Recovering Ecosystems, Empowering Communities:
Towards a Green Recovery After Hurricane Melissa

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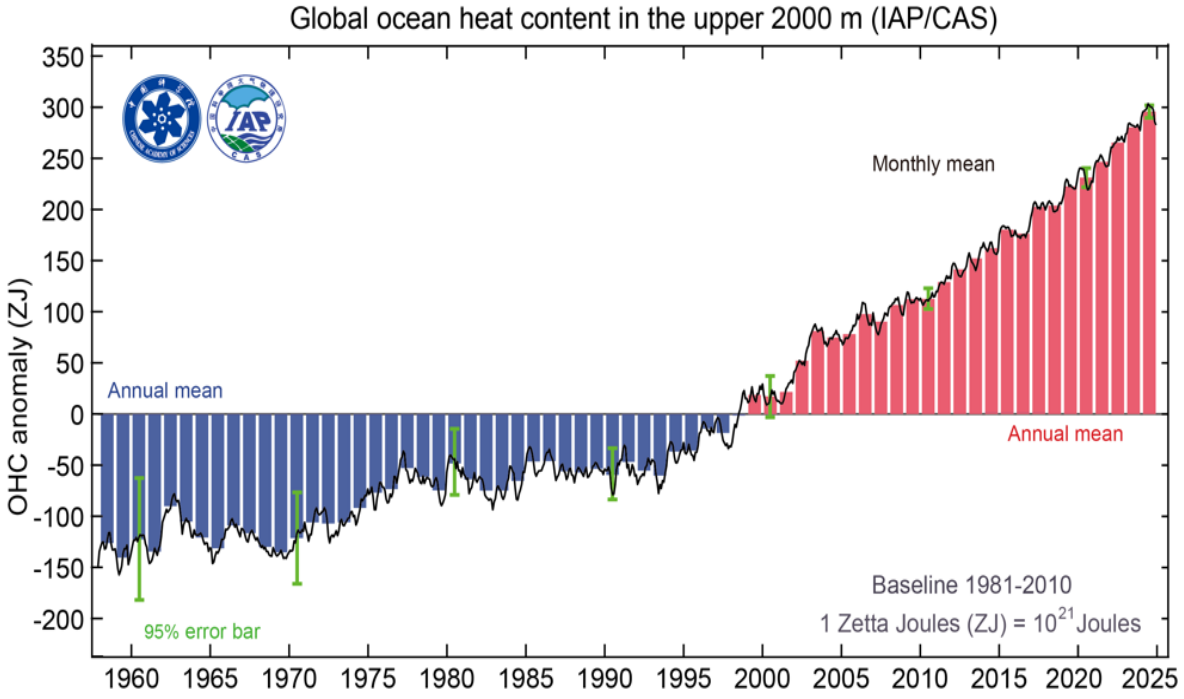
1) Climate Emergency

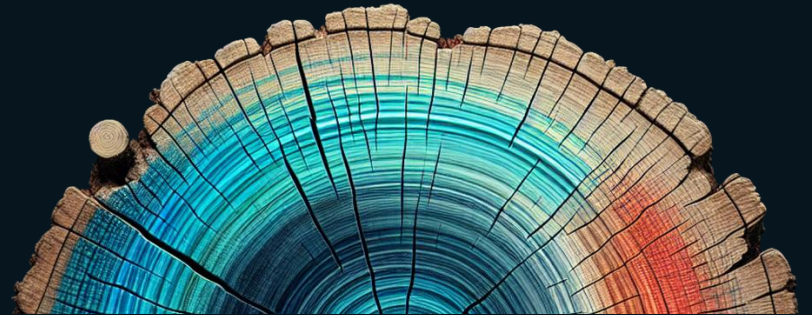
Climate Emergency

Atmosperhic **carbon levels not seen in over 2 million years**. Last time there was this much carbon in the atmosphere, the arctic was a rainforest.

Rapid acceleration of ocean warming, exacerbating more frequent and severe climate-induced disasters, with recent years seeing record setting marine heatwaves, with some events lasting 500 days.



SIDS on the Frontlines

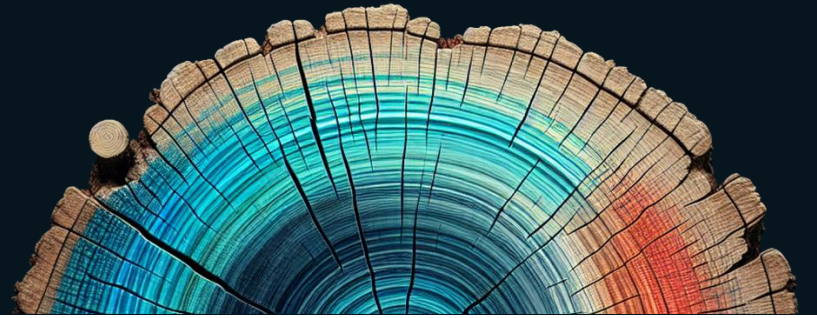


Climate change brings **disproportionate impacts on the most vulnerable SIDS communities**, who have very little to do with the generation of the climate crisis historically or today, but whose development trajectory now faces existential risks.

Globally, over 200 million people could be **climate displaced** and over 200 million **pushed back into poverty** owing to climate change in coming decades, unless urgent action taken.

The climate-inequality hybrid crisis is a call not just for scaled up climate action, but for **rethinking development and crisis prevention/recovery paradigms** towards justice-oriented, nature-based and restorative pathways.

SIDS on the Frontlines



Caribbean SIDS have to also be on front line for scaling up **green recovery and ecosystem restoration measures** with support of global partners, to account for ecosystem loss and damage from climatic events.

Key priorities include coral and mangrove restoration, rehabilitation of eroded coastlines, reforestation of decimated landscapes, and watershed recovery.

National economies and local livelihoods have a heavy dependence on natural assets and ecosystem services, but ecosystems face intensifying vulnerability to climate change and other drivers of their decline.

