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Climate and Disaster Risk Finance and Insurance (CDRFI)

in National Adaptation Plans and Nationally Determined Contributions

ANALYTICAL REPORT

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Abbreviations and acronyms

ACISP	Africa College of Insurance and Social Protection
ADB	Asian Development Bank
ANOVA	Analysis of variance
ARC	African Risk Capacity
ASP	Adaptive social protection
ATA	Ethiopian Agricultural Transformation Agency
BCCSAP	Bangladesh Climate Change Strategy and Action Plan
BCCT	Bangladesh Climate Change Trust
CAT bonds	Catastrophe bonds
Cat DDO	Catastrophe Deferred Drawdown Option
ccGAP	Bangladesh Climate Change Gender Action Plan
CCRIF SPC	Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company
CCTF	Climate Change Trust Fund
CDRFI	Climate and Disaster Risk Finance and Insurance
CERC	Contingent Emergency Response Component
CICC	Intersectoral Commission on Climate Change
CMA	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
CMSME	Cottage, micro-, small and medium-sized enterprises
COP	Conference of the Parties of the United Nations Framework Convention on Climate Change
CPP	Cyclone Preparedness Programme
CRGE	Climate Resilient Green Economy
CRM	Comprehensive risk management
CSO	Civil society organization
CTU	Clarity, transparency and understanding
DRF	Disaster risk finance
DRM	Disaster risk management
DRR	Disaster risk reduction
ENFC	National Climate Finance Strategy
EU	European Union
FbF	Forecast-based finance
FRFG	Farm Reconstruction and Development Fund
G7	Group of Seven
GCF	Green Climate Fund
GDP	Gross domestic product
GGA	Global Goal on Adaptation
IDB	Inter-American Development Bank
ILO	International Labour Organization
ILS	Insurance-linked security
IPCC	Intergovernmental Panel on Climate Change
LAPA	Local Adaptation Plan of Action
LDC	Least developed country
LEG	Least Developed Countries Expert Group
MCII	Munich Climate Insurance Initiative
MEL	Monitoring, evaluation and learning
MoDMR	Ministry of Disaster Management and Relief
MoEFCC	Ministry of Environment, Forest and Climate Change
MoFED	Ministry of Finance and Economic Development
MSMEs	Micro-, small and medium-sized enterprises
NAP	National Adaptation Plan

NAPA	National Adaptation Programme of Action
NDC	Nationally Determined Contribution
NGO	Non-governmental organization
PADRRIF	Palestinian Disaster Risk Reduction and Insurance Fund
PCRIC	Pacific Catastrophe Risk Insurance Company
PKSF	Palli Karma-Sahayak Foundation
PNACC	National Adaptation Plan for Climate Change
PPP	Public-private partnership
PROAGRO	Agricultural Activity Guarantee Programme
PROAGRO-Mais	Family Farming Agricultural Activity Guarantee Programme
PSNP	Productive Safety Net Programme
PSR	Rural Insurance Premium Subsidy Programme
SDGs	Sustainable Development Goals
SEADRIF	Southeast Asia Disaster Risk Insurance Facility
SEE CRIF	Southeast Europe Catastrophe Risk Insurance Facility
SIDS	Small Island Developing State
SISCLIMA	National Climate Change Decree
SLR	Sea level rise
SPV	Special purpose vehicle
TEG CRM	Technical Expert Group on Comprehensive Risk Management
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNGRD	National Unit for Disaster Risk Management
V20	Vulnerable Twenty Group of Finance Ministers
WIM	Warsaw International Mechanism

Executive summary

Climate-induced disasters are becoming more intense and more frequent. As a result, climate and disaster risk finance and insurance (CDRFI) solutions are becoming more important, because they can provide quick and reliable financial support for emergency response and recovery efforts, promoting economic stability and protecting public budgets from disaster impacts. These tools foster collaboration between public and private sectors and improve risk management through improved data and risk assessment. Most importantly, they provide financial protection mechanisms for investments and vulnerable sectors. CDRFI instruments can support climate policy objectives, since the two areas are closely related and aligned. Therefore, CDRFI instruments and disaster risk finance (DRF) strategies should be systematically integrated and aligned with national adaptation, climate, disaster risk reduction and development planning.

National Adaptation Plans (NAPs) and Nationally Determined Contributions (NDCs) are key policy documents under the United Nations Framework Convention on Climate Change (UNFCCC) for countries' actions on climate change adaptation and loss and damage. This analytical report reviews the integration of CDRFI into NAPs and NDCs, identifying instruments, trends and common themes. It aims to build an inventory of possible interventions and inspire practitioners to get creative in using CDRFI for comprehensive adaptation and risk management. This stocktake also informed the UNDP Supplementary Guidelines on "Integrating disaster risk finance in National Adaptation Plans".

