

Making Early Warnings for All a Reality

NAPEXPO
CHILE 2023



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UN Office for Disaster Risk Reduction

SENGAI FRAMEWORK

FOR DISASTER RISK REDUCTION 2015-2030



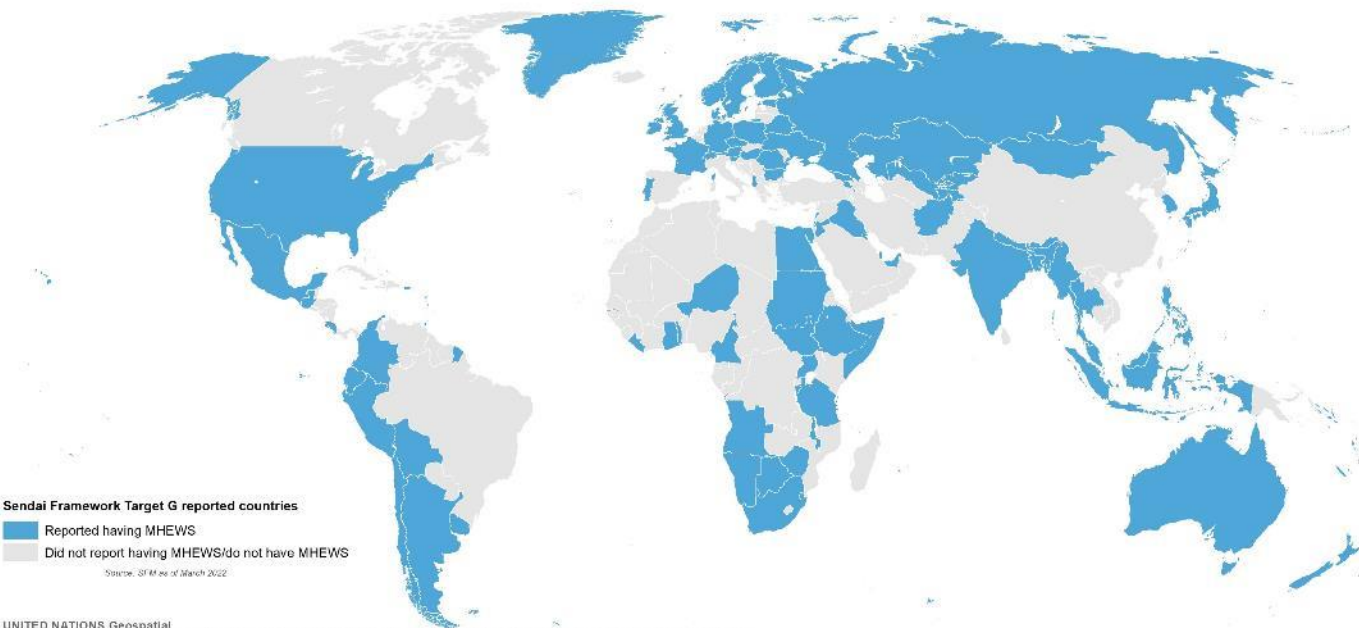


Global status of multi-hazard early warning systems

Target G

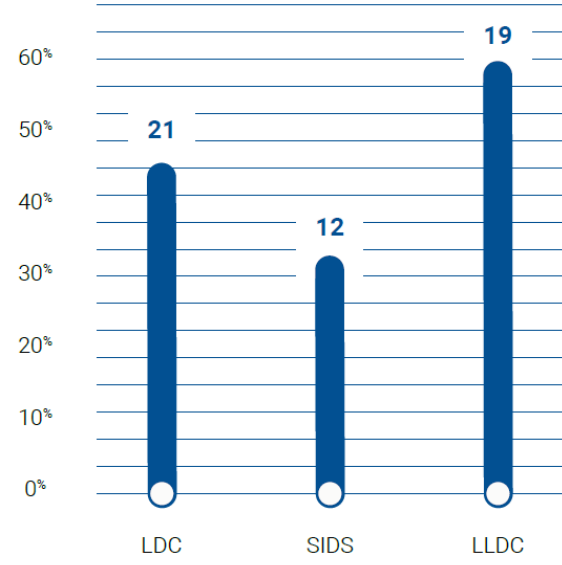
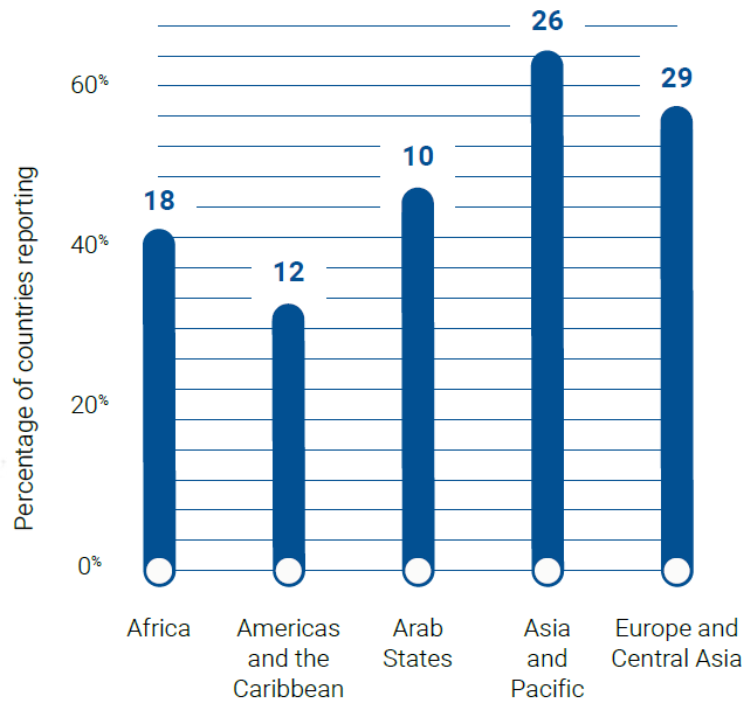


