RESILIENT ISLANDS: ADVANCING CARIBBEAN CLIMATE ADAPTATION THROUGH NATURAL SOLUTIONS

NATURE IN ACTION: NATURE-BASED SOLUTIONS IN HUMANITARIAN CONTEXTS

IFRC

JAMAICA RED CROSS

The International Federation of Red Cross and Red Crescent Societies (IFRC) is the world's largest humanitarian network, with 192 National Red Cross and Red Crescent Societies and around 14 million volunteers. Our volunteers are present in communities before, during and after a crisis or disaster. We work in the most hard to reach and complex settings in the world, saving lives and promoting human dignity. We support communities to become stronger and more resilient places where people can live safe and healthy lives, and have opportunities to thrive.

Nature-based Solutions

Nature-based Solutions (NbS) are actions to protect, sustainably manage and restore natural or modified ecosystems that address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits (IUCN, 2020). NbS are an institutional priority for the IFRC network – recognized in its Plan and Budget 2021– 2025; the Global Climate Resilience Programme of the IFRC; and the Climate and Environment Charter for Humanitarian Organizations. IFRC builds on its decades of expertise in community-based disaster risk reduction as a unique entry point for community-led NbS, focused on disaster risk reduction and climate change adaptation. IFRC has already applied NbS in various contexts, as showcased in this case study – and is actively capturing lessons learned as a basis for scaling up its work and partnerships in this area.

Acknowledgements

The IFRC would like to thank Kevin Douglas, Kimmoy Tulloch, and Shanrick Thomas for their experience and information presented in this case study.

BACKGROUND

The Caribbean region is among the world's most vulnerable to the impacts of climate change. Disasters resulting from hurricanes, flooding, and erosion threaten lives, livelihoods, and infrastructure. As the impacts of climate change escalate, extreme weather events are becoming more frequent and destructive. This means people in Caribbean countries like Jamaica face grave risks to their safety and wellbeing.

Evidence suggests that nature-based solutions (NbS) can significantly reduce these risks and offer a cost-effective approach to climate-smart, sustainable development. Healthy ecosystems, like coral reefs, mangroves, and other such natural infrastructure can help protect communities by significantly reducing storm surges, flooding, and shoreline erosion while also providing habitats for ecologically, commercially, and recreationally important fish and wildlife.

"WHEN WE CARE FOR NATURE, WE ALSO CARE FOR HUMANITY"

The Resilient Islands Project in Jamaica is part of four-year regional initiative in Jamaica, Grenada, and the Dominican Republic implemented in partnership between the three Red Cross Societies, IFRC, and The Nature Conservancy (TNC) with funding from the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) under the International Climate Initiative (IKI).

Recognizing the intrinsic link between human well-being and the natural environment, Resilient Islands was launched in Jamaica in 2018 by the Jamaican Red Cross (JRC) in partnership with TNC. It's objective was for the government and communities in Jamaica to integrate community- and ecosystem-based adaptation into their local, national, and regional decisions in order to reduce community vulnerability and boost adaptive capacity. It focused on addressing the societal challenges the people of Jamaica faced in reducing risk and adapting to climate change.

There were four key components to the project: (1) selecting sites, identifying vulnerabilities, and implementing Ecosystem-based Adaptation (EbA) measures; (2) developing and deploying assessment tools; (3) enhancing the role of EbA in legal and policy frameworks; and (4) resource mobilization. Adopting the IFRC's '*Roadmap to Community Resilience*' as the project's framework allowed for the systematic implementation of the project.

ECOSYSTEM-BASED ADAPTATION IS A NATURE-BASED SOLUTION THAT HARNESSES BIODIVERSITY AND ECOSYSTEM SERVICES TO ADAPT TO CLIMATE CHANGE IMPACTS BY REDUCING VULNERABILITY AND BUILDING RESILIENCE.