This report sets out five key messages:

1. Complementary approach: Different CDRFI tools should be combined to complement climate policies.
2. Policy benefits: Including CDRFI provides a wide range of benefits for climate policies.
3. Strategic integration: NAPs and NDCs are key frameworks for integrating CDRFI into national climate policies.
4. Demonstrated success: Many countries are already successfully integrating CDRFI in their NAPs and NDCs.
5. Practical implementation: Countries can take practical steps to improve CDRFI integration in climate policy. This report's findings enable the identification of a set of general recommendations to improve CDRFI integration in climate policy, which are further elaborated in the UNDP Supplementary Guidelines: "Integrating disaster risk finance in National Adaptation Plans".

Key report findings

An analysis of 54 NAPs reveals that 44 of them incorporate elements of CDRFI. Of these, 17 countries show a high level of CDRFI integration, 9 show a moderate level, and 18 show a low degree of consideration. Countries that effectively link CDRFI with adaptation strategies emphasize the role of CDRFI instruments in securing adaptation actions, enhancing resilience and integrating disaster risk finance into government planning. However, even for those countries, there are areas for further development, such as the limited use of CDRFIs in mitigation-related activities, as well as challenges such as rising insurance costs and inadequate access, particularly in vulnerable sectors like agriculture.

Action items on CDRFI within NAPs vary, but key themes include agricultural insurance, infrastructure protection and innovative insurance mechanisms like parametric insurance. Agricultural insurance is particularly significant, with many countries targeting vulnerable farmers to increase their resilience against climate impacts. Institutional reforms, capacity-building and risk pooling mechanisms are also identified as essential strategies for managing residual risks and ensuring rapid disaster response. In their more descriptive CDRFI segments, many NAPs emphasize comprehensive climate and disaster risk management, which includes risk assessment, risk reduction and financial protection. Innovative financial strategies, such as green bonds, resilience bonds and public-private partnerships (PPPs), are explored to mobilize resources for effective climate adaptation. The private sector plays a crucial role, especially in insurance and financial data collection, where the importance of PPPs in implementing CDRFI mechanisms is highlighted.

The analysis of NDCs shows that 41 percent of countries have integrated CDRFI into their latest submissions (69 out of 169). The number of countries including CDRFI, as well as the number of related text segments, has increased over time. Insurance, especially agricultural and climate-related insurance, is seen as a critical tool for mitigating the financial impacts of climate disasters. However, many countries report high insurance costs and limited insurance accessibility, particularly for marginalized groups. Innovative mechanisms such as parametric insurance and contingency funds are highlighted for their role in providing immediate financial relief in the aftermath of disasters. NDCs also touch upon the importance of CDRFI for mitigation by linking climate insurance to renewable energy and building codes, offering reduced insurance rates for climate-friendly action, or using insurance to de-risk mitigation investments.

Higher levels of insurance readiness are correlated with greater NAP CDRFI integration, showing the benefit of working on the enabling environment to increase policy integration. Countries with high integration but lower readiness show strong political commitment to using CDRFI, making them ideal candidates for international initiatives aimed at improving readiness towards CDRFI solutions. However, there is no clear correlation between NDCs and readiness, indicating a missed opportunity to align NAP and NDC efforts, which could improve policy coherence and attract further climate financing.

Part I: **Key messages**

Introduction and objectives

Climate change has made extreme weather events more frequent and more intense, putting significant stress on societies and natural systems and causing loss and damage to economic and non-economic assets, income and productive potential (IPCC, 2023). At the national or macro level, countries are facing increased costs due to climate impacts and reduced economic growth. Between 2000 and 2019, in aggregate dollar terms, 55 climate-vulnerable economies in the Vulnerable Twenty (V20) Group lost approximately US$525 billion because of climate change's temperature and precipitation patterns, and economic losses cut their GDP growth by 1 percent per year on average (Baarsch et al., 2022). Meanwhile, high levels of external sovereign debt and limited fiscal space are limiting countries' capacities to make the investments needed to meet development and climate change objectives (Bhandary and Marins, 2024; Bharadwaj et al., 2023). On a household level, vulnerable groups (often including women and other marginalized populations, as well as farmers and small business owners and employees) have to resort to a variety of harmful coping strategies such as reducing food consumption, taking children out of school, borrowing money and selling assets. Loss and damage can set back development, increase poverty and worsen the lack of adaptive capacity: vulnerable countries and people have fewer resources to cope with current and future climate risks and impacts, and their resource base is further diminished with every extreme weather event (IPCC, 2023).