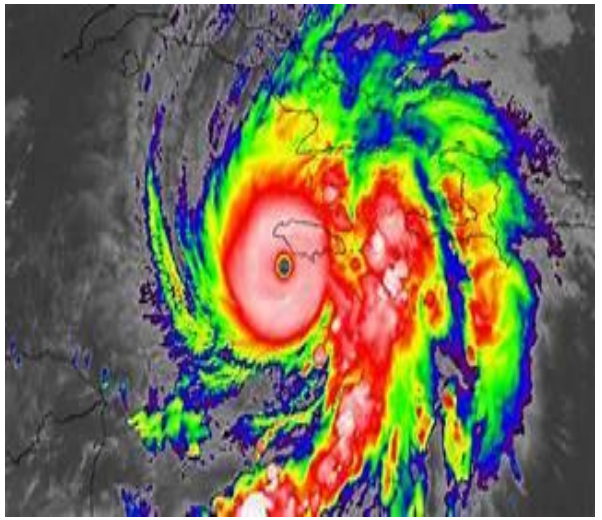
Hurricane Melissa

Hurricane Melissa was the strongest-ever climate induced disaster to hit Jamaica in modern history. Pushed upper ranges of Category 5, triggering calls to define Category 6 as future events are likely to breach the level 5 bandwidth.

Loss and damage at USD 12 billion, **close to 60% of annual GDP**. Catastrophic impacts across most of the country and multiple dimensions of development. Analysis by University of West Indies showed Hurricane Melissa was 6x more likely due to climate change.

Set new world records for climate-induced disasters:

- 190 MPH average wind speed tied it with Hurricane Dorian for strongest Atlantic hurricane, and world record setting 185 MPH at landfall at New Hope, Western Jamaica.
- 252 MPH inside the wall was the highest-ever recorded hurricane speed globally.



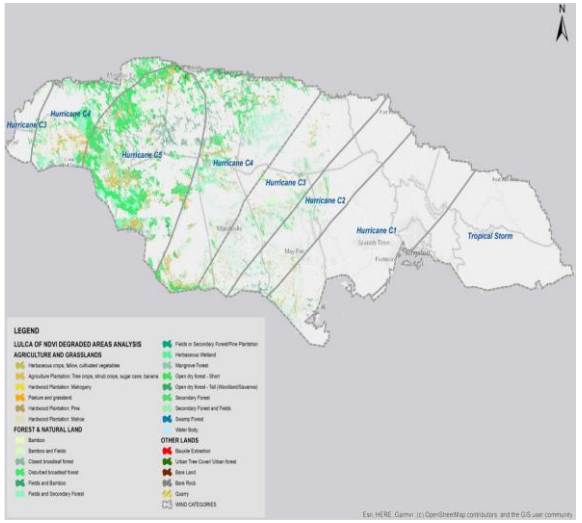
2) Impacts on Ecosystems and Communities

Ecological Impacts of Hurricane Melissa

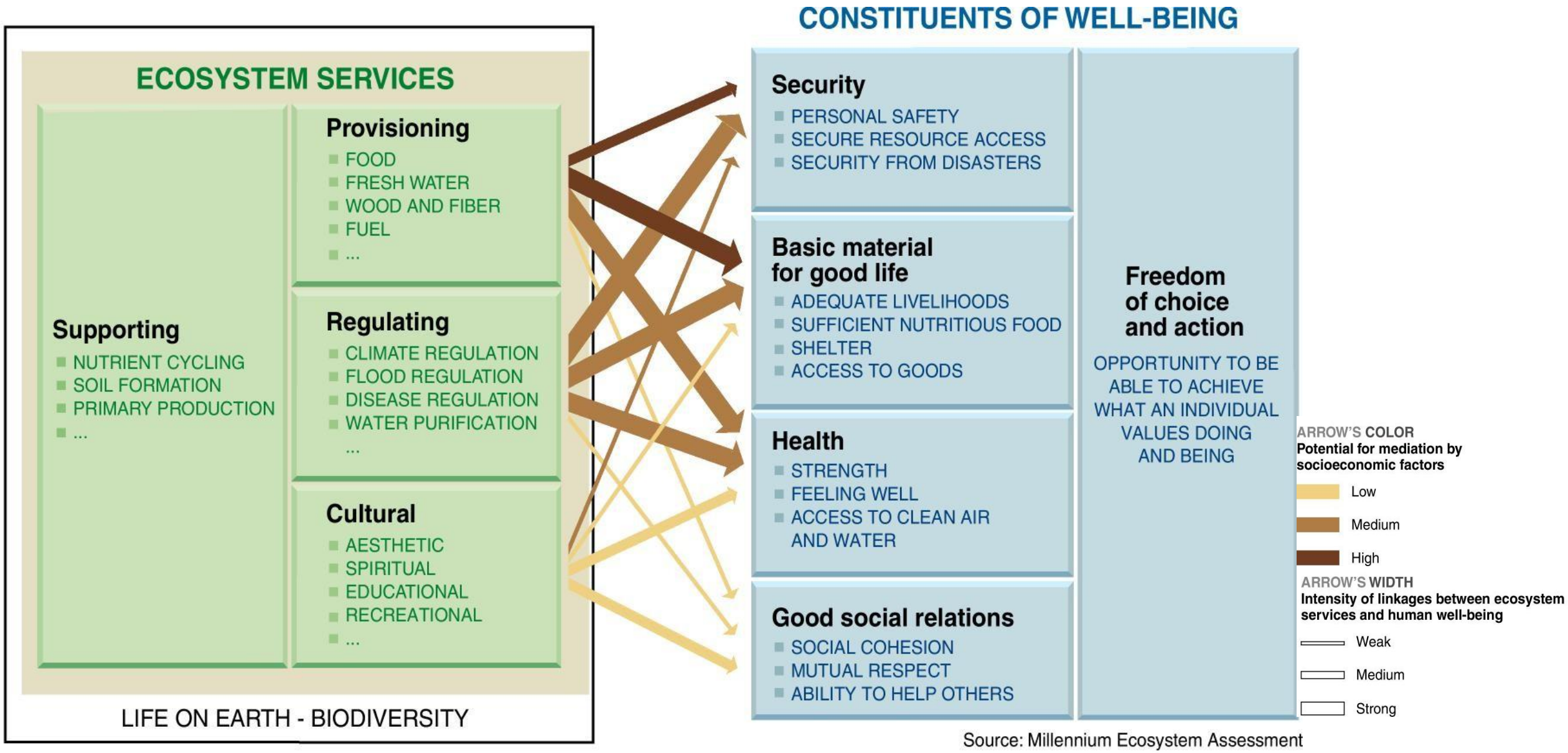
Environment suffered USD1.3 Billion equivalent in loss and damage, including 30% of overall losses faced by Jamaica with >50% of forests impacted and >2000HA of mangroves impacted, with 90% of mangroves in impact hotspots.

