



ADAPTATION FUND

# Nature-based Solutions for Climate Change Adaptation

**N**ature-based solutions benefit vulnerable communities by conserving, managing and restoring ecosystems and reducing climate change risks, while enhancing people's lives and livelihoods.

Climate change is contributing to a collapse in global biodiversity and ecosystems across nature. Nature-based solutions use biodiversity and ecosystem services as part of an overall adaptation strategy for tackling and reversing these challenges of climate change.

These solutions protect, sustainably manage and restore natural systems to maintain healthy ecosystems and promote resiliency, as well as reduce the impact of anticipated negative effects of climate change. Nature-based solutions not only address societal challenges effectively and adaptively but simultaneously provide human well being and biodiversity benefits.

**Enhancing natural systems and protections supports resilience to climate change, natural disasters and health challenges.**

Adaptation Fund projects employ nature-based solutions and ecosystem-based adaptation to help vulnerable communities adapt to the impacts of climate change. They build climate

*Ecosystem rehabilitation in the marshlands to reduce risk and vulnerability to climate change in the region of La Depresión Momposina in Colombia. An AF-funded project was later scaled up by the Green Climate Fund. (Photo by United Nations Development Programme)*

resilience and healthy natural systems that help protect against environmental, health and economic risks, while supporting biodiversity and sustainable development. Projects funded under the Adaptation Fund portfolio include, among others, activities focused on reforestation, forest protection, sustainable forest management, avoided fuel harvest, improved plantation, conservation agriculture, cropland management, agroforestry, avoided grassland conversion, rangeland management, improved livestock management practices, rehabilitation/ restoration of coastal wetlands, sustainable surface water and groundwater management, and aquifer recharge measures. These efforts make agriculture, water access, and protections against sea rise, floods, disasters and outbreaks more sustainable, healthy and natural.

The Environmental and Social Policy (ESP) of the Fund ensures that projects and programs supported by the Fund conserve biological diversity, lands and soil and, protect natural habitats through its core principles.

**Many of the Fund's projects and programmes result in conservation, restoration and sustainable management of ecosystem services.** Over 20% of the Fund's portfolio is now fully committed to increase ecosystem resilience in response to climate change. The Fund also supports innovative approaches using nature-based solutions that will enhance knowledge and capacity building of involved stakeholders throughout its projects and programmes.

"The ecosystem based adaptation project has benefitted our community with practical expertise and knowledge of how to protect and preserve our environment using Nature-based Solutions, allowing nature to restore nature." — Mr. Gonzalves Pool, Chairperson of the Seychelles project's Caiman Watershed Committee

## NATURE-BASED APPROACHES



Mangrove restoration fights coastal flooding and restores ecosystems, offering natural protections against sea level rise and storm surges



Restoring canals conserves water, reduces soil erosion and increases food security



Sustainable land use promotes biodiversity as it improves food security and health for vulnerable communities



Smart Forestry creates income that provides access to health care



Healthy aquatic eco-systems yield sustainable fisheries and better health outcomes for coastal communities

# Nature-based Solutions in Adaptation Fund Projects

## CONSERVATION

■ In **Belize**, an AF project has adopted an ecosystem-based marine conservation approach that targets project beneficiaries to adopt alternative livelihoods and reduce dependency on traditional fishing for household income, strengthening the climate resilience of the Belize Barrier Reef System in the process. Activities include improvement of coral reef protection through expanded marine protected areas and coral out planting.

■ In **El Salvador**, an AF project is promoting a landscape approach towards increasing forest cover, improving the hydrological cycle, increasing the amount of available water, and regulating surface and groundwater flows, while maintaining and improving water supply and quality. Critical ecosystem services in forest landscapes will be restored and enhanced to better manage climate change impacts through forest landscape restoration, sustainable agriculture and integrated water resources management.

## SUSTAINABLE LAND MANAGEMENT

■ In **Indonesia**, an AF project works to ensure sustainable forest management and food security in the upper watershed through the development of forest-food diversification activities and enhancement of forest cover quality in a priority watershed. The community-based forest management approach of the project will contribute to increased land cover and also reduce community land conversion activities while rehabilitation efforts under the project will support the increase of people's incomes through forest-generated food. Rehabilitation of mangroves will help in preventing flooding, erosion of ponds along the river bank, and restore the pattern of river flow that has changed over time.

■ In **Tajikistan**, an AF project aims to employ Ecosystem Based Adaptation (EbA) interventions such as erosion control measures, agroforestry and sustainable pasture management that will restore ecosystem services for flood reduction, soil stabilization and increased water availability. By promoting EbA interventions in the upstream areas, the project works to reduce downstream flood impacts.



A woman prunes trees in a community protected area to safeguard key areas of forest in rural Cambodia. (Photo by UNDP/Hannah McNeish)



Youth planting mangroves and monitoring marine life to protect coastlines from sea surges and flooding. (Photo by Cuba Environment Agency)

## BY THE NUMBERS

407,232  
HECTARES OF NATURAL HABITAT  
RESTORED/PRESERVED

161,775  
METERS OF COASTLINES  
PROTECTED

128.3 Million  
ALLOCATED TO INCREASING ECOSYSTEM RESILIENCE IN  
RESPONSE TO CLIMATE-INDUCED STRESS

## RESTORATION OF ECOSYSTEMS

■ In **Mauritius** and **Seychelles**, AF projects are increasing climate resilience at both regional and local levels by implementing coral reef restoration with thermally tolerant corals as adaptation to climate change. The health of degraded reefs will be restored, through active restoration work, maintenance and monitoring efforts, leading to greater protection of shorelines from flooding and storm damage. The project will develop sustainable partnerships and community-based, business-driven approaches for reef restoration, establish coral farming and nursery facilities, and actively restore degraded reefs.

"It helps the villagers to see there's still some forest intact for the future generation, and now I have money I can put towards my children's education and my family's health." — **Ms. Kim Pheng, beneficiary of AF-funded Cambodia project, which utilizes reforestation, community gardens and improved water systems**

"Nature-based approaches are less harmful to the physical environment and strive to preserve the ecosystem services and functions that support basic human needs. They work because local communities are inclined to protect critical habitats when they understand that these resources can build resilience and reduce disaster risk." — **Ms. Betty Victor, Seychelles project manager**

■ In the **Federated States of Micronesia**, an AF project seeks to provide communities with the resources and support needed to implement successful ecosystem-based adaptation actions to protect their marine ecosystems. The project is taking concrete ecosystem-based adaptation actions to reduce climate change vulnerability and develop effective local fisheries management plans and marine protected areas plans as well as designate protected areas. Improved fisheries management and locally managed marine areas will enhance biodiversity and fish biomass, improve livelihood and food security, and demonstrate scalable approaches for other sites in Micronesia and the Pacific.