There is a growing need to manage and transfer the financial risks associated with the impacts of climate change. One key measure is to develop and implement climate and disaster risk finance and insurance (CDRFI) solutions, which ideally should be embedded into national adaptation and broader climate strategies. So far, limited research has been conducted on the integration of CDRFI into climate policy. A first set of guidelines providing high-level entry points for the inclusion of CDRFI in National Adaptation Plans (NAPs) was developed by the NAP Global Network and InsuResilience Global Partnership (IGP) (2021). A number of research outputs have assessed climate finance in Nationally Determined Contributions (NDCs): Kreft et al. considered ways to ensure the early inclusion of CDRFI in NDCs (2017); the Munich Climate Insurance Initiative (MCII) compared climate financing across NDCs in the NDC Explorer (IDOS Research, 2022); the NDC Partnership examined adaptation and risk finance in NDCs (Morton and Bee, 2020); and a first set of recommendations has been provided by Ahmed, Seifert and Kreft (2021) and Ahmed, Kulick et al. (2021). Guidance on gender-specific integration of CDRFI in global policy has been published by the IGP (Miles et al., 2021).

This analytical report reviews the integration of CDRFI into NAPs and NDCs, exploring relevant instruments, sectors, hazards and thematic areas. The report aims to build an inventory of possible interventions and to inspire practitioners to be creative in using CDRFI for comprehensive adaptation and risk management. At the same time, it aims to explore common gaps and areas of improvement in the use and planning of risk finance tools. This stocktake informed the writing of the UNDP supplementary guidelines on integrating disaster risk finance into National Adaptation Plans. The target audience of this analytical report is practitioners and researchers working on NAPs, NDCs and the interlinkage of climate policy and CDRFI. This report should also be of interest to anyone interested in adaptation, CDRFI, comprehensive climate risk management and loss and damage.

Part I of this report presents the five key messages of this report. Part II contains the details of the in-depth NAP and NDC analysis, and Part III contains a summary of three case studies – on Bangladesh, Colombia and Ethiopia – that explore the challenges and opportunities of wider climate policy and risk finance integration.

Key message 1

Different CDRFI tools should be combined to complement climate policies

To reduce disaster losses and avoid the negative impacts of climate change, preparatory and resilience-building activities are essential, including risk assessment, capacity-building, emergency preparedness, disaster risk reduction (DRR) investments and climate adaptation. But when disaster strikes, CDRFI can provide quick and reliable financial support for emergency response and recovery efforts. This can reduce knock-on costs and lessen overall impacts, including the secondary and cascading impacts of disasters. CDRFI promotes economic stability and protects public budgets from disaster impacts. It can build collaboration between public and private sectors, support climate-vulnerable regions and enhance risk management by generating improved data, building capacity and creating financial protection mechanisms for investments and vulnerable sectors.

CDRFI tools are financial mechanisms arranged ahead of shocks that can protect individuals, businesses and governments from the financial and economic effects of specific risks related to climate-related disasters. These mechanisms can also help to improve DRR, early warning systems, preparedness and response. Definitions of CDRFI vary, but they generally include some key commonalities: prearranged finance, specific tailoring to particular risks, and the use of objective triggers as a prompt for releasing financial support (WFP, 2024).

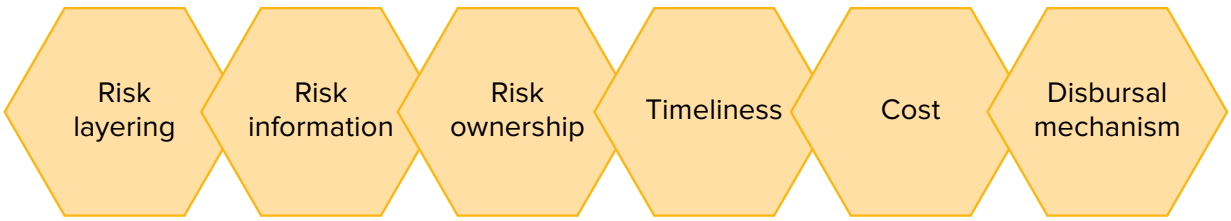
Ex-ante and ex-post finance

The finance needed to address the impacts of a disaster can be arranged before (ex-ante) or after (ex-post) the event. While ex-ante finance usually comes with a cost (such as premiums or opportunity costs), ex-post financing can take some time to mobilize and can be costly, as there is less time and capacity to negotiate favourable conditions. Since quick access to financial resources is crucial to support relief and early recovery operations and reduce knock-on costs, arranging ex-ante finance is an integral part of comprehensive risk management (CRM). Most CDRFI is disbursed after the event, except when using forecast-based triggers, such as in anticipatory action taken to lessen the humanitarian impact of a coming disaster.