Only half of the world is covered through an early warning system



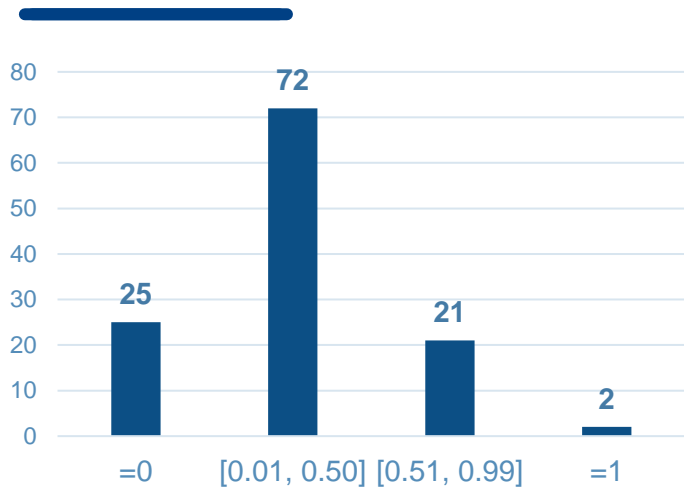
UNITED NATIONS Geospatial
 The boundaries and names shown on this map do not imply official endorsement or acceptance by the United Nations.
 Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.
 Final boundary between the Republic of Sudan and the Republic of South Sudan has not yet been determined.
 A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The situation is worse in **SIDS (1/3rd)**, **LDCs (46%)** and **Africa (40%)** and the **Americas and the Caribbean (34%)**



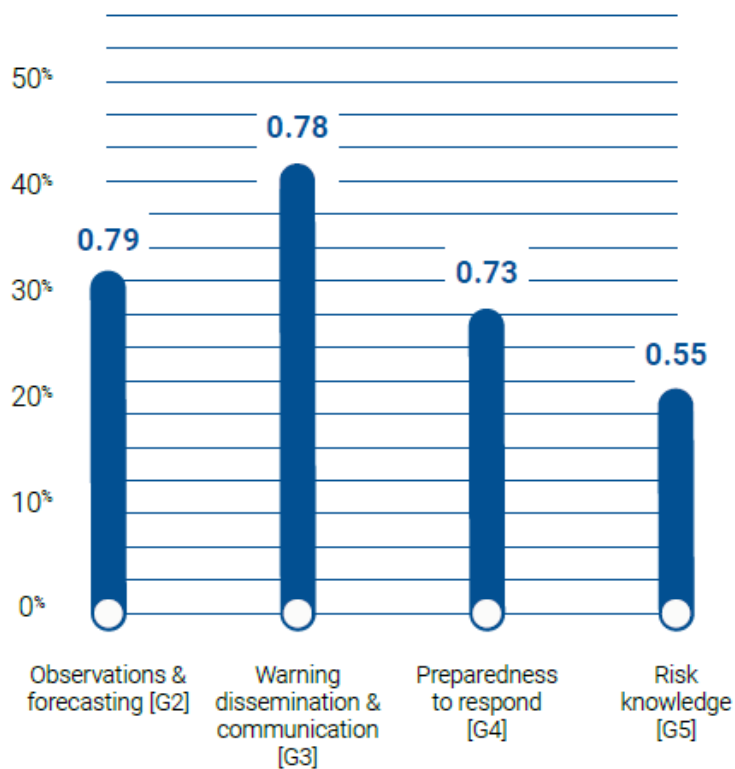
Numbers on the bars indicate the number of countries reporting

Where MHEWS exist, there are substantial gaps

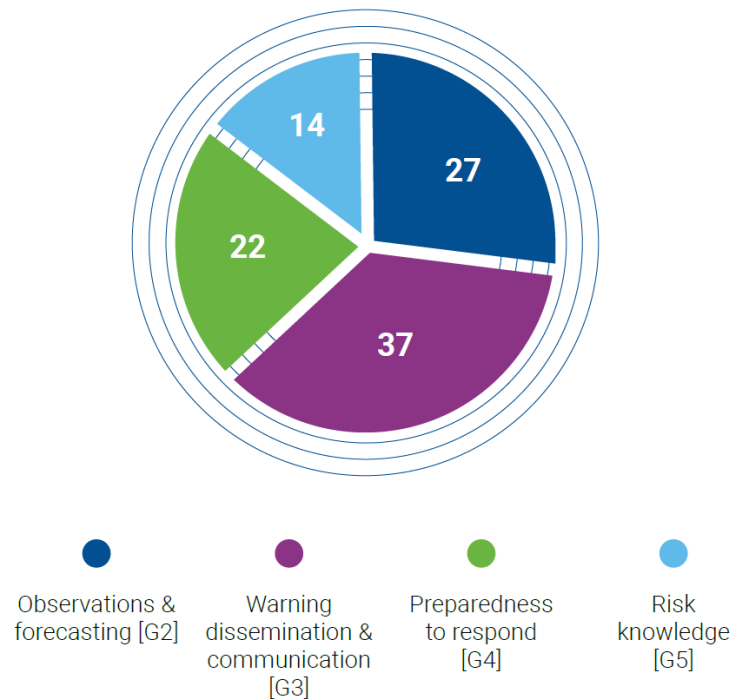


75% of countries who reported having MHEWS, have self-assessed their MHEWS with **'limited to moderate achievement'**

