



Opportunities for Strengthening Resilience by Integrating Climate and Disaster Risk Finance and Insurance (CDRFI) in National Adaptation Plan (NAP) Processes



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ABOUT THE NAP GLOBAL NETWORK

The NAP Global Network was created in 2014 to support developing countries in advancing their NAP processes and help accelerate adaptation efforts around the world. To achieve this, the Network facilitates sustained South-South peer learning and exchange, supports national-level action on NAP development and implementation, and enhances bilateral support for adaptation and climate-sensitive sectors through donor coordination. Financial support for the Network has been provided by Austria, Canada, Germany, the United Kingdom, and the United States. The Secretariat is hosted by the International Institute for Sustainable Development (IISD). For more information, visit www.napglobalnetwork.org.

ABOUT THE INSURESIENCE GLOBAL PARTNERSHIP

Building upon the G7 Climate Risk Insurance Initiative, the InsuResilience Global Partnership for Climate and Disaster Risk Finance and Insurance was launched under the leadership of V20 and G20+ countries at the 2017 UN Climate Conference in Bonn. InsuResilience aims to strengthen the resilience of developing countries and protect the lives and livelihoods of poor and vulnerable people against the impacts of disasters. In doing so, it brings together more than 100 member institutions comprising governments, civil society, international organizations, the private sector and academia. The goal of the Partnership, as per its "Vision 2025", is to protect 500 million poor and vulnerable people against the impacts of disasters by scaling up pre-arranged risk finance and insurance solutions. For more information, visit www.insuresilience.org.

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Executive Summary

Climate and disaster risk finance and insurance (CDRFI) solutions can play an essential role in climate change adaptation, enabling governments, businesses, and individuals to protect their financial security in the event of shocks and providing information and incentives for improved management of risks. National Adaptation Plan (NAP) processes will guide investments in adaptation over the coming years, whether from domestic budgets, the private sector, or international climate finance. Having CDRFI solutions better reflected in NAP processes will increase awareness of the role of these financial tools in a country's adaptation journey while providing a basis for quickly and effectively scaling up such solutions.

The analysis presented in this report provides a better understanding of the ways in which countries are integrating CDRFI solutions in their efforts to formulate and implement NAPs—as well as the missed opportunities. The analysis is a result of collaboration between the NAP Global Network and the InsuResilience Global Partnership (IGP) to support better integration of CDRFI solutions within NAP processes. The analysis is based on a systematic review of two types of documents: NAP documents and a sample of NAP readiness proposals to the Green Climate Fund (GCF).

The key findings of the analysis are as follows:

The cost of climate and disaster risks is a factor driving adaptation in many countries.

Among the NAP documents reviewed, 48% made reference to the costs incurred by climate-related disasters in the context sections. Generally speaking, the references are retrospective, referring to costs incurred by past disasters. Similarly, 42% of GCF Readiness Proposals refer to the cost of climate-related disasters, also largely in a retrospective fashion.

Most countries are drawing linkages between adaptation and disaster risk management (DRM). The NAP documents, for the most part, draw linkages between adaptation and DRM. Just over 70% identify DRM (or disaster risk reduction [DRR]) as a priority sector or adaptation strategy, while more than 80% identify specific actions related to DRM.

Insurance is the most identified CDRFI solution in NAP documents. Almost all of the NAP documents (90%) include references to insurance. In most cases (81%), this includes references to insurance among the adaptation priorities and/or actions.

Insurance is often seen as a tool for managing and transferring climate risks in the agriculture, livestock, and/or fisheries sectors. Among the 19 countries that included insurance as part of their adaptation plans, 58% had a specific focus on the agriculture, livestock, and/or fisheries sectors.

The insurance sector is viewed as a key partner for NAP implementation in many countries. The insurance sector is mentioned as a partner in NAP implementation in 38% of the NAPs.

Some countries recognize the value of social protection for adaptation. Though it is less prevalent than insurance, some countries are also identifying social protection as a means of building climate resilience, particularly for the most vulnerable groups and communities. Among the NAPs analyzed, 33% make explicit reference to social protection.

Improvement of data generation, management, and analysis is a priority in many countries. A large number of countries (76%) have some reference to improving data generation, management, and analysis among the actions identified in NAP documents.

The following recommendations target the institutions involved in coordinating and implementing the NAP process:

- 1. Establish dialogue among adaptation actors, ministries of finance, and private sector CDRFI providers to identify mutual objectives and potential solutions.** NAP processes present an opportunity to bring different actors together, creating platforms for dialogue among adaptation actors (including environment ministries, as well as sector ministries involved in implementing adaptation actions), ministries of finance and CDRFI providers (including from the private sector).
- 2. Engage with CDRFI providers to support application of risk analytics in decision making.** There is limited evidence that risk modelling and probabilistic analysis are being used in a systematic manner to assess climate-related risks and vulnerabilities and identify adaptation priorities. Improved collaboration between adaptation actors and entities such as insurance companies could provide a better basis for the application of risk analytics in NAP processes.
- 3. Further explore how NAP processes can scale up adaptive social protection.** Adaptive social protection is a key tool that can be employed to protect the most vulnerable groups and communities in the context of climate change, and NAP processes present an important opportunity to scale this up.
- 4. Focus on ensuring equitable benefits from CDRFI solutions for all genders and social groups.** For efforts to scale up CDRFI solutions to be effective, they must be gender equitable and benefit the most vulnerable groups and communities. To achieve this, governments and CDRFI providers must actively work to lift barriers.