Government identified 8 sites as **priority areas for restoration** in St Elizabeth, Westmoreland, Falmouth & Montego Bay. Actions are aligned with the National Mangrove and Swamp Management Plan and the emerging **National Ecosystem Restoration Plan**.

- **Priorities for building back better:** mangrove reforestation, coastal erosion mitigation, rehabilitation of marine protected areas, enhancing water retention and sponge capacity of landscapes, terracing slopes.
- **Green recovery policy priorities:** use of strategic environmental assessments to review from a green and blue lens the national recovery and reconstruction framework and plans, and the USD billion large-scale investments foreseen, before they are concretized and implemented. Chance to identify risks early to ensure nature-positive rather nature-negative recovery and reconstruction solutions.

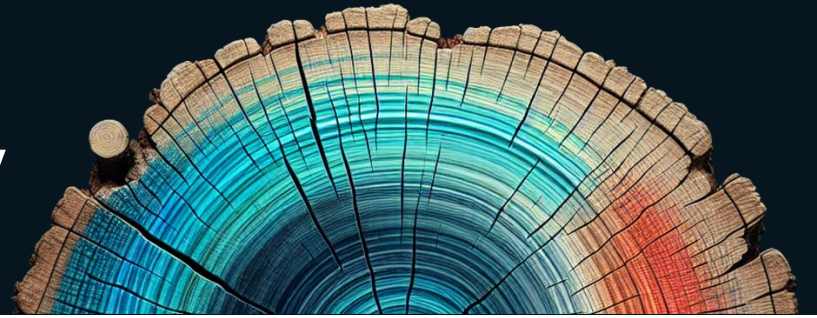


Our Ecological Security System

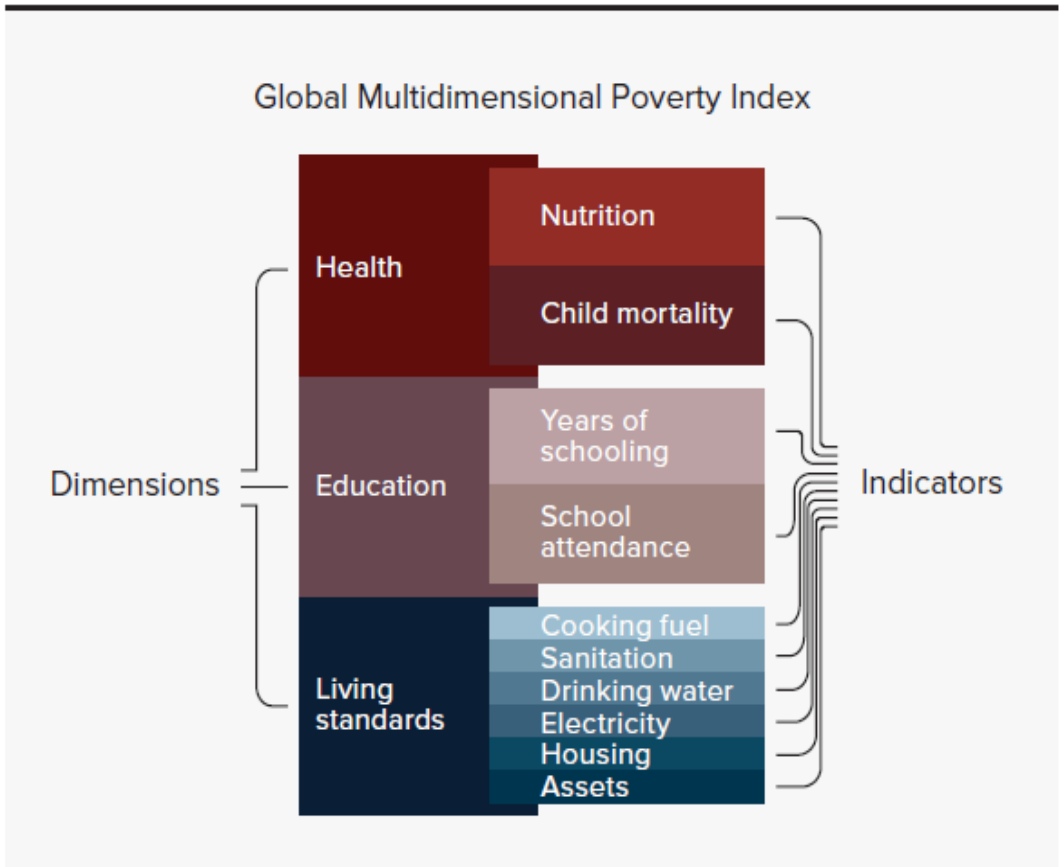


Source: Millennium Ecosystem Assessment

Ecosystems & Multidimensional Poverty



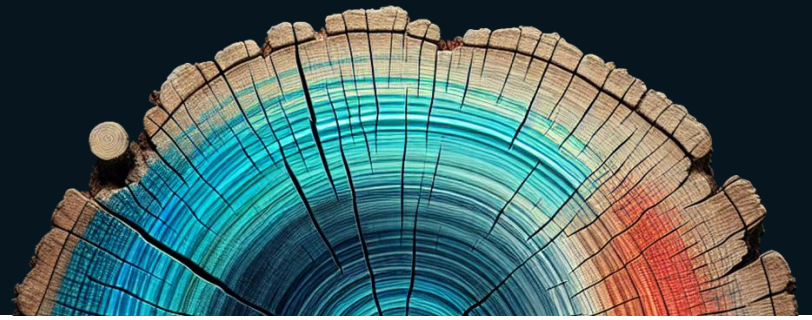
- **UNDP's global Multidimensional Poverty Index (MPI)** measures multiple deprivations in health, education and standard of living.
- MPI is a product of the incidence of multidimensional poverty and intensity of poverty.
- **Climate change and ecosystem decline are rising as sources of multidimensional poverty** – a threat to resource security and livelihoods.



