

Environmental Defense Fund – 25 Years Connecting Climate Resilience, Biodiversity Conservation, and Sustainable Livelihoods in the Caribbean

Resiliencia Climática, Conservación de la Biodiversidad y Medios de Vida Sostenibles en el Caribe

Résilience Climatique, Conservation de la Biodiversité et Moyens de Subsistance Durables dans les Caraïbes

EDUARDO BONÉ-MORÓN
Environmental Defense Fund (EDF)
ebone@edf.org

EXTENDED ABSTRACT

For over two decades, the Environmental Defense Fund (EDF) has played a central role in advancing climate resilience, biodiversity conservation, and sustainable livelihoods throughout the Caribbean. Working with scientists, governments, civil society, and coastal communities, EDF promotes evidence-based strategies for sustainable fisheries management, nature-based climate adaptation, and equitable energy transitions. The organization's regional experience demonstrates that collaborative governance and community-led approaches can safeguard marine ecosystems while improving human well-being. EDF's efforts across countries such as Cuba, Belize, Mexico, Puerto Rico, and The Bahamas show how regional cooperation and shared learning can deliver practical, scalable solutions for the sustainable management of marine resources and the resilience of Caribbean societies.

INTRODUCTION

The Caribbean is one of the most biologically diverse and culturally rich regions in the world, yet it faces severe environmental pressures that threaten the sustainability of its ecosystems and economies. Climate change, habitat degradation, overfishing, and coastal development increasingly endanger both biodiversity and the livelihoods of millions of people. These challenges are compounded by the region's geographic vulnerability to hurricanes and sea-level rise, which place additional stress on communities and natural resources.

In response to these challenges, EDF has developed long-term partnerships across the Caribbean that combine science, policy innovation, and community engagement. Since the late 1990s, EDF has collaborated with local partners to strengthen fisheries management, promote ecosystem-based adaptation, and support transitions toward renewable energy. The organization's regional footprint spans multiple islands and coastal nations, with a consistent focus on bridging scientific knowledge with local priorities and governance frameworks. This integrated approach seeks to create lasting environmental and social benefits, ensuring that conservation and development move hand in hand.

METHODS /APPROACH

EDF's approach to marine conservation and climate resilience in the Caribbean is grounded in collaboration and adaptive management. Rather than relying on isolated interventions, EDF emphasizes co-designing solutions with national institutions, scientists, and resource users. This participatory model ensures that initiatives respond to local realities and are capable of long-term sustainability.

Science-based fisheries management forms a cornerstone of EDF's work. Through partnerships with universities, fisheries departments, and community organizations, EDF helps build capacity to collect and analyze data, establish catch limits, and design management plans based on ecological and socioeconomic indicators. These processes strengthen governance and empower fishers as key actors in stewardship.

Another defining feature of EDF's regional strategy is its promotion of ecosystem-based adaptation (EbA). By integrating mangrove restoration, coral reef protection, and sustainable coastal planning, EbA projects provide natural buffers against climate impacts while enhancing biodiversity and supporting livelihoods. In many cases, these interventions are accompanied by education, training, and monitoring components that ensure communities can maintain and expand the results.

EDF also works at the interface between conservation and clean energy. Recognizing the vulnerability of island nations to energy disruptions, the organization supports initiatives that combine environmental and social objectives, such as community-based solar energy systems that strengthen resilience to extreme weather events. Together, these efforts represent a holistic model that addresses the interconnected challenges of conservation, climate, and equity.

RESULTS AND DISCUSSION

Over 25 years of engagement, EDF's work has contributed to tangible improvements in marine governance and coastal resilience across the Caribbean. Collaborative processes have led to stronger management frameworks that integrate science with community knowledge. In several countries, the inclusion of ecosystem-based management principles into fisheries policies has helped shift from resource exploitation toward stewardship and sustainability.

EDF's partnerships have also fostered the creation of regional learning networks that facilitate the exchange of experiences among practitioners, governments, and academic institutions. These networks help disseminate successful practices, promote innovation, and align local actions with broader regional and international goals. The resulting cross-pollination of ideas strengthens both the technical and institutional capacity required to address shared environmental challenges.

Importantly, EDF's experience highlights that the success of conservation initiatives in the Caribbean depends on the social legitimacy of environmental actions. Projects that engage fishers, community leaders, and local institutions from the outset are more likely to endure and adapt to changing conditions. This inclusive governance model not only enhances conservation outcomes but also contributes to economic diversification and social stability.

Beyond local impacts, EDF's long-standing collaborations illustrate the value of transnational partnerships. The organization's work bridges political, linguistic, and institutional divides, demonstrating that regional cooperation can accelerate progress toward climate resilience and sustainable resource use. These experiences offer lessons applicable to other small island and coastal nations facing similar challenges around the world.

CONCLUSIONS

The Environmental Defense Fund's quarter-century of experience in the Caribbean exemplifies the power of collaboration, scientific rigor, and community engagement in achieving environmental and social resilience. By linking conservation with sustainable development, EDF has helped build models that align ecological protection with human well-being.

The path forward will require continued investment in local capacity, innovation in financing and governance, and greater integration between environmental and economic agendas. The Caribbean, with its diversity and vulnerability, offers a living laboratory for these efforts. EDF's regional partnerships demonstrate that when knowledge, trust, and shared purpose converge, the result is not only healthier ecosystems but also more resilient and equitable societies.

LITERATURE CITED

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