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Relevant international actors, including initiatives supporting NAP processes and CDRFI initiatives, implementing agencies for GCF NAP readiness projects, development partners, and providers of climate finance, should:

1. **Raise awareness of the potential of CDRFI solutions for adaptation to climate change.** More effort is needed on the part of international actors to help countries understand the potential of CDRFI solutions—particularly lesser-known instruments such as contingent credit—and how they can best integrate them as part of their adaptation plans.
2. **Synthesize evidence and facilitate learning across countries on the ways in which insurance can support adaptation to climate change.** It is imperative to consolidate emerging evidence around success factors for CDRFI integration to help countries achieve their adaptation objectives, and on what works and what doesn't in relation to climate risk insurance in general.
3. **Promote strategic investments in CDRFI in climate-vulnerable countries.** There is an opportunity to use the NAP process as a basis for encouraging strategic investments that enhance the use of CDRFI within broader adaptation strategies in climate-vulnerable countries, for example by investing in capacity building for relevant actors to plan and implement CDRFI solutions, or in strengthening domestic insurance markets.

The key message that emerges from the document review is one of opportunities—there are entry points to integrate CDRFI throughout the NAP process, and many countries have created openings for this through specific adaptation actions, mechanisms for collaboration across governments and with the private sector, and efforts to better use data for decision making.

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Acronyms

CDRFI	climate and disaster risk finance and insurance
DRR	disaster risk reduction
DRM	disaster risk management
GIZ	Deutsche Gesellschaft für International Zusammenarbeit GmbH
HLCG	High-Level Consultative Group (of the InsuResilience Global Partnership)
IGP	InsuResilience Global Partnership
IISD	International Institute for Sustainable Development
MCII	Munich Climate Insurance Initiative
M&E	monitoring and evaluation
MSMEs	micro, small, and medium-sized enterprises
NAP	national adaptation plan
NDC	nationally determined contributions
UNFCCC	United Nations Framework Convention on Climate Change

1.

Introduction

At a time when the impacts of climate change are predicted to push up to 132 million additional people into extreme poverty by 2030 (Jafino et al., 2020), there is a need for concerted effort to strengthen adaptation and resilience building mechanisms. Climate and disaster risk finance and insurance (CDRFI) solutions can play an essential role in climate change adaptation, enabling governments, businesses, and individuals to protect their financial security in the event of shocks (Jarzabkowski et al., 2019) and providing information and incentives for improved management of risks. To this end, the National Adaptation Plan (NAP) Global Network and the InsuResilience Global Partnership (IGP) are collaborating to converge efforts to support better integration of CDRFI solutions within NAP processes.

The NAP process is a key mechanism for implementing the Paris Agreement, providing a critical enabling framework and direction of travel for adaptation action in developing countries. Along with adaptation information presented in countries' nationally determined contributions (NDCs), NAP processes will guide investments in adaptation over the coming years, whether from domestic budgets, the private sector, or international climate finance. Having CDRFI solutions better reflected in NAP processes will not only increase awareness of the role of these financial tools in a country's adaptation journey but also provide a basis for quickly and effectively scaling up such solutions. The analysis presented in this report will yield a better understanding of the ways in which countries are integrating CDRFI solutions in their efforts to formulate and implement NAPs—as well as the missed opportunities.

This report builds on the recent analysis by the InsuResilience Secretariat, the Climate Vulnerable Forum Vulnerable Twenty (V20) Secretariat, the NDC Partnership Support Unit, the Munich Climate Insurance Initiative (MCII), and the United Nations Framework Convention on Climate Change (UNFCCC), which focused on CDRFI in NDCs, NAPs, and requests for support from countries to the NDC Partnership, specifically for V20 countries.¹ The resulting policy note (Ahmed et al., 2021) identified five action areas² for improved integration of risk finance into national resilience and adaptation efforts, which were endorsed by the InsuResilience High-Level

¹ For more information on the V20 countries, please see the [V20 website](#).

² The five action areas focus on raising awareness and supporting advocacy on the benefits of CDRFI for adaptation and resilience building; enhancing capacities; strengthening availability of (and access to) data and information; enhancing private sector engagement; and disseminating good practices.



Consultative Group (HLCG). This report complements this earlier analysis, with a specific focus on NAP processes based on available documents—namely, NAP documents submitted to the UNFCCC and proposals for adaptation planning support submitted to the Green Climate Fund (GCF). While this report addresses aspects of all five action areas, it is a specific contribution to the dissemination of good practices (action area 5), in particular on “how to better integrate risk finance strategies and instruments in ... NAPs” (Ahmed et al., 2021, p. 11).

The report begins with an overview of CDRFI and the NAP process, setting the context for the analysis. The methodology is outlined and the entry points for integrating CDRFI in the NAP process are introduced. The key findings of the analysis are presented and discussed, and recommendations are provided for realizing the potential of CDRFI solutions in building resilience through the NAP process. The report will be of interest to developing country governments and partner agencies working on both NAP processes and CDRFI, as well as providers of development and climate finance.

2. Background

This section provides a basic overview of CDRFI and the NAP process.

What Is CDRFI?

Though the concept of disaster risk finance has been around for many years (Financial Protection Forum, n.d.), the inclusion of climate change and the term CDRFI are relatively new. CDRFI builds on disaster risk finance, involving a proactive approach to financial planning that integrates climate change and disaster risks. It comprises “pre-arranged financial arrangements and instruments aimed at strengthening financial resilience or providing financial protection for climate and disaster risks” (IGP, n.d., n.p.). By providing mechanisms to disburse finance quickly and reliably in the event of a hazard, CDRFI provides predictable and rapid access to resources to help protect public budgets, as well as lives and livelihoods of people affected by climate change and disasters (IGP, n.d.; Mahul et al., 2018).