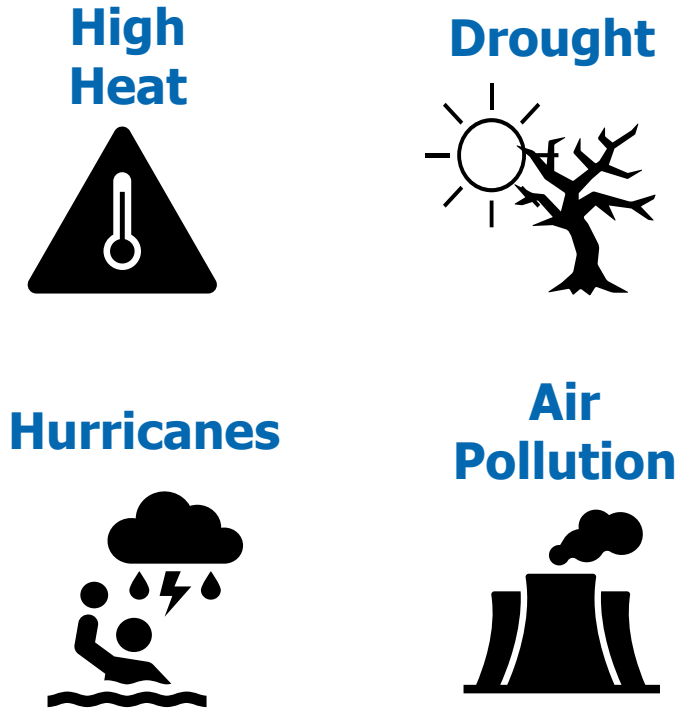
Source: HDRO and OPHI.

Source: UNDP *Multi-Dimensional Poverty Index Report (2025)* .

Poverty is inextricably linked with planetary pressures and instability

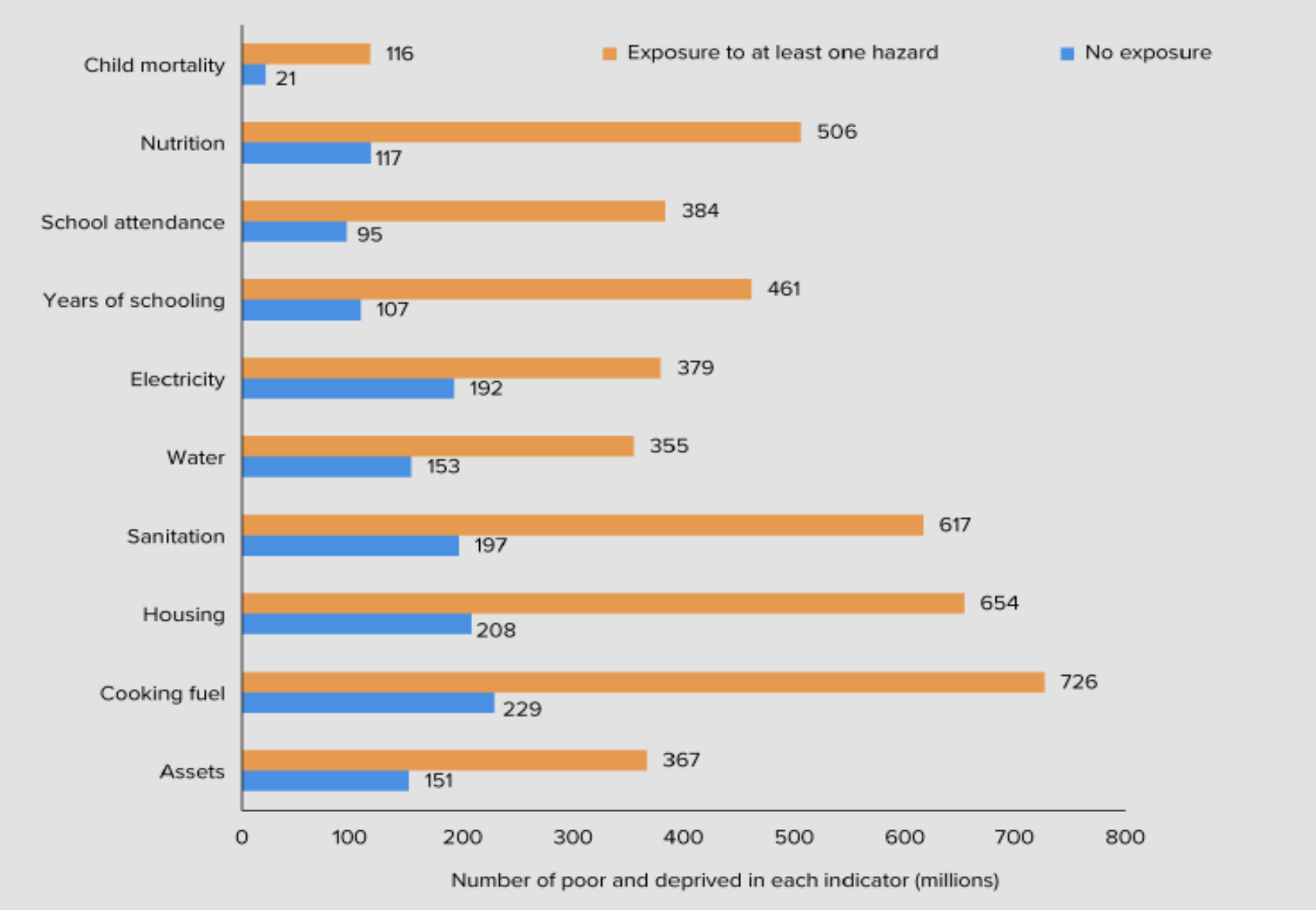


- The need to address poverty from a **climate and ecological lens** has never been greater.
- **UNDP's 2025 global MPI Report** presented, for the first time, estimates of overlaps between multidimensional poverty and four key climate hazards.