Average scores of MHEWS Elements



Contribution of MHEWS Elements to increase in overall MHEWS score

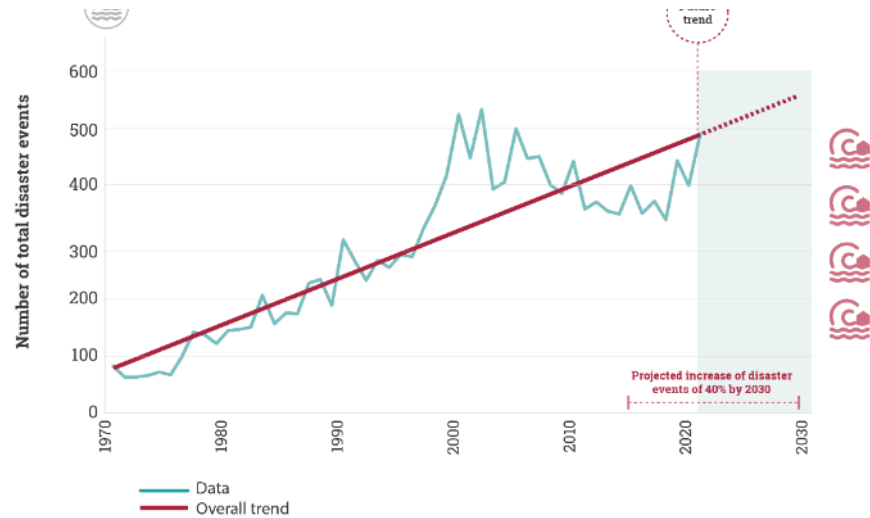


Risk knowledge and **Preparedness** – least progress among the MHEWS elements

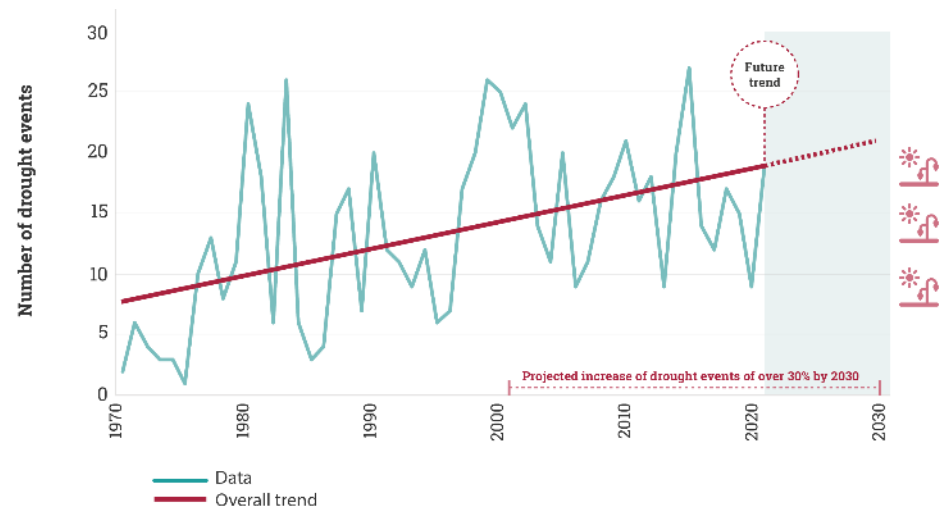
Increase in investment required across all four interconnected elements

Climate change is rapidly altering our understanding of risk

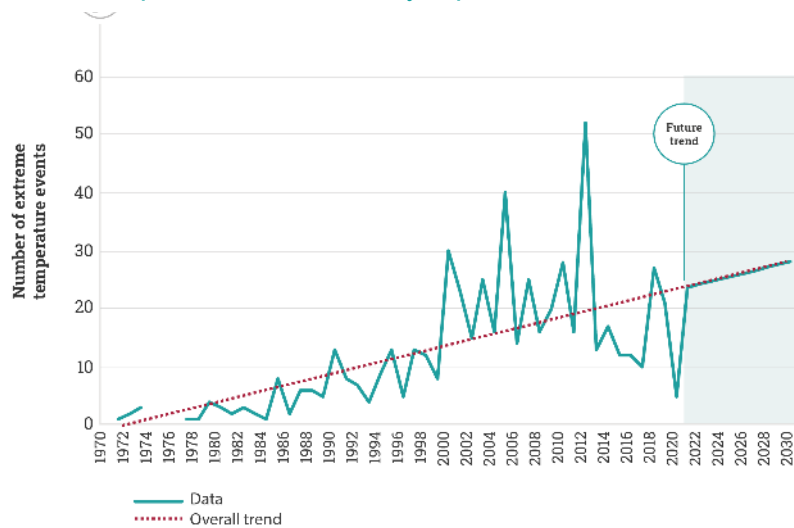
Number of disasters per year globally may increase by 40% by 2030



Droughts may increase by 30% between 2001 and 2030



Extreme temperature events may triple between 2001 and 2030



luction

- Increasing frequency and intensity of disasters and extreme events
- Changing nature of hazards
- Growing vulnerability and exposure to climate risks

Need for a system approach to “multi-hazard” early warning systems



- The MHEWS cycle is as strong as only its weakest link - MHEWS should be seen in its **full length of value cycle**, rather than a set of disparate elements.
- MHEWS is **not limited to the number of hazards** being monitored, but a system that can also track:
 - Interconnected and cascading nature of hazards
 - Secondary and tertiary impact of events
- MHEWS governance should promote **stronger inter-departmental and sectoral collaboration** among NMHS, NDMOs and other institutions (especially those related to non-hydrometeorological hazards).

People centric early warning systems

- **Elements of MHEWS tend to be “authority-driven”.** EWS needs to be **people centric** with focus on last mile outreach, with a shift in focus from EW dissemination to communication through impact-based forecasting and EW.
- **Collect disaggregated data:** Data is often not easily disaggregated into key social variables, e.g., gender, age, disability and/or ethnicity.
- **Grassroot level involvement:** **Engagement of end-users** needs to happen at the design stage of EWS.
- **Include local and traditional knowledge:** Integrating local and traditional and indigenous knowledge in the EWS reduces disaster risk