CDRFI can be used to (IGP, n.d.; Lloyd's, 2018; Mahul et al., 2018):

- Promote economic growth and provide fiscal stability in the face of climate and disaster risks
- Maintain or enhance government services before, during and after a disaster
- Provide emergency assistance during the crisis
- Facilitate recovery and reconstruction after disasters strike
- Enhance the financial resilience of individuals, property owners, and businesses affected by climate change and disasters.

It is underpinned by climate and disaster risk analytics,³ which inform decision making about the application of the different instruments that comprise CDRFI. Table 1 presents an overview of key instruments and the groups that they target.⁴ It's important to note that a combination of different instruments is needed to address hazards of different types, based on their frequency and

³ Analytics provide the link between risk data and decision making, by translating technical information into practical analysis that can be used to make informed decisions (World Bank Group, n.d.a).

⁴ Please note that this table is not exhaustive—it focuses on the instruments that are most frequently implemented and may not include emerging approaches.

severity—this approach, called “risk layering,” helps ensure that the costliest sources of finance are used only when absolutely necessary (Mahul et al., 2018).

CDRFI instruments provide payouts to clients on the basis of different predefined triggers. Indemnity-based solutions provide compensation on the basis of actual damages, whereas index-based solutions pay out based on combinations of indicators that provide information on potential or realized losses. These include both forecast-based and observational indicators. Parametric insurance is one example of an index-based solution, which is often triggered based on weather-related indicators (for example, the wind speed of a tropical storm or the amount of rainfall) (IGP, n.d.).

Table 1. Overview of target groups and CDRFI instruments

CDRFI instruments	Description
Target group: National and subnational governments	
Contingency funds	Contingency funds are financial reserves, including from government budgets, that are set aside to be used in the event of a disaster.
Contingent credit	A type of financial instrument to help governments secure funds in advance of a disaster, which not only increases financial resilience but helps incentivize better DRM policies overall.
Sovereign and sub-sovereign risk transfer mechanisms (often provided through catastrophe risk pools)	These are insurance schemes that provide payouts to national or subnational governments in the event of hazards including extreme weather events. Governments are increasingly joining together to purchase insurance in “risk pools” that reduce the cost of premiums and allow them to diversify their risk profile. ⁵ In these risk pools, there is generally an entity that is responsible for risk analytics and capacity development of the governments, in addition to the insurance vehicle or mutual that provides the coverage.
Public asset insurance	This is insurance specifically to recover damages to public assets, including infrastructure.

⁵ The African Risk Capacity (ARC), Caribbean Catastrophe Risk Insurance Facility (CCRIF) and Pacific Catastrophe Risk Insurance Company (PCRIC) are examples of regional risk pools.

CDRFI instruments	Description
Catastrophe bonds (sometimes referred to as "cat bonds")	Catastrophe bonds are issued by both public and private entities that are exposed to natural disaster risk. Investors in cat bonds receive a higher interest rate for their investment; however if a catastrophe occurs, the payment of interest and/or principal by the issuer is deferred or completely cancelled. This allows issuers of cat bonds to transfer a portion of their risk to the bond investors.
Target group: Homeowners and micro, small and medium-sized enterprises (MSMEs)	
Property insurance	A type of insurance that protects the owner or user of property for its loss or the loss of its income-producing ability when the loss or damage is caused by a covered hazard, such as fire or flooding.
Business interruption insurance	This type of insurance covers business income lost (and sometimes additional costs incurred) as the result of business interruption due to a disaster, including climate-related events.
Target group: Agricultural actors	
Agricultural insurance	Insurance products that aim to protect farmers and those employed in agriculture from the negative effects of crop and livestock losses due to variable or extreme weather. This includes index-based insurance that provides payouts based on indicators such as the amount of rainfall or the length of a dry period. It also includes insurance provided to intermediaries, such as cooperatives and microfinance institutions, to protect against losses when their members or clients are affected by shocks.
Target group: Vulnerable households and individuals	
Social protection systems (adaptive/shock-responsive)	Social protection programs include safety nets and other forms of assistance that are targeted to the poorest households to address income gaps and fluctuations and acute financial needs. 'Shock-responsive' or 'adaptive' social protection is designed to respond and/or build resilience to covariate shocks, including extreme weather events.

Sources: Bennet, 2014; Bowen et al., 2020; Hirsch & Hampel, 2020; IGP, n.d.; International Bank for Reconstruction and Development, 2017; International Risk Management Institute, n.d.; Investopedia, 2020; Lu & Abrigo, 2018; Mahul et al., 2018; Vaananen et al., 2019; World Bank Group, n.d.b.

What Is the NAP Process?

Established under the United Nations Framework Convention on Climate Change (UNFCCC) in 2010, the objectives of the NAP process are: “to reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience” and “to facilitate the integration of climate change adaptation, in a coherent manner, into relevant new and existing policies, programmes and activities, in particular development planning processes and strategies, within all relevant sectors and at different levels, as appropriate” (UNFCCC, 2010, p. 80). This is a strategic, government-led process which “enables countries to identify and address their medium- and long-term priorities for adapting to climate change” (Hammill et al., 2020, n.p.). It is guided by the technical guidelines developed by the UNFCCC in 2012 (UNFCCC, 2012). Though it was established in 2010, the NAP process was recognized in the 2015 Paris Agreement as a key mechanism for achieving the global goal on adaptation (UNFCCC, 2015).