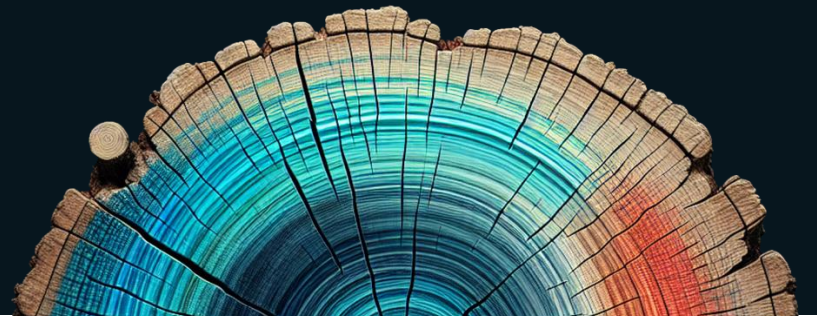


Source: UNDP *Multi-Dimensional Poverty Index Report (2025)*.

Patterns of deprivation vary for poor people exposed to climate and ecological hazards

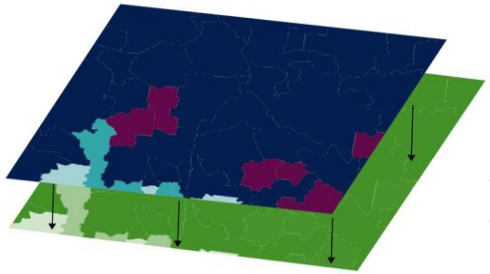


Spatial overlay of climate hazard data with estimates of poverty



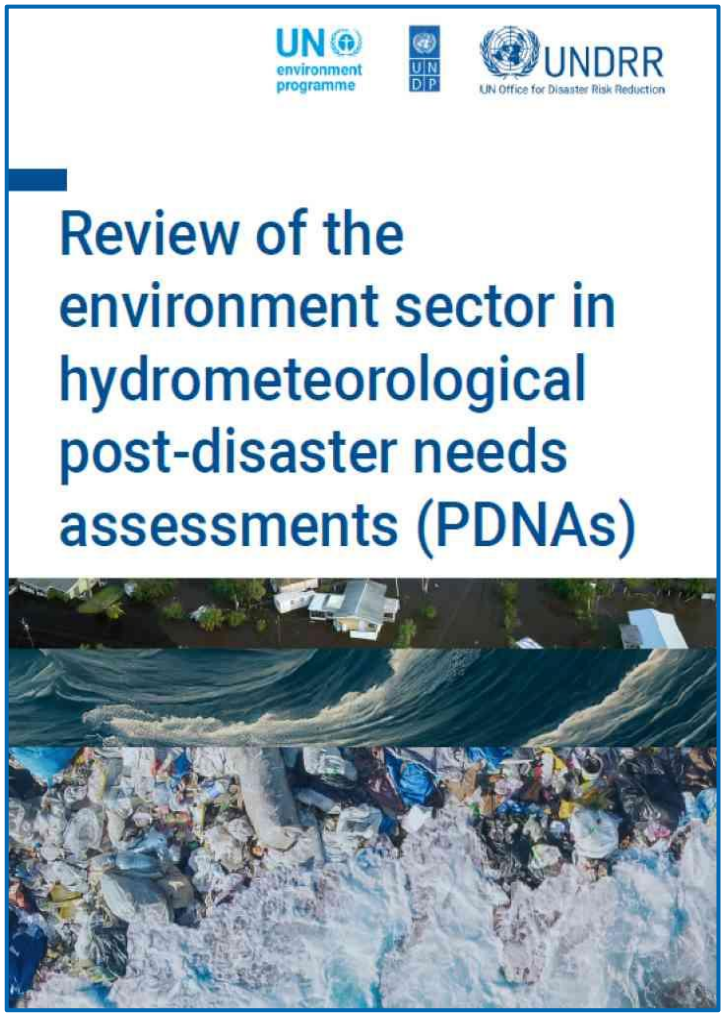
- Estimating the percentage of multi-dimensional poor people exposed to climate hazards, building on the new **UNDP Human Impact Assessment (2026)** completed after Hurricane Melissa as well as data from the UNDP Human-Climate Horizons global platform.
- In Jamaica, a new series of sub-national climate analyses have been completed to **map the climate/social vulnerability nexus.**
- Parishes impacted by Hurricane Melissa already faced 20-25% multi-dimensional poverty rates before the event. After Melissa, some areas have experienced **30-40% multi-dimensional poverty** rates.