SITE SELECTION: OLD HARBOUR BAY

To select a project site, JRC partnered with the Office of Disaster Preparedness and Emergency management (ODPEM). Together with TNC, local stakeholders, and a Technical Advisory Group, they revised the government's existing Vulnerability Ranking Index to include ecosystem considerations as an aspect of vulnerability.

Through this tool Old Harbour Bay was selected. Old Harbour Bay is the country's largest fishing community and is exposed to multiple natural hazards that are exacerbated by climate change. The concentration of the community's assets in areas near the coastline and people's dependence here on ecosystem-based livelihoods, such as fishing and agriculture, exacerbate their vulnerability and ability to recover from sudden shocks. At the same time, the coastal ecosystems surrounding Old Harbour Bay provide protection against storm surges, erosion, and sea level rise. They also provide other ecosystem services such as livelihoods and food production. When these ecosystems are well managed they provide these benefits and thus help reduce people's vulnerability to extreme weather events and increase the community's resilience.

PARTNERING FOR SUCCESS


© Shanrick Thomas

Multi-stakeholder approaches were a key element of the project. Once a project site was selected, JRC met with the National Disaster Office, the National Environment and Planning Agency, and other government and institutional partners to build relationships.

Extensive public engagement was also carried out. In addition to community consultations JRC staff and volunteers participated in events and festivals, provided first aid and other trainings, and supported micro-projects that met needs voiced by the community. These micro-projects, such as providing solar lights in a fishing village, helped deepen relationships and build trust. Overall, engagement with government, institutional partners, and community members built awareness and cemented support.

The partnership between TNC and the Red Cross was also key. TNC is one of the most wide-reaching environmental organizations in the world and the Red Cross is the world's largest humanitarian network. This unique partnership enabled the combination of environmental expertise and community-based disaster management to successfully carry out the project.

DEVELOPING AND DEPLOYING ASSESSMENTS

By following The Roadmap to Community Resilience a series of robust assessments and data gathering efforts were conducted.

As community relationships were developed, a Knowledge, Attitudes and Practices (KAP) survey was carried out to assess community awareness on disaster risk reduction and preparedness, climate change and ecosystem services. Results were used to inform the project and to develop knowledge products shared with schools and community members. JRC was also able to use the survey as a platform to engage community members and raise awareness of the project.

An Enhanced Vulnerability and Capacity Assessment (EVCA) that used a range of methods, including focus group discussions, historical profiles, seasonal calendars, mapping, and transect walks, was also done. This enabled communities to identify and voice opinions on the risks they faced, what they saw as the sources of risk, and what initiatives could be undertaken to strengthen coping capacities and reduce risks.

In addition, a Rapid Ecological Assessment (REA) of Old Harbour Bay's coastal and marine habitats was conducted. While the project focused on one community, the REA took an ecosystem-level focus in assessing threats, pressures, and drivers on ecosystem services that the community depended on. Through the REA,

urbanization and development were identified as two of the primary drivers impacting the ecosystems in Old Harbour Bay. Detailed spatial action plans were developed with **ecosystem-based recommendations** for protection, restoration, and conservation actions to address development impacts and climate change-related risks. Recommendations included declaring special protection zones for ecological habitats with high biodiversity value; establishing community-based eco-tourism programmes; implementing living breakwaters; and replanting coral reef nurseries, seagrasses, and mangroves.

A set of **non-ecosystem-based actions** were also proposed. These were presented at validation workshops where local experts and community members provided feedback and explored the potential for ecotourism, livelihood activities, and income generation from the natural environment.

© Shanrick Thomas


© Shanrick Thomas

PRIORITIZING NbS PROJECT IDEAS

Informed by the three assessments (KAP, EVCA and REA), the proposed actions were discussed by an NbS Committee, with representatives from different organisations, with the aim to identify a suite of NbS for Old Harbour Bay. Several sessions were held to present, prioritize, and shortlist options over a three-month period. Criteria for selection included identifying options that restored ecosystems; provided livelihood benefits; addressed the identified threats; were sustainable; and provided short-term benefits.