The NAP process involves analysis of the current and future impacts of climate change, as well as assessment of vulnerability to these impacts. On this basis, adaptation options are identified and prioritized, the priority options are implemented, and progress and results are tracked. An important dimension of the NAP process is the establishment of systems and development of capacities that enable climate change adaptation to be integrated into the country's development planning, decision making and budgeting in an ongoing manner (Hammill et al., 2020; UNFCCC, 2012, 2010).

The NAP process is an iterative cycle of planning, implementation, and monitoring and evaluation (M&E). It is enabled by capacity development, financing, appropriate institutional arrangements for adaptation, and sharing of information across sectors, levels, and different types of actors. Many countries are choosing to develop NAP documents and submit them to the UNFCCC: as of the end of March 2021, 22 countries had taken this step, while many others are in the process (see Section 3 for more details). However, this is not a requirement if a country already has an adaptation plan or strategy in place. Some countries are also developing other planning documents, which may include sector adaptation plans or subnational adaptation plans (Hammill et al., 2020). Many countries seek to align their NAP processes with other national-level processes under the Paris Agreement, in particular the adaptation component of their NDC, if they have one. NDCs can be used to communicate commitments related to adaptation, while NAP processes can elaborate how these commitments will be achieved (Hammill & Price-Kelly, 2016, 2017).⁶ Countries are also drawing linkages with the Sendai Framework on Disaster Risk Reduction and the Sustainable Development Goals as a basis for broader alignment toward climate-resilient development (Dazé et al., 2018; Hammill & Price-Kelly, 2016, 2017; UNFCCC, 2017).

⁶ A recent analysis showed that many countries are including references to CDRFI in their NDCs (MCII, 2021). In these cases, NAP processes present an opportunity to plan and implement CDRFI-related actions to meet objectives set out in NDCs.

Currently, many countries are pursuing adaptation planning readiness support from the GCF to advance their NAP processes. The GCF is providing significant support (up to USD 3 million) to countries for the formulation of NAPs and other adaptation planning processes. As of March 2021, the GCF reported that 95 countries had submitted proposals for this funding, though only 60 of these had been approved (GCF, 2021). The GCF is supporting activities that strengthen adaptation planning governance and institutional coordination and support evidence-based planning. It also provides support to increase adaptation finance and catalyze private sector engagement in adaptation (GCF, 2021).



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3.

Entry Points for CDRFI in NAP Processes

As noted above, the NAP process can be thought of as an iterative cycle with three major phases: planning, implementation, and M&E, as shown in Figure 1. The factors that enable this cycle to occur include institutional arrangements for adaptation, capacity development, information sharing, and financing (Hammill et al., 2020). The phases shown in Figure 1 align with the four elements of the NAP process as described in the technical guidelines developed by the UNFCCC (2012):

- A. Lay the groundwork and address gaps (planning)
- B. Preparatory elements (planning)
- C. Implementation strategies (planning and implementation)
- D. Monitoring, reporting, and review (M&E).

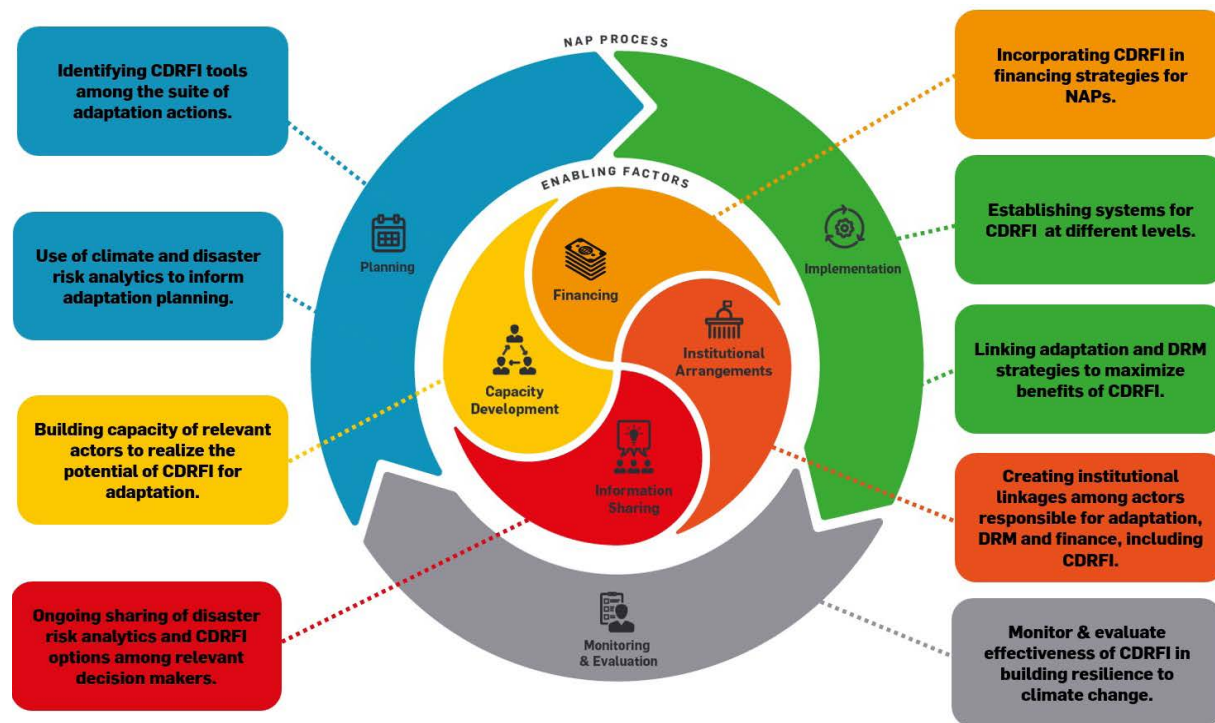
This process presents a number of different opportunities for CDRFI solutions to be incorporated, as shown in Figure 1. This includes entry points in the core phases of the NAP process as well as in the enabling factors. Key entry points include:

- During the **planning** phase, climate and disaster risk analytics can be used to inform decision making, including cost-benefit analysis and prioritization of risks, while CDRFI solutions that support climate resilience can be identified among the suite of adaptation actions that are prioritized.
- **Implementation** provides opportunities to link adaptation and disaster risk management (DRM) strategies, as well as to ensure that systems for CDRFI are in place at different levels, from local to national. This includes, for example, public-private partnerships to facilitate access to insurance. This can help maximize the cost effectiveness and potential benefits of CDRFI solutions.
- The establishment of **M&E** systems for adaptation, including the establishment of baselines, identification of indicators, and development of methods for tracking progress, presents an opportunity to include measures to track effectiveness of CDRFI solutions in building resilience to climate change. Further, risk and vulnerability data generated by CDRFI providers can feed into M&E systems.

- Efforts to secure **financing** for NAP processes, including for implementation of adaptation actions, present opportunities to incorporate CDRFI solutions, as well as to establish partnerships with entities who can provide CDRFI solutions to different actors.
- The establishment of **institutional arrangements** for adaptation can create institutional linkages among actors responsible for adaptation, DRM, and finance, including CDRFI providers, toward the realization of synergies between CDRFI and other adaptation actions.
- **Information sharing** around the NAP process can facilitate ongoing sharing of actions, progress and lessons learned related to CDRFI among relevant decision makers. It can also ensure that government actors have access to climate and disaster risk analytics generated by CDRFI providers.
- Investments in **capacity development** can help ensure that the necessary knowledge and skills are in place to realize the potential of CDRFI for adaptation. This would include capacity development both for government actors leading NAP processes, to understand how CDRFI can support climate risk management, and for CDRFI providers, to develop products and services that are suited to the context of climate change.

This means that country teams can explore opportunities related to CDRFI, regardless of where they are in the NAP process.

Figure 1. Entry points for CDRFI in the NAP process



Source: Adapted from Hammill et al., 2020.

4.

Methodology for the Analysis

The aim of the following analysis is to understand how countries are integrating CDRFI in NAP processes, based on information in publicly available documents. This section provides a brief overview of the methodology used for the analysis.

The findings are based on a review of two types of documents:

- **NAP documents:** The review focused on 21 NAP documents that had been submitted to the UNFCCC as of March 31, 2021 (available on [NAP Central](#)).⁷ While the level of detail in NAP documents varies from country to country, in most cases they provide a relatively high-level overview of the country's plan for adapting to climate change.
- **NAP readiness proposals to the GCF:** The sample included the 52 proposal documents that were approved and available on the GCF website at the time of the review.⁸ The NAP readiness proposals are relatively concise; however, they provide insights into the activities and milestones that governments are pursuing to advance their NAP processes over the coming couple of years.

In both cases, the integration of CDRFI in the documents was systematically assessed through a review of key sections and keyword searches for CDRFI-relevant terms (see Table 1—the search covered the different instruments and related terms). Due to the different nature of the NAP documents and GCF proposals, the reviews for each type of document were compiled and analyzed separately. The analysis focused on identifying trends in the two types of documents, looking at the use of climate and disaster risk analytics to inform adaptation planning and the incorporation of CDRFI solutions in country NAP processes. Based on the trends, recommendations were developed to build on existing good examples and avoid missed opportunities to integrate CDRFI solutions going forward.

It is important to distinguish between NAP *processes* and NAP *documents*. Though only 22 countries have communicated NAP documents to the UNFCCC, 125 countries have NAP processes

⁷ There were 22 documents on NAP Central at the end of March; however, this includes a sector-specific NAP for agriculture from Uruguay—this was not included in the analysis as we are focusing on overarching NAP documents.

⁸ Though it had been reported that 60 proposals were approved, only 52 were available on the GCF website at the time of the document review.

underway (UNFCCC, 2020). The analysis used information available in NAP documents, which may not cover all aspects of the processes that have been undertaken so far or the details of planned next steps. The proposals for readiness funding from the GCF provide additional details on the process, but again, these may not provide a full picture. Consequently, findings are based on available evidence, recognizing that some aspects of country NAP processes may not be captured in the documents reviewed and that the documents are only a snapshot of the efforts countries are making to advance their NAP processes.

5.

Findings of the Analysis

The following are the key findings of the analysis.

The cost of climate and disaster risks is a factor driving adaptation action in many countries.