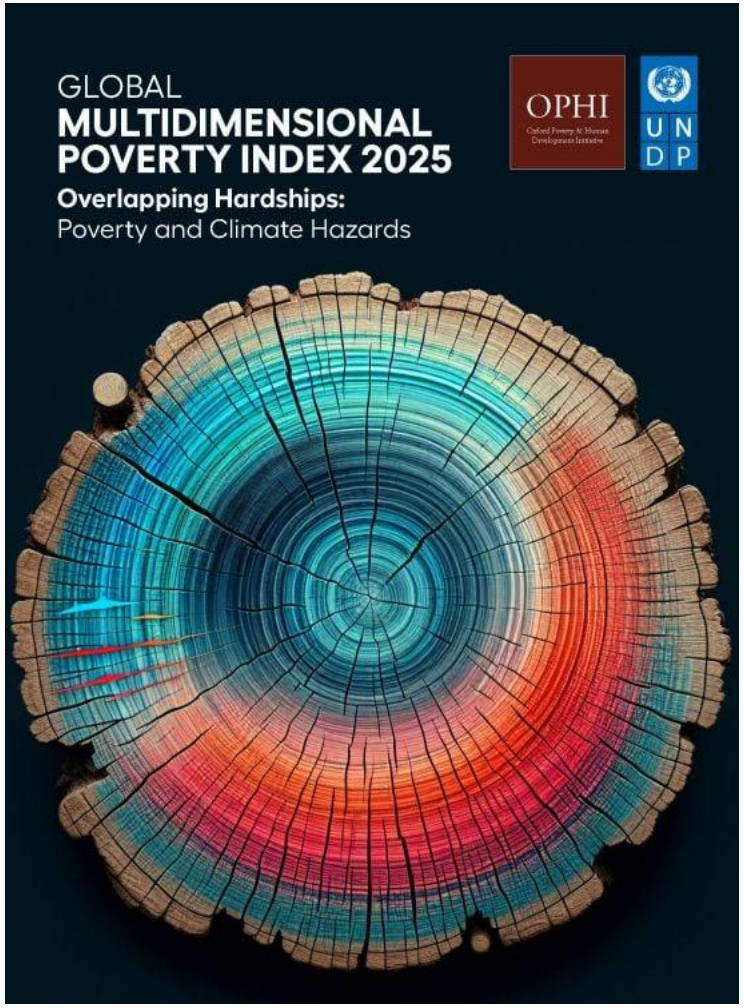
Sub-national poverty (number and % of poor)