Project ideas were then mapped to identify priority areas and synergies. This led to a portfolio of **seven NbS project ideas** for Old Harbour Bay that were based on science-based tools with recommendations from government, community, NGOs, and private sector, with the goal of increasing investments in the protection of key ecosystems and overall community resilience. Costs and benefits of each project were appraised. Overall benefits of the seven projects combined were also estimated. These estimates included over 45,000 beneficiaries reached by the project, $102,432,101 USD in avoided damages to homes, and avoided impact on 17 critical facilities.

The solutions were then discussed and validated with community members and expert partners such as the Centre for Marine Sciences and the priority actions were integrated into a local level disaster risk reduction and EbA plan.

OVER 45,000 BENEFICIARIES REACHED

102,432,101 USD IN AVOIDED DAMAGES TO HOMES

AVOIDED IMPACT ON 17 CRITICAL FACILITIES

ENHANCING NBS IN LEGAL AND POLICY FRAMEWORKS

Through Resilient Islands, JRC aimed to positively influence national laws and policies to ensure that the importance of nature in reducing risks is recognized and that local communities remain central in disaster risk reduction efforts. Policy work conducted was coordinated to compliment on-the-ground assessment and outreach efforts.

Many activities were integrated within the national and local planning and policy context. For example, the proposed actions in the REA were developed to align with Jamaica's Vision 2030: National Development Plan. The Jamaica Red Cross team was also trained in Legislative Advocacy by the IFRC to complement coastal protection and ecosystem valuation Policy Briefs that were developed under the Resilient Islands Project to further influence the expanded role of NbS in risk reduction. In addition, building on the early success of modifying the ODPEM's Vulnerability Risk Index to include ecosystem considerations, the index has now expanded to become a national tool used by the ODPEM for ranking all communities across Jamaica. What began as a modest collaboration to select one community as a project site has emerged into a national tool that is a permanent part of Jamaica's disaster management landscape.

NEXT STEPS

Development of the Old Harbour Bay Resilience Action Plan is ongoing, as are small scale micro-projects and implementation of NbS project ideas. In addition, a new project focused on greening disaster risk reduction, will build on the Resilient Islands initiative by scaling up to explore community-based NbS opportunities for upland watershed communities.

LESSONS LEARNED

1. **Community engagement and partnership development takes time but are key to ensuring the adoption of plans, policies and tools that support NbS.**

2. **Investing in staff and volunteers by providing deliberate and inclusive opportunities to increase knowledge and expertise is important. This included ecosystem, assessment, and advocacy trainings.**

3. **By starting small and focusing on one community, lessons learned can then be applied to future projects that take a scaled-up (e.g., ridge-to-reef) approach.**

4. **Using a science and community evidence-based approach to understand the issues (risks, vulnerabilities, and environmental degradation) provides durable solutions and scenarios for achieving coastal resilience.**

5. **Having a multi-stakeholder approach and involving them in management and decision-making is key to project success and sustainability.**

6. **Partnering with TNC, an environmental organization, enabled the combination of community engagement/DRR and environmental expertise.**

7. **(Additional) A combination of multiple approaches (policy advocacy, resource mobilization, community engagement, research, and piloting projects) has helped ensure communities tackle the impact of climate change and enhance their resilience.**

CONCLUSION

The Resilient Islands Project showcases the potential of NbS in strengthening coastal and community resilience against the dangerous impacts of climate change while also providing shorter term livelihood opportunities. It provides lessons on the importance of conducting robust assessments and how community engagement and partnership development is key to project uptake and sustainability.

BACKGROUND INFO AND DOCUMENTS

- Jamaica Red Cross Resilient Islands website
- The Nature Conservancy Coastal Resilience-Resilient Islands website
- Resilient Islands Tools and Resources

FOR FURTHER INFORMATION ON NATURE-BASED SOLUTIONS

- https://preparecenter.org/site/nbs/