrass, could remove 0.4 to 1.2 billion tons of carbon dioxide equivalent per year globally. Coastal wetlands have annual soil carbon burial rates that are 30 times to 50 times greater per hectare than those of terrestrial forests. Likewise, it is essential to protect and restore coastal ecosystems to reduce coastal communities' vulnerability to climate change while generating additional ecosystem service benefits like food security and biodiversity protection. [Coastal Resilience, Carbon, and Conservation Finance \(C3F\)](#), in partnership with the [Ocean Risk and Resilience Action Alliance](#), is creating an efficient, replicable mechanism for USAID missions to identify, develop, and facilitate investments in blue carbon and coastal resilience and support local stakeholders in getting projects ready for equitable, transparent, and sustainable partnerships with international capital providers. C3F connects missions with specialists and tools to identify ideal financing strategies and high-impact areas for restoration and conservation based on ecological, hydrological, social, and policy factors and to understand local political and legal issues (including land rights) that can affect project feasibility.

### From Mangroves to Menus!

The Heshimu Bahari Activity organized a study tour for managers of Tanzania's marine managed areas. At Kenya's Watamu Marine National Park and Reserve, they met with the "Crab Sharks" community project. Here, the community partnered with a local investor to launch a seafood restaurant along mangrove boardwalks. *Menu feature?* Crabs, cultivated and fattened by the community, turning mangrove regeneration and conservation into a locally led business.



**Seafood restaurant in Kenya's Watamu Marine National Park and Reserve.**

## Innovation and Technology for Environmental Solutions

Our approach to environmental innovation and technology centers on fostering sustainability and community engagement. Through initiatives that include citizen reporting tools and information systems, we strive to empower communities and enhance data-driven decision-making for effective environmental management. Our involvement in global partnerships, such as [SERVIR](#), reflects our commitment to leveraging technology for broader climate resilience and environmental solutions on local and global scales. We implement traceability systems for sustainable supply chains — such as soy in Argentina — to build more transparent, sustainable, and accountable global supply networks.

### Transparency and Traceability for Deforestation-Free Soy

Argentina's largest ecoregion, the Gran Chaco, is home to 60% of the country's native vegetation and the habitat for a great variety of animal and plant species. The expansion of the agricultural frontier — mostly driven by soy production — has caused immense environmental and social losses of natural capital in the region, which is now a global deforestation hotspot and one of the poorest and most environmentally sensitive areas in Latin America. Through the Chemonics-implemented [Land Innovation Fund for Sustainable Livelihoods](#) financed by Cargill, partners are establishing an innovative tracking and monitoring platform, [ViSeC \(Sectoral Vision for the Argentine Grand Chaco\)](#), to consolidate tracking and verification of soy and other commodities along the supply chain from farm to end buyer. ViSeC integrates sustainability parameters and requirements for the sale of soy, helping stakeholders access data in a transparent, reliable, and publicly accessible manner. In December 2023, the first shipment of certified deforestation-free Argentine soy was sent to Spain. Ultimately, ViSeC will monitor and verify all soy products sold in the country. Carlos Quintela, Director of the Land Innovation Fund, [says](#):

“We know that complex issues require innovative solutions along multiple avenues ... We want to be catalysts for innovation towards a green, climate-smart economy.”



The Land Innovation Fund funded Agrorobótica applies a novel soil analysis approach in the flat, dry soy fields of Bahia in northeastern Brazil.

## Monitoring Environmental Crimes in Wetlands Through Encrypted, On-the-Ground Reporting

In 2023, the [TIMBY](#) encrypted mobile application was rolled out in the Hakaluki Haor region, one of Bangladesh’s largest wetlands, among 452 community members. Focusing on youth, [the USAID Bangladesh Ecosystems/Protibesh Activity](#) trained village conservation groups and youth clubs in observation-recording using smartphones. Citizens can report on threats such as illegal fishing, over-extraction of resources, land use change, siltation, and destruction of swamp forests. By the end of the year, 92 observations had been recorded. The activity also trained Ecologically Critical Areas committee members on how to use the recorded information for decision-making. Issues can be flagged for Bangladesh’s Department of Environment, Department of Fisheries, Department of Forestry, law enforcement, policymakers, and the media, to determine priorities based on the data as collected.