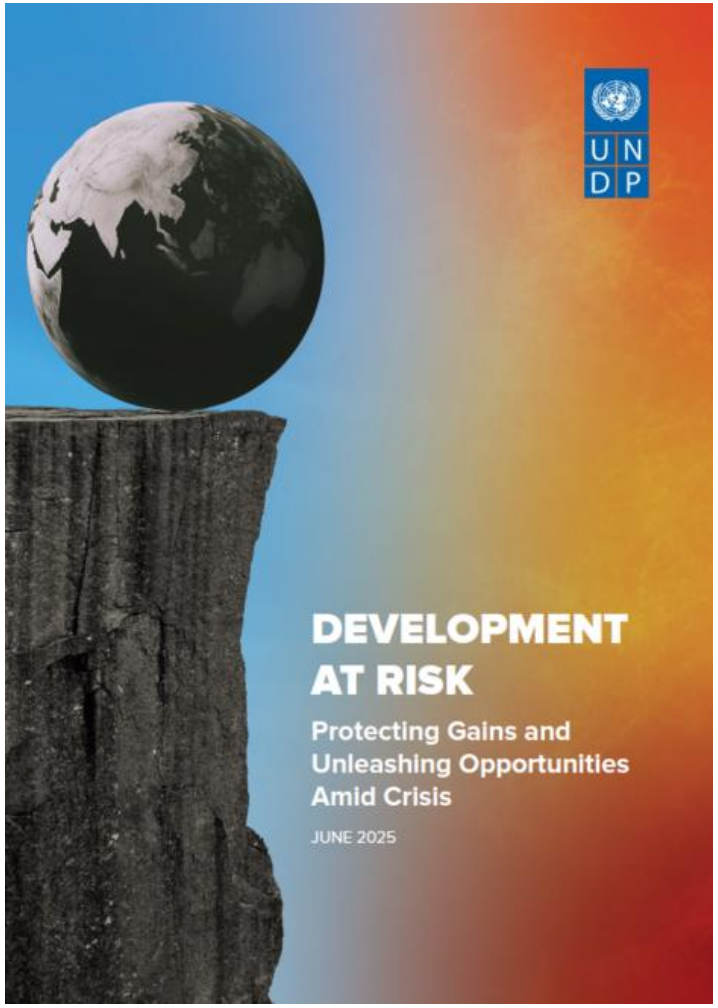


Sub-national climate data

Further Reading





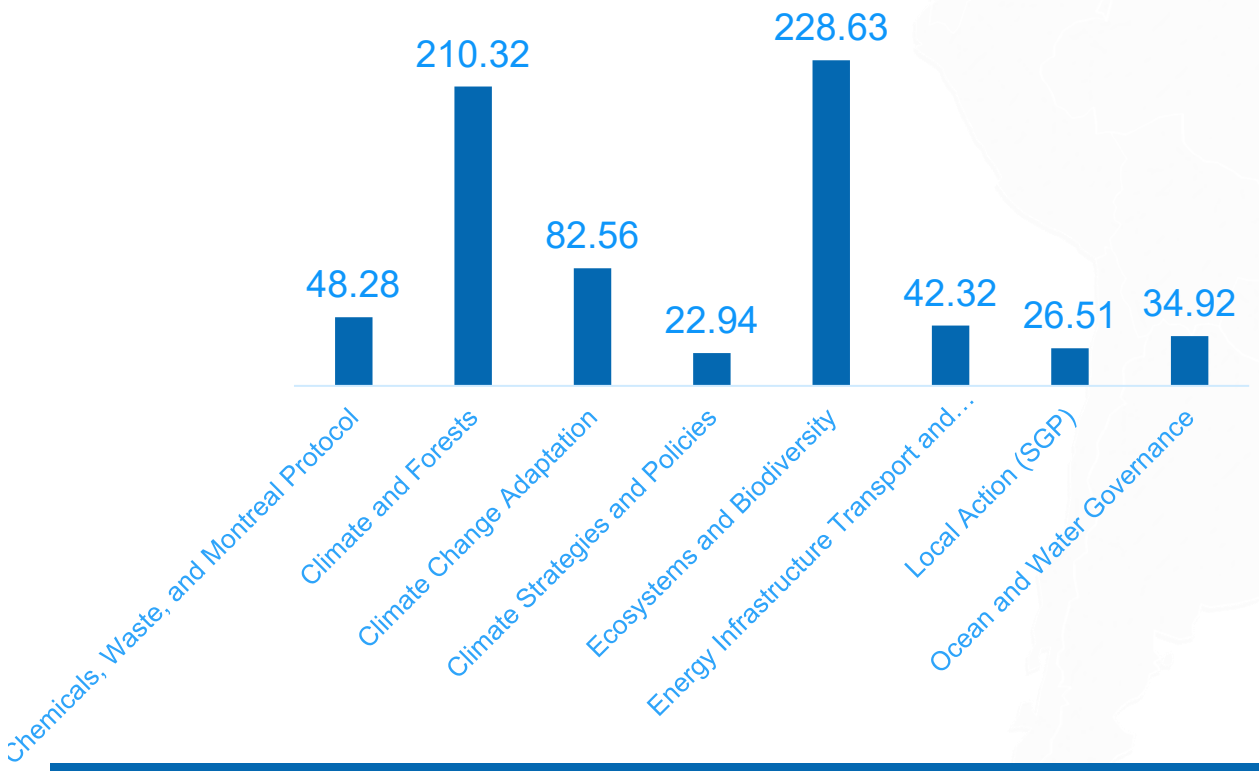


3) Green Recovery Local Solutions

UNDP Portfolio for a Green Transition in Latin America & the Caribbean

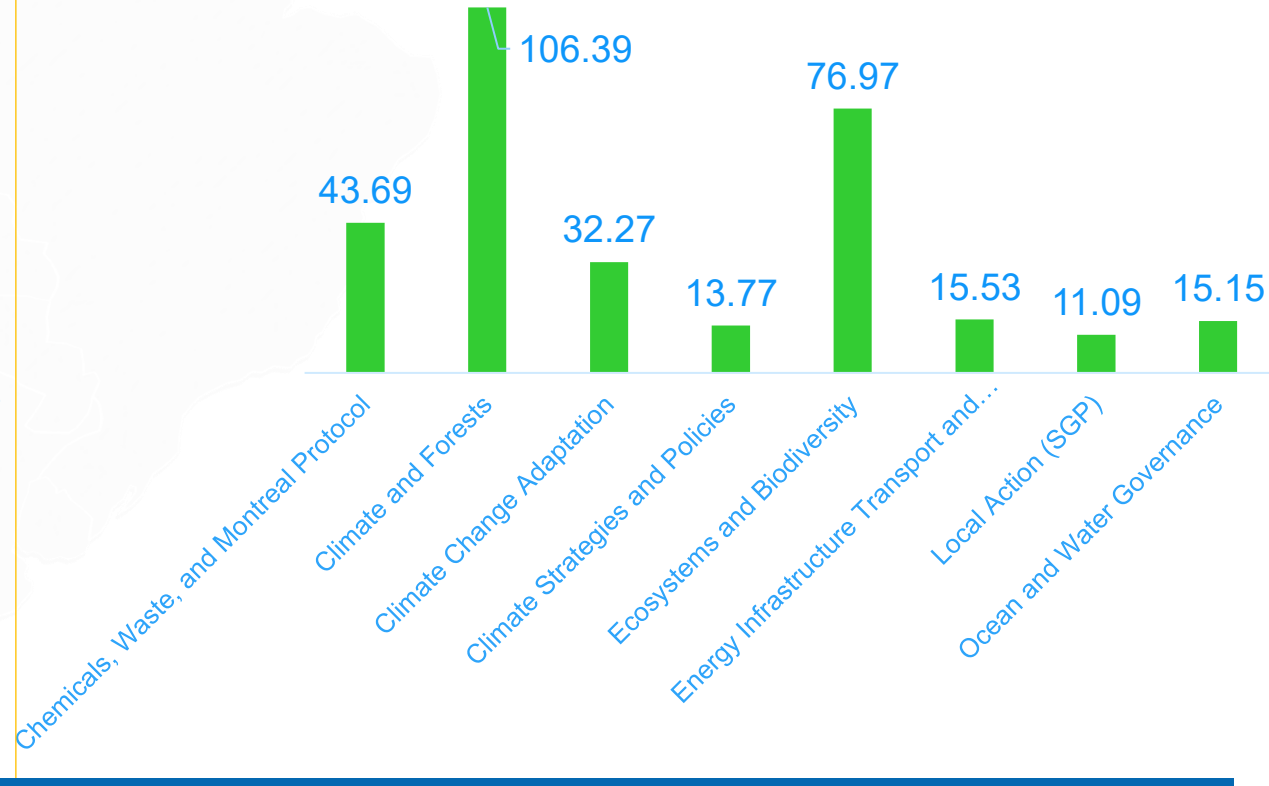
Current Implementation

USD 696 million | **136 projects** | **24 countries**



In development

USD 314 million | **57 projects** | **21 countries**



Globally, UNDP implements today USD 4 Billion of green transition grants in 140 countries, largest in UN system

Jamaica Resilient Recovery Initiative (JARRI)

USD2.4M (2025-2027)(EU, CDF, AusAID)

Upstream policy support

- Impact assessments including UNDP Human Impact Assessment and support to UN Damage and Loss Assessment.
- Assistance for development of a new National Spatial Plan.
- Support for Spatial plans for priority areas like Black River.

Local action grants

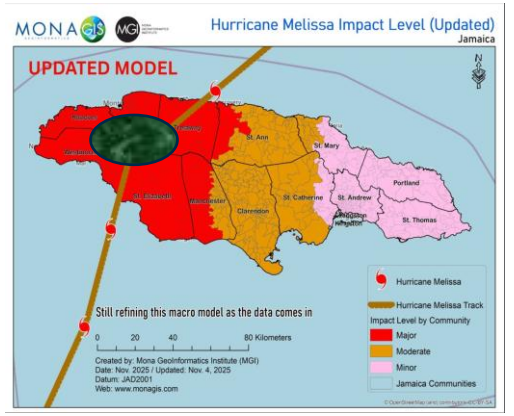
- Solar for community needs and livelihood recovery.
- Debris management through cash-for-work options.
- SME capacity and finance support to restart livelihoods.