Among the NAP documents reviewed, 48% made reference to the costs incurred by climate-related disasters in the context sections. In some cases, this referenced specific costs—for example, Saint Lucia's NAP cites the impact of Hurricane Tomas in 2010, which caused USD 336 million in damages and killed seven people (Government of Saint Lucia, 2018). In others, it is more of a general reference, such as in Ethiopia, where the context section notes that natural disasters have historically been costly for the country (Federal Democratic Republic of Ethiopia, 2019). Generally speaking, the references are retrospective, referring to costs incurred by past disasters. One exception is the NAP from Timor-Leste, which describes projected costs of damage from tropical windstorms, landslides, and floods (as well as earthquakes and tsunamis, which are not associated with climate change), suggesting that these will reach 10% of GDP by 2100 (Democratic Republic of Timor-Leste, 2021). Fiji, on the other hand, notes the challenges in quantifying the impacts of climate change and disasters in monetary terms (Government of the Republic of Fiji, 2018).

Similarly, 42% of GCF Readiness Proposals refer to the cost of climate-related disasters, largely in a retrospective fashion. Zambia's proposal notes that floods and droughts have cost the nation an estimated 0.4% in annual economic growth over the past three decades (Republic of Zambia & Global Water Partnership Organization, 2018), while Malawi points out that its GDP contracted by up to 10.4% during the drought of 1991–1992 (Republic of Malawi & United Nations Environment Programme, 2019). Somalia, on the other hand, points to a lack of capacity within the country to estimate the future costs of climate change impacts, making it difficult to calculate the costs and benefits of adaptation and conduct financial planning (Somali Republic & United Nations Development Programme, 2019).

Most countries are drawing linkages between adaptation and DRM.

The NAP documents for the most part draw linkages between adaptation and DRM. Just over 70% identify DRM (or DRR) as a priority sector or adaptation strategy, while more than 80% identify specific actions related to DRM. For example, Kuwait's NAP identifies the development of early warning systems for extreme weather events, along with a communication strategy for alerts, as

a priority medium-term action under the health sector (Environment Public Authority of Kuwait, 2019). A large number of NAPs (71%) make reference to a separate DRM strategy or plan, such as in Grenada, where the NAP establishes a goal to mobilize funding for the 5-year program of the National Disaster Management Agency (Government of Grenada, Ministry of Climate Resilience, the Environment, Forestry, Fisheries, Disaster Management and Information, 2018). However, only 38% of the documents make reference to the Sendai Framework for Disaster Risk Reduction.

Insurance is the most identified CDRFI solution in NAP documents.

Almost all of the NAP documents (90%) include references to insurance. In most cases (81%), this includes references to insurance among the adaptation priorities and/or actions. Some countries make broader references to insurance as part of the suite of adaptation strategies presented, such as in Colombia, where insurance is identified as a risk transfer mechanism to address extreme events (Departamento Nacional de Planeación, República de Colombia, 2018). Three countries—Saint Lucia, Sri Lanka, and Togo—plan to undertake feasibility assessments for scaling up climate risk insurance (Climate Change Secretariat, Ministry of Mahaweli Development and Environment, 2016; Government of Saint Lucia, 2018; Republique Togolaise, 2018). Others include more specific actions, for example in Paraguay, where there is a plan to establish a working group that brings together public and private insurance providers to develop new products to address climate risks (Secretaría del Ambiente, República del Paraguay, 2020). In another example, one of the outputs in Suriname's NAP is to put in place insurance schemes to manage the impacts of extreme weather events on health, housing, and infrastructure (Government of Suriname, 2019). Some countries also address the enabling environment for scaling up access to insurance; for example, the NAPs from Ethiopia and the State of Palestine include actions to strengthen the institutional capacities of insurance providers (Federal Democratic Republic of Ethiopia, 2019; State of Palestine Environment Quality Authority, 2016).

Some GCF Readiness Proposals (25%) include references to insurance as well. A few countries refer to the insurance sector as a partner to be engaged in adaptation planning. Tajikistan's proposal, for instance, includes plans to develop outreach programs for local financial institutions and insurance companies (Republic of Tajikistan & United Nations Development Programme, 2020), while Tonga identifies the need to “discuss the limits to the supports the insurance and banking sector can give” during and after climate-related events (Ministry of Finance and National Planning, Kingdom of Tonga, 2020). Other countries refer to existing and planned adaptation initiatives related to insurance. Côte d'Ivoire, for instance, proposes to develop and pilot climate insurance programs in agriculture, health, land use, and DRR (Republic of Côte d'Ivoire & United Nations Development Programme, 2019). Madagascar, on the other hand, refers to an existing initiative that is introducing climate risk insurance schemes in the agriculture sector to “ensure that value chain actors can insure themselves against income losses due to climate and weather-related events” (Republic of Madagascar & United Nations Development Programme, 2019, p. 37).

Insurance is often seen as a tool for managing and transferring climate risks in the agriculture, livestock and/or fisheries sector.

Among the 19 countries that included insurance as part of their adaptation plans, 58% had a specific focus on the agriculture, livestock, and/or fisheries sectors. For example, Brazil's NAP aims to put in place rural insurance coverage for the prevention and compensation of agricultural climate losses (Ministry of Environment, Federative Republic of Brazil, 2016). Chile foresees the expansion of agricultural insurance coverage, both in terms of the products offered and the population covered (Departamento de Cambio Climático del Ministerio del Medio Ambiente, Gobierno de Chile, 2017). In another example, Grenada aims to investigate options for insurance for agriculture and fishing (Government of Grenada, Ministry of Climate Resilience, the Environment, Forestry, Fisheries, Disaster Management and Information, 2018). This suggests that countries see the potential of insurance to build resilience in these sectors; however, it also highlights the need for additional investment to realize this potential. Other sector-specific references are limited, which may point to a need to raise awareness of the ways in which insurance can be used to manage risks across priority sectors for adaptation.