Headline Messages of EW4ALL

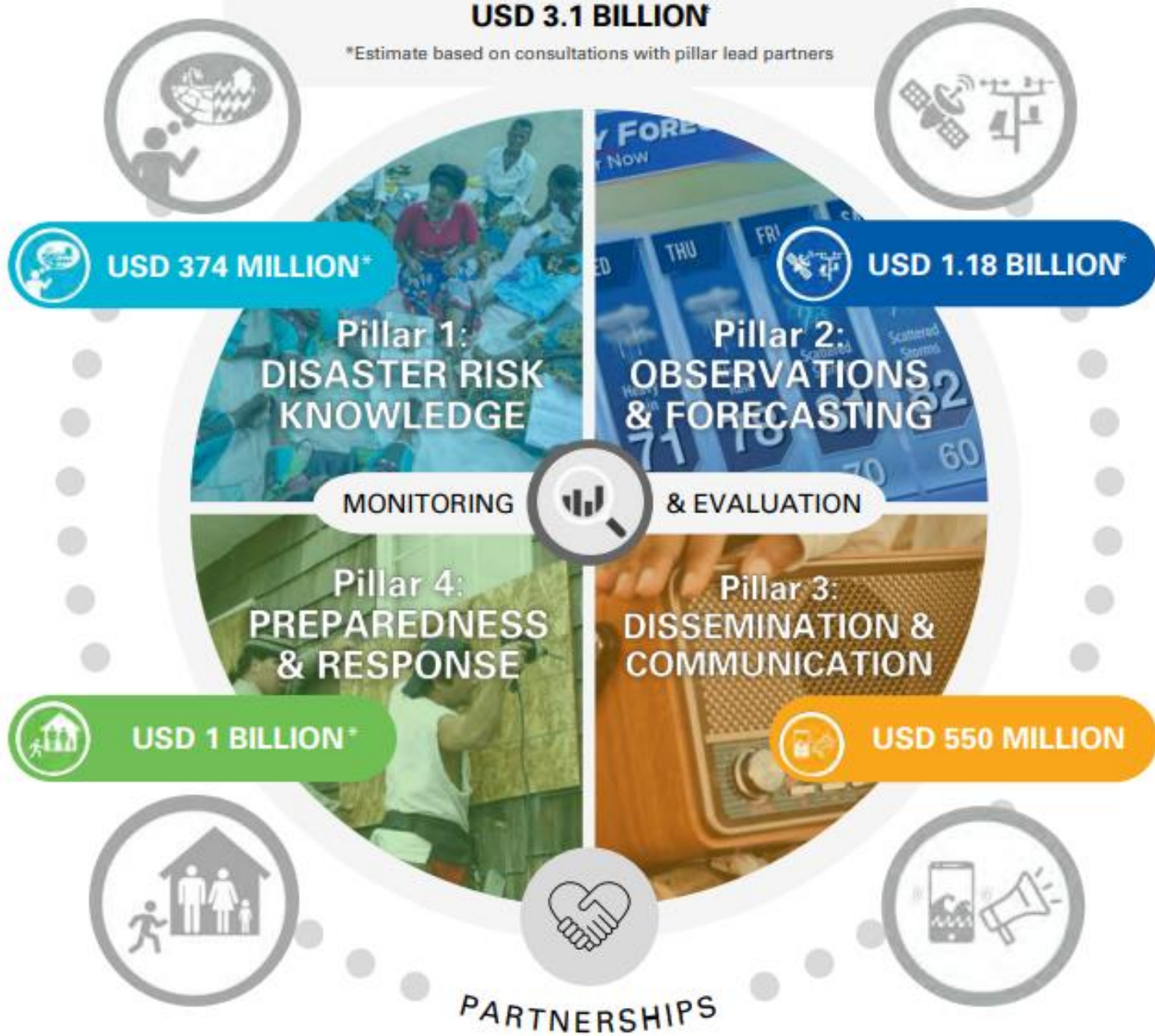
1. Make EW4ALL a reality
2. Enhance data availability through better reporting
3. Improve observation and monitoring
4. Strengthen the early warning-early action value cycle (a system approach)
5. Make multi-hazard early warning systems (MHEWS) people-centric with increase accountability
6. Apply the Sendai Framework metrics and data to monitor early warning coverage and effectiveness

Source: [Global status of multi-hazard early warning systems – Target G](#)

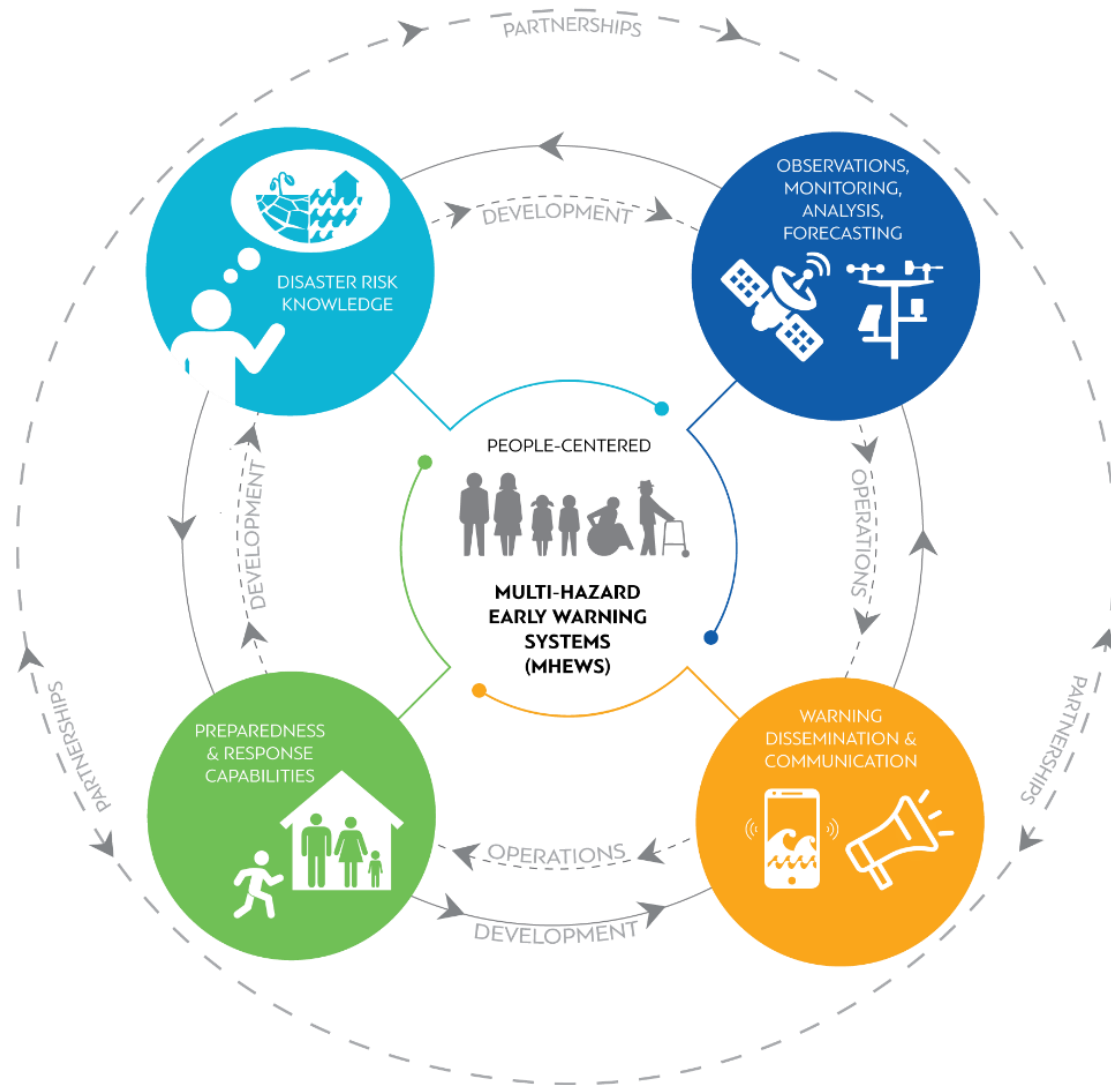
New investment required to advance towards early warnings for all within five years:

USD 3.1 BILLION

*Estimate based on consultations with pillar lead partners



Progress in Advancing Risk Knowledge – Pillar 1



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UN Office for Disaster Risk Reduction

Expected outcomes of Pillar 1: Disaster risk knowledge

1. Countries have a **minimum capability** to produce quality, timely and relevant risk information, where vulnerable communities are able to participate in the process
2. Those who need it are able to access **standardized, interoperable and updated risk information** that can inform their decisions
3. Relevant actors are able to **use risk information to inform decision-making** for early warning
4. Countries are able to **monitor the coverage and effectiveness of early warning systems**, and use this to update their approaches
5. **Strengthened collaboration** between key Ministries, academia, the private sector and vulnerable communities generates improved risk information
6. **Risk knowledge capability** is built through a combination of local, traditional, indigenous, generational and scientific knowledge that can enable resilience under a range of future risk scenarios
7. **Innovation**, particularly through the use of new and existing technologies drives a step change in risk knowledge capability at all scales that is for all, rather than those who are most developed

The Sendai Framework Priority Areas

Priority 1

Understanding disaster risk

Disaster risk management needs to be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment

Priority 2

Strengthening disaster risk governance to manage disaster risk

Disaster risk governance at the national, regional and global levels is vital to the management of disaster risk reduction in all sectors and ensuring the coherence of national and local frameworks of laws, regulations and public policies that, by defining roles and responsibilities, guide, encourage and incentivize the public and private sectors to take action and address disaster risk

Priority 3

Investing in disaster risk reduction for resilience








Public and private investment in disaster risk prevention and reduction through structural and non-structural measures are essential to enhance the economic, social, health and cultural resilience of persons, communities, countries and their assets, as well as the environment. These can be drivers of innovation, growth and job creation. Such measures are cost-effective and instrumental to save lives, prevent and reduce losses and ensure effective recovery and rehabilitation

Priority 4

Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

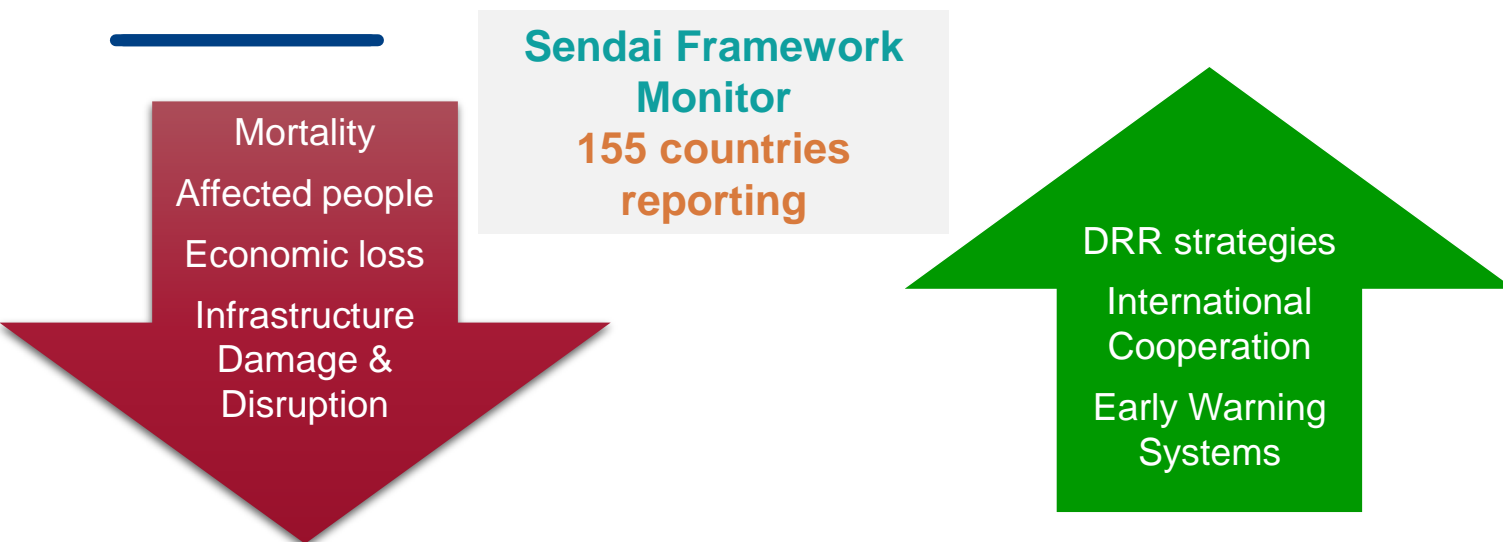
Experience indicates that disaster preparedness needs to be strengthened for more effective response and ensure capacities are in place for effective recovery. Disasters have also demonstrated that the recovery, rehabilitation and reconstruction phase, which needs to be prepared ahead of the disaster, is an opportunity to «Build Back Better» through integrating disaster risk reduction measures. Women and persons with disabilities should publicly lead and promote gender-equitable and universally accessible approaches during the response and reconstruction phases

The Sendai Framework – Mid-term Review (MTR SF)