Green Recovery in Mountains and Forest Ecosystems

USD 49M (2026-30)(USD6M GEF, USD43M co-financing)

Recovering Vital Ecosystem Services

- Nationally **>50% of all forests damaged**, >2000 HA of mangroves.
- **Cockpit Country eco-region of Western Jamaica** is a globally critical ecosystem, with the Cockpit Protected Area being Jamaica's largest terrestrial protected area. Hosts 60% of the island's vascular plants; a primary sanctuary for bird, amphibian, reptile and insect species.
- It was in **direct path of Hurricane Melissa** with major loss and damage suffered to ecosystems, communities. Critical resource base for social and economic security, providing 40% of Jamaica's groundwater, with 40 rivers and streams originating from Cockpit Country watersheds.
- Cockpit suffered **canopy loss and mass uprooting**. Endemic species may now face **higher extinction risks** due to habitat destruction

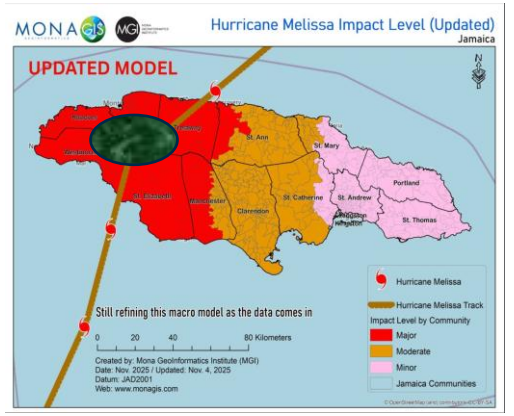


Green Recovery in Mountains and Forest Ecosystems

USD 49M (2026-30)(USD6M GEF, USD43M co-financing)

Local Action: restoration of forests and riparian vegetation. Hurricane Melissa offers critical lessons to rethink forest management and integrated ecosystem management that harmonizes risk reduction and community resilience

- **Protected Area Management:** supporting new use zoning in the PA, rehabilitation of degraded lands, monitoring of species recovery
- **Native Species Prioritization:** Selecting climate-resilient native species for restoring biodiversity, forest cover and ecosystem function;
- **Landscape-Scale Planning:** protection of intact forests as resilience anchors
- **Natural Regeneration:** restoration efforts where recovery is most viable;
- **Green Infrastructure:** Recognizing forests ecosystems as critical infrastructure for reducing impacts of climate-induced disasters;
- **Participatory Protection:** Engaging local communities as agents of change.
- **Local Grant Facility:** to bolster community resilience, support SMEs, expand good practices in sustainable resource use, revival of the destroyed community production systems



Green Recovery in the Tourism Sector

USD 24M (2026-30)(US5M GEF, US19M co-finance) (under dev)

Integrated Policy Solutions

- Heart of tourism sector in Jamaica is based in regions impacted by Hurricane Melissa, opportunity for green solutions in the recovery.
- Support goals of resilient hotel and resort business pathways, including policy coherence between climate and ecosystem resilience, and the socio-economic benefits of tourism development.

Community Development

- Public-private partnerships to scale up sustainable tourism goals, including support to Small & Medium Tourism Enterprises for new green investment projects and collaboration with finance sector on expanded access by SMTEs to sustainable finance options.
- Increase resilience within local supply chains and community tourism.
- Opportunities to build back via greater eco-tourism offers & branding.
- Enhanced standards and eco-labels for local tourism entities.

Solar Recovery for Local Livelihoods

USD 2M (2026-28) (under development)

Integrated Solutions

- Building resilience of communities and livelihoods via greater access to decentralized energy solutions that can support continuity of life and livelihoods when disasters strike.

Local Community Development

- A key focus on expansion of solar based irrigation and water efficiency measures.
- Reduces reliance on costly diesel and other fuels, allowing saved resources to be reallocated for other family needs, thereby expanding fiscal space.

Small Grants to Empower Communities and Ecosystems

USD 3M (GEF; 2026-28) across Jamaica, Belize, Bahamas

Integrated Solutions

- Financial and technical support to local Civil Society Organizations (CSOs) and Community-Based Organizations (CBOs) to address local environmental challenges and sustainable livelihoods.
- CSO grants up to US$75,000 each, with strategic or scaling-up grants reaching up to US$150,000.
- Focus is on ecosystem resilience, climate action and other local priorities, with a key benefit for communities across Jamaica in achieving recovery of mangroves, corals, forests and other key ecosystems impacted by Hurricane Melissa.

Loss & Damage Finance in Belize

USD 13.9M (FRLD; 2026-2028 (under development)

Systemic impacts

- Estimates show cumulative loss and damage of US$566 million over 30 years of climate-related disasters in Belize.
- Project enables Belize to formally recognize, finance and address accumulated climate-related non-economic losses, following design of the emerging National Loss and Damage Framework with UNDP technical assistance.

Local Community Development

- Identify and prioritize non-economic losses in priority communities and the preparation and implementation of community-led recovery and restoration actions, including disruptions to ecosystems and eco-dependent livelihoods.
- Loss and Damage information systems to assess, track and forecast economic and non-economic losses, model climate risks and impacts under scenarios.

Climate Risk Finance in Bahamas

USD 5M (2027-2030) (under development)

Community Based Solutions

- Building on the experiences and lessons learned following Hurricane Dorian in terms of anticipatory action and gaps for achieving a resilient recovery.
- The partnership would strengthen risk finance mechanisms for protection and resilient recovery of climate-vulnerable islands via a cooperative-based climate-adaptive social-protection mechanism for rapid support following events.
- Provide rapid non-repayable stabilization support alongside concessional recovery finance.
- Follows up and builds on a parallel UNDP initiative in Bahamas, with funding from India, for a Category 5 hurricane shelter/community center in Abaco, launched in advance of the 2026 hurricane season

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