The insurance sector is viewed as a key partner for NAP implementation in many countries.

The insurance sector is mentioned as a partner in NAP implementation in 38% of the NAPs. In some cases, this is in the context of efforts to engage the private sector in adaptation efforts, such as in Cameroon, where the NAP highlights the role of insurance companies in promoting resilient infrastructure and land-use practices, toward reduced costs over the longer term (Ministry of Environment, Protection of Nature and Sustainable Development, 2015). Other countries aim to work directly with insurance providers to enhance capacities to deliver services that build climate resilience: this is the case in Ethiopia and the State of Palestine, as noted above (Federal Democratic Republic of Ethiopia, 2019; State of Palestine Environment Quality Authority, 2016). Still other countries are engaging insurance actors in the institutional arrangements for adaptation, such as in Saint Lucia, where the National Insurance Council is a member of the National Climate Change Committee. Suriname's NAP notes that the insurance sector plays an important role in national economic development (Government of Suriname, 2019).

Some countries recognize the value of social protection for adaptation.

Though it is less prevalent than insurance, some countries are also identifying social protection as a means of building climate resilience, particularly for the most vulnerable groups and communities. Among the NAPs analyzed, 33% make explicit reference to social protection. This includes Kenya, where one of the NAP actions is to expand social protection mechanisms, with a focus on gender, youth, and vulnerable groups (Republic of Kenya, Ministry of Environment and Natural Resources, 2017). Burkina Faso's NAP also includes an adaptation measure focusing on social protection for vulnerable communities and households, for increased livelihood security

(Ministry of Environment and Fishery Resources, 2015). Grenada also aims to enhance social protection systems, with a focus on farming and fishing communities (Government of Grenada, Ministry of Climate Resilience, the Environment, Forestry, Fisheries, Disaster Management and Information, 2018). Though these examples are promising, details are not provided in the documents to assess the extent to which existing or planned social protection systems are being adjusted to respond to shocks and stresses associated with climate change.

Improvement of data generation, management, and analysis is a priority in many countries.

A large number of countries (76%) have some reference to improving data generation, management, and analysis among the actions identified in NAP documents. Timor-Leste, for example, aims to develop a data policy and establish a data management system to support the NAP process (Democratic Republic of Timor-Leste, 2021). In some cases, it is more about sector-specific data, such as in Kenya, where the NAP includes an action to enhance health-related databases (Republic of Kenya, Ministry of Environment and Natural Resources, 2017), and in Sri Lanka, where there is a specific reference to a database on coastal habitats (Climate Change Secretariat, Ministry of Mahaweli Development and Environment, 2016). Some countries also aim to enhance the use of data for decision making, such as in Burkina Faso, where the NAP actions include capacity building for the use of meteorological data for planning in the agricultural sector (Ministry of Environment and Fishery Resources, 2015). Saint Vincent and the Grenadines also prioritizes increasing capacities for management and sharing of data and information (Government of St. Vincent and the Grenadines, 2019), while Paraguay aims to strengthen access to climate information at the district level (Secretaría del Ambiente, República del Paraguay, 2020). The high priority placed on this issue in the NAPs highlights the gap that currently exists in relation to data for decision making—CDRFI-related data could help to fill this gap, providing a basis for better-informed planning and management of financial risks.

Figure 2. Country examples of CDRFI integration in the NAP Process



6.

Recommendations

Based on the findings presented in the previous section, we offer the following recommendations to improve integration of CDRFI in NAP processes.

Recommendations for Country NAP Teams

The following recommendations target the institutions involved in coordinating and implementing the NAP process:

1. Establish dialogue among adaptation actors, ministries of finance, and private sector CDRFI providers to identify mutual objectives and potential solutions.

NAP processes present an opportunity to bring different actors together to co-develop solutions that can support climate resilience. By creating opportunities for dialogue among adaptation actors (including environment ministries, as well as sector ministries involved in implementing adaptation actions), ministries of finance and CDRFI providers (including from the private sector), mutually supportive objectives can be identified, and potential solutions elaborated. This process can help adaptation actors to see where CDRFI solutions fit within the broader suite of adaptation actions, while enabling ministries of finance to better understand their role in managing financial risks associated with climate change. Finally, it can create a basis for improved collaboration between governments and private sector CDRFI providers, to expand access to insurance and other tools for managing climate and disaster risks, including efforts to address affordability and other barriers.

2. Engage with CDRFI providers to support application of risk analytics in decision making. Though countries for the most part acknowledge the costs of disasters and present this as part of the rationale for adaptation planning, these are most often retrospective references to the costs of past events, and there is limited evidence that risk modelling and probabilistic analysis are being used in a systematic manner to assess climate-related risks and vulnerabilities and identify adaptation priorities. Improved collaboration between adaptation actors, who need the information, and actors such as insurance companies, who have the information, could provide a better basis for the application of risk analytics in NAP processes (Ahmed et al., 2021). While important during vulnerability assessment and the formulation of NAPs, this is also essential throughout implementation to inform decisions about allocation of resources, design and application of tools such as contingency funds and social protection mechanisms, and ongoing integration

of climate risks in decision making at national, sectoral, and subnational levels. It can also support risk-informed private sector investment (Morgan Stanley Institute for Sustainable Investing, 2020). This collaboration would help to achieve country objectives to improve data systems to support adaptation.