	Target A: Substantially reduce global mortality by 2030
	Target B: Substantially reduce the number of affected people globally
	Target C: Reduce direct disaster economic losses in relation to global gross domestic product (GDP)
	Target D: Reduce disaster damage to critical infrastructure and basic services disruptions
	Target E: Increase national and local disaster risk reduction strategies
	Target F: Enhance international cooperation for disaster reduction
	Target G: Increase availability and access to early warning systems and risk information

Source: [Main findings and recommendations of the Midterm Review of the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030](#)

Metrics to inform and benchmark early warnings



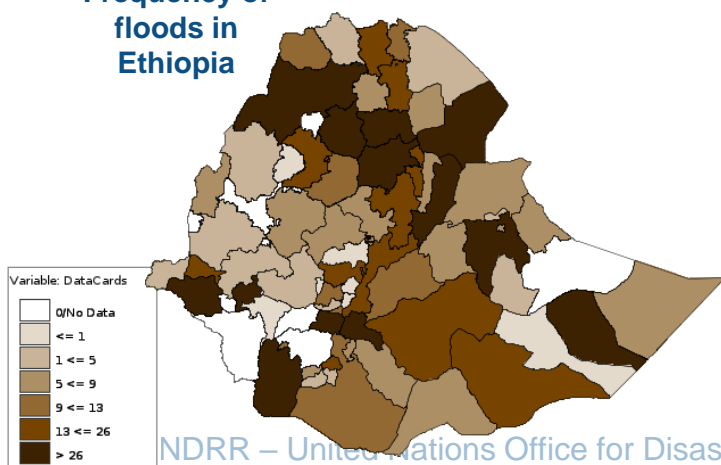
Sendai Framework Target G

	Description
G-1	No. of countries that have MHEWS (Compound G2-G5)
G2	No. of countries that have multi-hazard monitoring and forecasting systems [EW Element: Observation and forecasting]
G3	No. of people per 100,000 that are covered by early warning information through local governments or through national dissemination mechanisms [EW Element: Warning dissemination]
G4	Percentage of local governments having a plan to act on early warnings [EW Element: Preparedness to response]
G5	No. of countries that have risk information and assessment available to the people at the national and local levels [EW Element: Disaster Risk Knowledge]
G6	Percentage of population exposed to or at risk from disasters protected through pre-emptive evacuation following early warning.

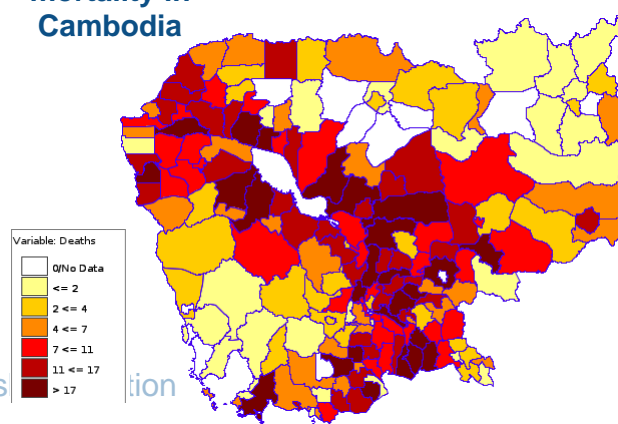


110 countries with L&D databases

Frequency of floods in Ethiopia



Disaster-related mortality in Cambodia





www.undrr.org/crm

Comprehensive Risk Management

Enabling integrated planning for and implementation of the Paris Agreement and the Sendai Framework



