



Ecosystem-Based Adaptation for Water Resource Protection

Advisory service

The Challenge

Biodiversity loss and climate change are intertwined existential threats to humanity, with their effects felt worldwide, particularly through water-related issues: too much water, too little water or deteriorating water quality. Glaciers are melting, freshwater supplies are dwindling, and precipitation rates and groundwater levels are dropping. Extreme weather events such as droughts, heavy rainfall and flooding are becoming more frequent. The negative impacts on ecosystems, agriculture, livelihoods of many people - especially of vulnerable groups, economic development, and security are becoming increasingly apparent. To prevent escalating damage, governments, societies, and the economies must adapt. The cost of repairing damage is two to ten times more expensive than investing in timely preventive adaptation measures. Strategic investments in conserving, sustainably managing and restoring freshwater ecosystems, which help mitigate the effects of droughts or floods are crucial for climate change adaptation. Given the scarcity of public resources, adaptation investments must systematically integrate proven approaches with new technologies to deliver clear value for money.

Our approach

We promote integrated solutions for healthy ecosystems, climate change adaptation, and water resource protection to enhance the resilience of people, societies, and habitats while reducing the risk of water-related conflicts. To achieve this, GIZ collaborates with a wide range of partner institutions and organizations from local to global levels - ranging from governments, UN agencies, NGOs, and research institutes, to local communities. To promote Nature-based Solutions and Ecosystem-based Adaptation (EbA) measures, we facilitate knowledge exchange on “what works, where and why,” sharing lessons learned from the field. We also provide methods and practical

tools to facilitate the planning, implementation and monitoring of climate change adaptation measures, including effective nature-based solutions. This includes improved management of key ecosystems - such as wetlands, forests, mangroves, or rivers - that are vital for freshwater supply and flood control.

Our services

Our advisory services are tailored to the specific needs and conditions of our partner countries and their policy frameworks. We advise governments, policymakers, local implementers, including private sector and civil society actors, in the following areas:

- *Policy advice, mainstreaming and planning:* We support the use of relevant information for [climate risk assessments](#) and provide advice on the integration of EbA into climate, biodiversity and water-related policies, plans, and strategies such as sustainable development plans, National Adaptation Plans (NAPs), and National Biodiversity Strategies and Actions Plans (NBSAPs). Our expertise also extends to advisory services in the field of [infrastructure planning](#) through our “[Service Facility for Risk Assessment and Resilience of Infrastructure Investments](#)”.
- *Implementation support and capacity building:* We promote the implementation of EbA measures in line with internationally agreed frameworks and guidelines, such as the [Voluntary guidelines for the design and effective implementation of EbA](#) adopted by Parties to the Convention on Biological Diversity (CBD). Our capacity building efforts raise awareness and knowledge on [valuing the costs, benefits, and impacts of EbA](#), [governance](#) topics such as [climate justice](#) conscious, and [gender responsive EbA](#). We also offer [e-learning formats](#) to enhance accessibility.
- *Finance:* We assist in establishing sustainable funding mechanisms and accessing global funds, including the Green Climate Fund. We also collaborate with the pri-



vate and financial sectors on [EbA finance and insurance solutions](#) and provide our expertise on [Monitoring and Evaluation \(M&E\)](#) of EbA projects to support planners and practitioners in understanding the outcomes and impacts of EbA measures.

- *Knowledge exchange:* As active members of national, regional and international networks and partnerships such as the [Friends of Ecosystem-based Adaptation \(FEBA\) Network](#), the NAP Global Network, and other global partnerships supporting ambitious climate and biodiversity action, we facilitate effective knowledge exchange and the scaling up of EbA measures. We also provide guidance for aligning policies and plans, including NBSAPs and NAPs, for greater impact.

The benefits

GIZ has extensive expertise in climate change adaptation, ecosystem conservation, and the valuation of water-related services. We have supported over 70 EbA and EbA-relevant projects in more than 65 countries.

Our longstanding portfolio spans many fields of expertise, including forestry, agriculture, biodiversity, urban development, and integrated water and coastal zone management, enabling us to address climate change adaptation, biodiversity conservation and water resilience through integrated approaches. We also facilitate communities of practice such as [adaptationcommunity.net](#) and [PANORAMA Solutions for a healthy planet](#).

Examples from the field

Climate change has long been a reality in the High Andes of Peru and Ecuador: the glaciers are melting; droughts and floods are becoming more frequent. The countries' largest wetland reservoirs are coming under increasing pressure from climate change and agriculture, with adverse effects for drinking water and hydropower supply. Water for irrigation in agriculture is becoming scarce and the unique biodiversity of the High Andes is under threat. Since 2020, GIZ has been working on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) to protect and rebuild the ecosystems of the High Andes. In collaboration with the Ecuadorian Government, local communities, and smallholders, a new water protection area covering 4,500 hectares has been created and a further 1,800 hectares are currently being restored.

With its partners in Peru, GIZ is putting to use additional financial resources from the Green Climate Fund (GCF). Local communities now have access to a new fund to restore wetlands, highland pastures, and water supply points. The fund also aims to attract private sector investors, ensuring the long-term protection of the Peruvian Puna ecosystem in the High Andes. More than 60,500 people directly benefit from the improved management of this ecosystem.

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