3. Further explore how NAP processes can scale up adaptive social protection.

Adaptive social protection is a key tool that can be employed to protect the most vulnerable groups and communities in the context of climate change (Bowen et al., 2020; Davies et al., 2008; IGP, 2019), and NAP processes present an important opportunity to scale this up. For countries with social protection systems already in place, this may be a matter of exploring the adjustments needed to account for the increasing risks and uncertainty associated with climate change. Where such systems are not already operational, they can be designed from the outset as adaptive social protection mechanisms. This will require partnerships between adaptation actors and the institutions responsible for social protection systems, such as social development ministries, who may not typically be involved in NAP processes. Research may be needed to determine the most effective approaches for dealing with different types of climate risks and for establishing systems that benefit harder-to-reach groups. M&E is essential to assess effectiveness of social protection systems in building resilience to climate-related shocks and stresses.

4. Focus on ensuring equitable benefits from CDRFI solutions for all genders and social groups.

If efforts to scale up implementation of CDRFI instruments are to be effective, they must be gender responsive and socially inclusive. The impacts of climate change and disasters affect people differently, based on their gender, as well as a range of other factors, including age, ethnicity, and having a disability (Hurlbert et al., 2019; Vincent et al., 2014). In many contexts, women and marginalized groups face barriers in accessing financial services (World Bank Group, 2018)—it can be assumed that this also includes insurance, though disaggregated data is not available (Global Banking Alliance for Women & Data2X, & Inter-American Development Bank, 2016; Miles, 2018). To overcome this and ensure that investments in CDRFI benefit the most vulnerable groups and communities, governments and CDRFI providers must actively work to lift barriers. It's essential that disaggregated data is collected, equity in access to CDRFI solutions is tracked, and learning on gender-responsive and socially inclusive CDRFI is shared. Though this does not directly emerge from the findings of this analysis, the majority of countries have made gender-related commitments in their NAP documents (Dazé, 2020), and it is in line with commitments under the UNFCCC Gender Action Plan (UNFCCC, 2019), as well as the IGP Declaration on Gender (IGP, 2020).

Recommendations for International Actors

These recommendations are directed to relevant international actors, including initiatives supporting NAP processes and CDRFI initiatives, implementing agencies for GCF NAP readiness projects (including UNDP, UNEP and others), development partners, and providers of climate finance:

- 1. Raise awareness of the potential of CDRFI solutions for adaptation to climate change.** Beyond insurance and—to a certain extent—social protection, there seems to be limited awareness of the potential of CDRFI solutions as part of the suite of potential adaptation actions. Finance is an important theme in the NAP documents and GCF proposals. However, this tends to focus on strategies to mobilize resources for the implementation of adaptation actions, with less emphasis on issues such as fiscal stability and sovereign risk-financing mechanisms (the exception is some of the countries involved in the Caribbean Catastrophe Risk Insurance Facility). More effort is needed on the part of international actors to help countries understand the potential of these solutions—particularly lesser-known instruments such as contingent credit—and how best they can integrate them as part of their adaptation plans (see Table 1 for the range of instruments available) (Ahmed et al., 2021).
- 2. Synthesize evidence and facilitate learning across countries on the ways in which insurance can facilitate adaptation to climate change.** Given the number of countries that have included insurance among the adaptation options identified in their NAPs, there is an imperative to consolidate emerging evidence around success factors for CDRFI integration to help countries achieve their adaptation objectives, as well as what works and what doesn't in relation to climate risk insurance in general. Though some efforts in this area have already been made (see, for example, Bugler et al., 2020 and Jarzabkowski et al., 2019), it will be increasingly important as countries move into implementation of insurance-related actions in their NAPs that learning is documented and shared across countries. This will be important to improve both policy and practice over time, for a more effective insurance sector both in-country and globally. Sharing concrete examples of effective approaches in different contexts will be essential here.
- 3. Promote strategic investments in CDRFI in climate-vulnerable countries.** Given the need to rapidly scale up finance for adaptation (Global Commission on Adaptation, 2019; UNEP, 2021), there is an opportunity to use the NAP process as a basis for strategic investments that enhance the use of CDRFI within broader adaptation strategies in climate-vulnerable countries. This may include investments in capacity building for relevant actors to plan and implement CDRFI solutions, as well as to support better use of climate and disaster risk analytics in adaptation planning, among other opportunities. It may also include investments in strengthening domestic insurance markets so that providers are better equipped to offer products and services that support climate risk management and that reach a greater proportion of the population. Collaboration among climate finance

providers such as the GCF, private sector actors, and governments managing domestic budgets will be needed to coordinate investments in ways that enable realization of the potential of CDRFI for resilience building.

The key message that emerges from the document review is one of opportunities—there are entry points to integrate CDRFI throughout the NAP process, and many countries have created openings for this through specific adaptation actions, mechanisms for collaboration across governments and with the private sector, and efforts to better use data for decision making. Initiatives such as the InsuResilience Global Partnership and the NAP Global Network, along with implementing agencies for GCF NAP readiness projects, can play an important role in supporting countries to further elaborate implementation and financing strategies for NAPs that mobilize CDRFI solutions and generate equitable and sustainable adaptation outcomes. Documentation of evidence that illustrates what works (and what doesn't) and sharing of good practices and lessons learned across countries can support efficient uptake and scaling of CDRFI as part of countries' journey toward climate resilience.



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www.napglobalnetwork.org
info@napglobalnetwork.org
🐦 @NAP_Network
📘 @NAPGlobalNetwork



www.insuresilience.org
secretariat@insuresilience.org
🐦 @InsuResilience

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