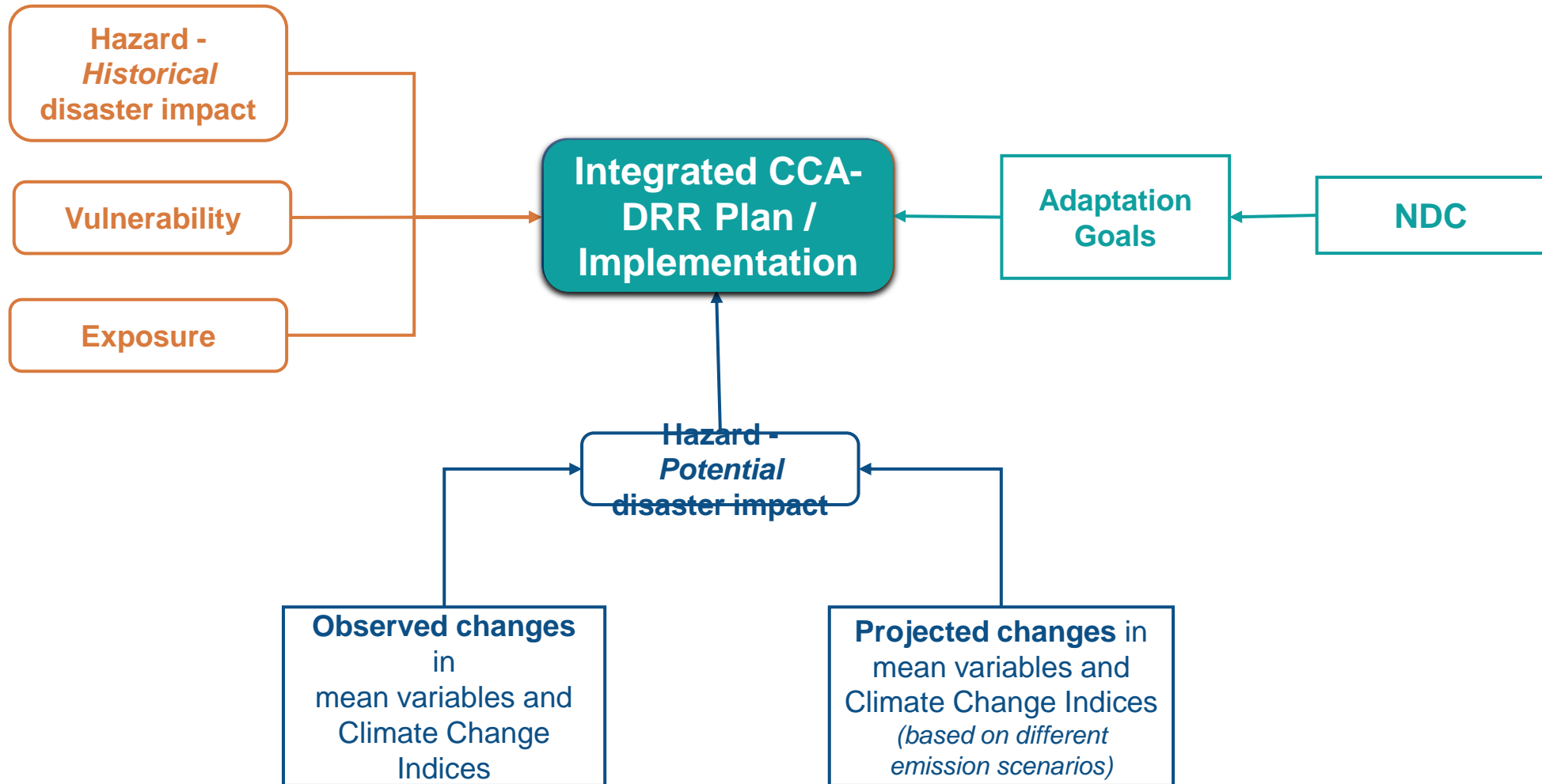
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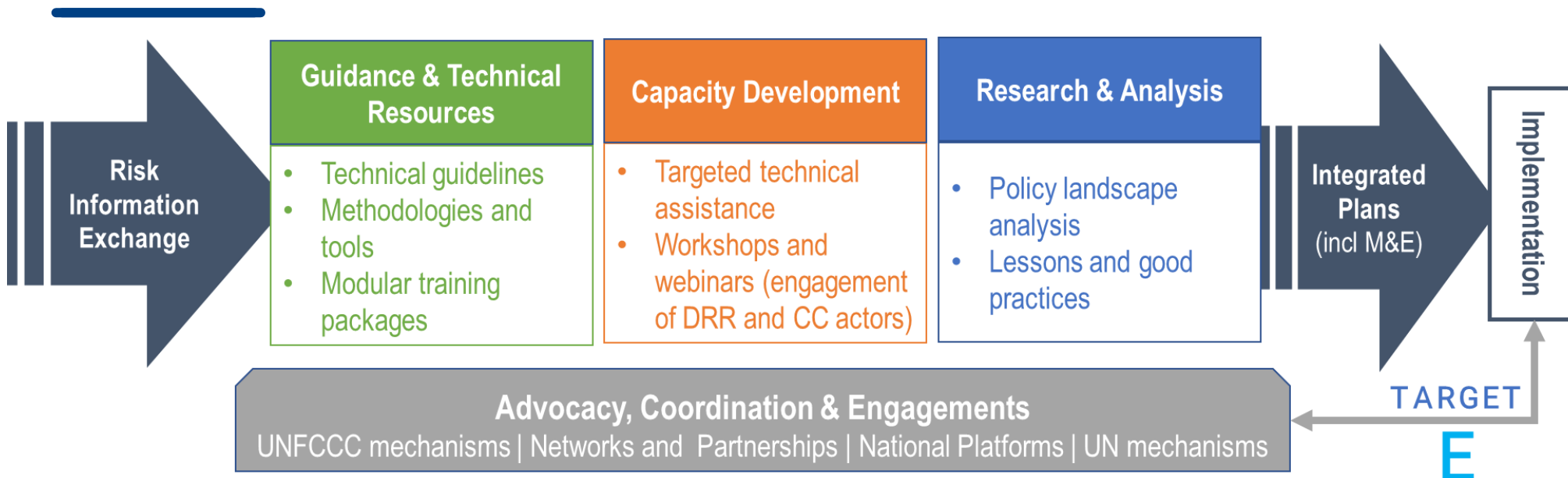
Why integrated planning?

- A post 1.5°C world will lead to unmanageable disaster risks, accelerate hazard events, and systemic impacts
- Climate change is an underlying risk driver, is rapidly shifting the risk landscape, and revealing systemic vulnerabilities
- Disasters reduce adaptive capacity to climate change
- Risk-blind adaptation can create new risk and result in maladaptation
- Climate change and disasters are reinforcing inequalities, social dislocations, and reversing development gains.
- Risk reduction cannot occur without the use of climate information; climate change adaptation will not be successful without risk reduction:
 - ***Risk-centred approaches*** should be integrated into National Adaptation Plans (NAPs)
 - ***Adaptation and climate information*** into national and local disaster risk reduction strategies.

Enabling integrated implementation



The CRM Approach



- | | | |
|---|--|--|
| <ul style="list-style-type: none"> • Methodologies and tools (e.g. DRR4NAPs) • Comprehensive risk asst. & mgmt. • Modular training packages • CRM Checklist <p>Forthcoming</p> <ul style="list-style-type: none"> • Climate info for DRR planning | <ul style="list-style-type: none"> ○ Caribbean: Dominica, Grenada, St. Kitts & Nevis, Suriname, The Bahamas, Trinidad and Tobago ○ Africa: Benin, Malawi, Niger, Uganda ○ Arab States: Comoros, Djibouti, Mauritania, Sudan ○ Asia: Maldives, Nepal (tbc) <p>To be upscaled to 40 LDCs & SIDS</p> | <ul style="list-style-type: none"> • Regional policy landscape analysis (Africa) • National policy landscape analyses (Benin, Malawi, Niger and Uganda) • Policy Brief <p>Forthcoming:</p> <ul style="list-style-type: none"> • Regional policy analysis (Caribbean & Asia-Pacific) • Good practices |
|---|--|--|

CRM tools and products



POLICY BRIEF DISASTER RISK REDUCTION AND CLIMATE CHANGE

OVERVIEW

"Climate change is the defining issue of our time... every day we fail to act is a day that we step a little closer towards a fate that none of us wants- a fate that will resonate through generations in the damage done to humankind and life on earth."

Antonio Guterres, UN Secretary-General

The climate emergency is the biggest economic, social, and environmental threat facing the planet and humanity. Climate-related disasters have almost doubled compared to the previous twenty years. This has exacerbated inequalities within and between countries, with those contributing least to global emissions often experiencing the worst impacts of the climate emergency. Driven by climate and conflict, often interrelated, humanitarian needs are at their highest-ever with one in every 33 people globally in need of assistance and protection.