## New SERVIR Website: Connecting Space to Village

SERVIR is a NASA and USAID partnership that supports locally led efforts to strengthen climate resilience, food and water security, forest and carbon management, and air quality. Chemonics and partner Bixal provide communications services. We developed SERVIR’s website which showcases the breadth and impact of SERVIR’s global network. Implemented by a global network of applied research



Overview of the “Connecting Space to Village” resource, part of SERVIR.

organizations across four regional hubs in Africa, Asia, and Latin America, SERVIR collaborates with communities of all sizes — from sub-national and national to regional — in developing locally led solutions to each region’s unique challenges. The newly designed website includes pages highlighting SERVIR’s work across five service areas — which are [agriculture and food security](#), [water security](#), [ecosystem and carbon management](#), [weather and climate resilience](#), and [air quality and health](#) — and two critical crosscutting areas — which are [climate change](#) and [gender equality and social inclusion](#). The redesigned website also includes the updated and fully integrated [SERVIR Service Catalog](#) and a new and growing [resource library](#) to simplify searching for SERVIR resources, information, and tools.

## **Biodiversity Innovation Lab for Market-Driven Nature-based Solution**

In Colombia, the Productive Nature Activity is elevating the role of private sector engagement and market-driven nature-based solutions to preserve Colombia's ecosystems and ecosystem services and increase climate resilience. The team is designing a Biodiversity Innovation Lab for this new activity. The lab will soon launch as an innovation hub, identifying and incubating promising technology and innovation startups that provide transparent and secure data and information for decision-making across the target value chains of cocoa, cattle ranching, and non-timber forest products. The lab will provide technical assistance to incubate cost-effective solutions for biodiversity monitoring, information systems for collecting data related to nature-based solutions' implementation, and product traceability technologies.



**The Andean Forest is known for its high levels of biodiversity, housing endemic plant and animal species found nowhere else on Earth. It plays a crucial role in regulating water flow, providing habitat for wildlife, and supporting local communities through resources such as timber, medicinal plants, and water. The Productive Nature team prioritized socioecological conservation clusters within target landscapes. Under this approach, the team will implement nature-based solutions in the Andean region to maximize impact and results.**

## Conclusion

From evaluating land use and soil conservation activities in the late 1970s and early 1980s to implementing the large regional programs to improve watershed management and combat the wildlife crime of today, improving environmental and natural resource work around the world is at the core of what we do. This report provides a snapshot in time that highlights recent and ongoing work across seven themes reflecting current areas of interest and conversation in the ENR sector. Although our programs are crosscutting and do not fit into any one theme alone, we hope this presentation facilitates knowledge sharing and allows the reader to focus on areas of particular interest. At Chemonics, we pride ourselves on work that reflects community partnerships, innovation, and collaboration in promoting resilience, sustainable practices, and mutual prosperity for people and the environment. This report shares highlights of the past year, yet we are always looking forward to the next challenge, opportunity, and innovation to foster positive change on local, national, and global scales.

### CONTACT INFORMATION

For more information, see Chemonics' [Environment and Natural Resources webpage](#).

**About Chemonics:** Founded in 1975, Chemonics is an international development consulting firm. In more than 100 countries around the globe, our network of approximately 6,000 specialists shares a simple belief: that the challenges we face today are best solved through the right partnerships – sharing knowledge, expertise, and experience to deliver results. Where Chemonics works, development works. Follow us on [Facebook](#) and [Twitter](#) or visit us at [www.chemonics.com](http://www.chemonics.com).