We are at a crossroads. Climate change is undermining the ability to achieve the 2030 Agenda for Sustainable Development, including the Sendai Framework for Disaster Risk Reduction.

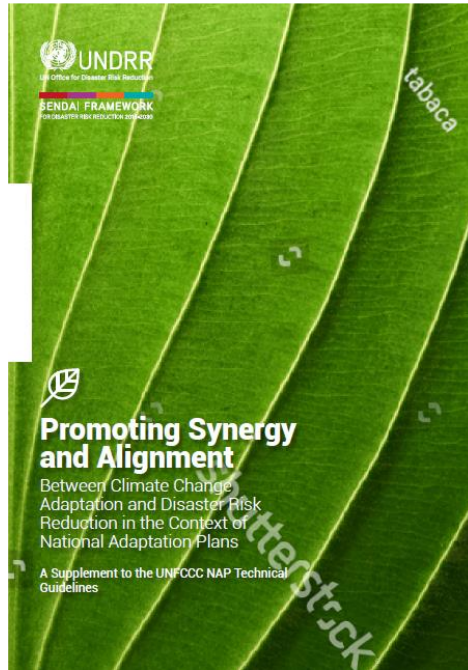
It is rewriting the global resource map for assets such as water, arable land and energy while driving migration, displacement, and instability. Transitioning to a sustainable net-zero carbon world requires rapid system-level changes, including in key sectors such as energy, food, and health. Urgent actions are needed by the G20 countries that are responsible for 80 percent of greenhouse gas emissions. It is essential to manage the risks inherent in this change to ensure that no one is left behind, and everyone enjoys the benefits of continued sustainable development. It is also important to ensure that 50 per cent of the total share of climate finance provided by all developed countries and multilateral development banks be allocated to adaptation and resilience in developing countries. Concurrently, systemic changes are required to better prevent and prepare for extreme and slow-onset events, rise to the challenge of sea-level rise, and protect productive sectors from climate impacts.

Collective action, political leadership, and financing are needed to keep the global average temperature within the 1.5 degrees safer limit outlined in the Paris Agreement. However, prudent risk management requires preparation for a range of negative outcomes associated with varying degrees of warming and to effectively manage unexpected concurrent threats, such as the current COVID-19 crisis.

KEY POINTS:

- Human-induced climate change is leading to weather and climate extremes in every region.
- Global warming may increase by 1.5 °C by the early 2030s, much earlier than predicted.
- A warmer climate will result in increased heat waves, longer warm seasons, shorter cold seasons and more intense floods and droughts.
- With every additional increment of global warming, changes in extremes become larger. For each 1°C of global warming, extreme daily precipitation events may intensify by about 7%.

These findings from the recent 6th IPCC Assessment Report point to an urgent need to accelerate action to avert climate related disaster risks, through fast-tracked implementation of the Sendai Framework.

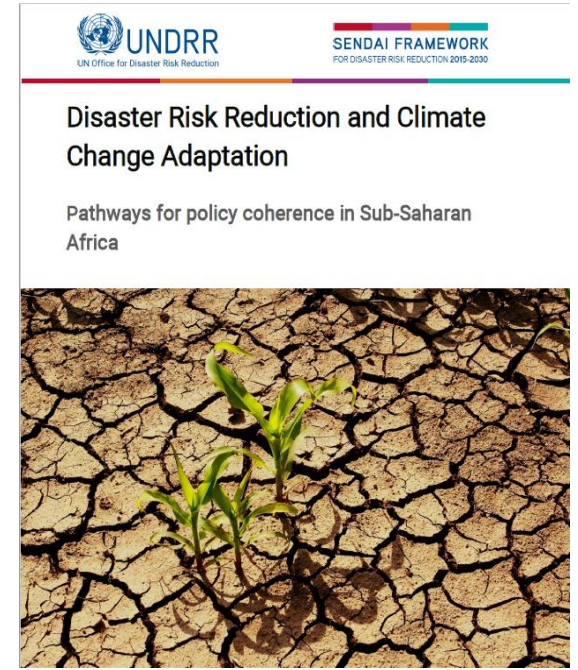


Promoting Synergy and Alignment Between Climate Change Adaptation and Disaster Risk Reduction in the Context of National Adaptation Plans

A Supplement to the UNFCCC NAP Technical Guidelines



TECHNICAL GUIDANCE ON COMPREHENSIVE RISK ASSESSMENT AND PLANNING IN THE CONTEXT OF CLIMATE CHANGE



Disaster Risk Reduction and Climate Change Adaptation

Pathways for policy coherence in Sub-Saharan
Africa



Analysis of DRR inclusion in national climate change commitments

Benin, Ethiopia, Fiji, Guyana, Kiribati,
Malawi, St. Vincent and the Grenadines,
Sri Lanka, Sudan, Uganda



Other Existing Resources



In support of the Sendai Framework
for Disaster Risk Reduction 2015 – 2030



Advocacy, Partnerships and Engagements



CENTRE OF EXCELLENCE
**CLIMATE AND
DISASTER
RESILIENCE**

Warsaw International Mechanism

Executive Committee of WIM, Technical Working Group on CRM, Santiago Network

LDC Expert Group (LEG)

Adaptation Committee



**Risk-informed
Early Action
Partnership**

Working Group on CRM
(Target 1)



**InsuResilience
GlobalPartnership**

**ADAPTATION
ACTION
COALITION**



**Commitment to Action
[FAO, UNDRR]
CRM for Food Systems
Resilience**

NAP Expo Events including CRM

- Title: 2.2.2 Enhancing synergy between Climate Change Adaptation and Disaster Risk Reduction: **A Comprehensive Risk Management Approach**
- When: 28 March 2023 from 11:00 am - 12:30 pm
- Where: Valle de Colchagua
- Organizers: UNDRR, UNEP, AAC, REAP

NAP Expo Events including CRM

- Title: 3.2.3 Breaking barriers to scaling-up adaptation: innovative solutions for finance, technology, analytics, and governance
- When: 29 March 2023 from 11:00 am - 12:30 pm
- Where: Valle de Colchagua
- Organizers: UNU-EHS, UNDRR, MCII



Thank you



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FOR DISASTER RISK REDUCTION 2015-2030