Combining different CDRFI instruments

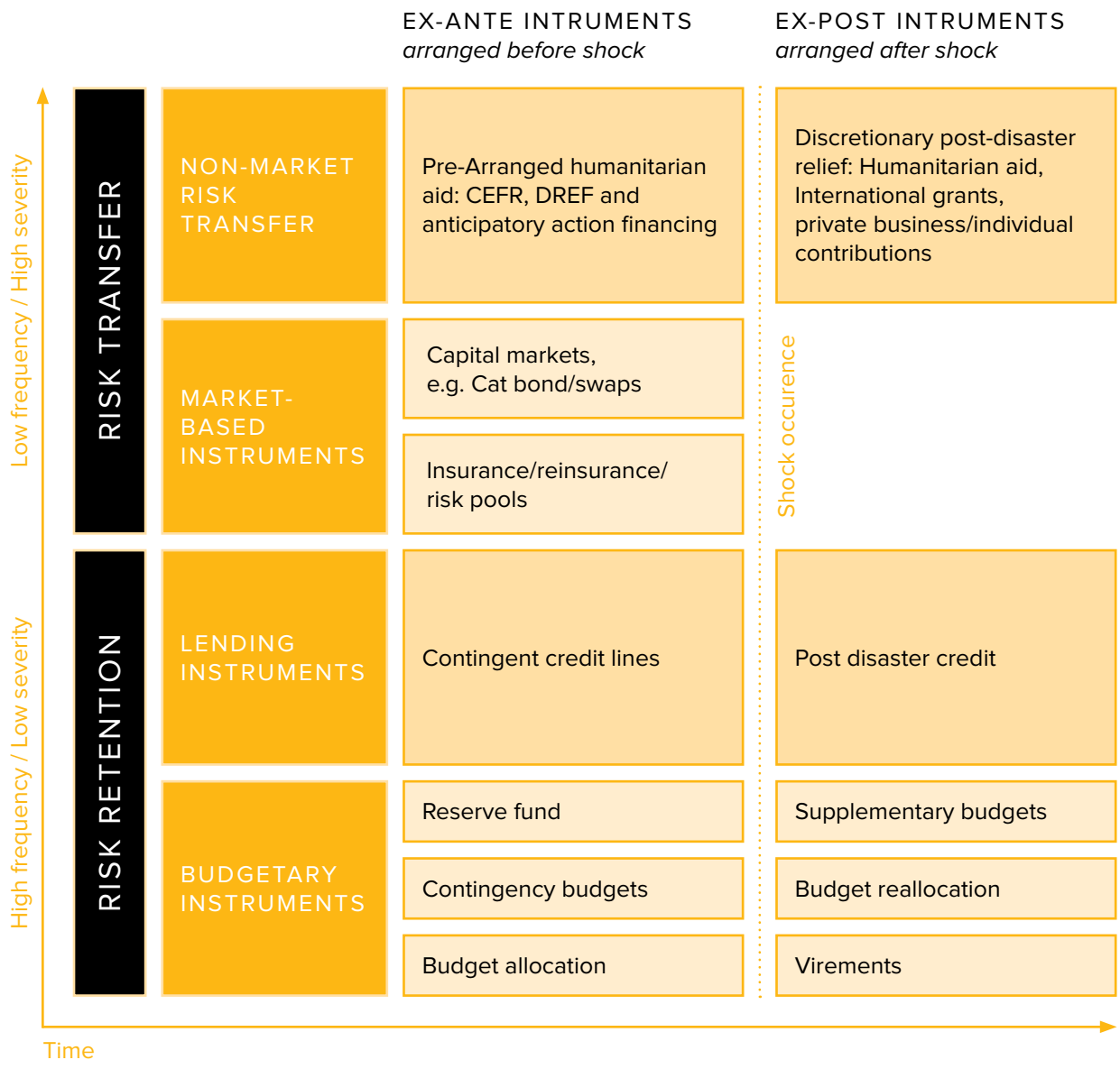
Several parameters should be taken into consideration when choosing and combining different CDRFI instruments (Denno Cissé, 2021):

Figure 1: CDRFI considerations. | Source: Based on Denno Cissé 2021, p. 24.



- **A risk layering approach** is a strategic CDRFI approach that combines risk reduction, adaptive strategies and financial protection instruments to ensure comprehensive and cost-effective protection. Risk retention is essential for reoccurring (high frequency) but smaller-scale events. Risk transfer instruments are needed for low-frequency risks of high severity (including unknown risks and catastrophic events). Figure 2 shows the risk layering approach for governments.

Figure 2: Risk Layering Approach. | Source: WFP (2024, p. 3)



- **Risk information:** The selection of CDRFI instruments and their combination into a strategy should be based on a comprehensive (climate) disaster risk assessment and auditing process. This assessment should include screening climate-related hazards and exposures (of people, well-being, economic activity, infrastructure and assets), as well as key vulnerabilities, and should include gender and social dimensions. After this key information is identified, risk management and response options should be considered.
- **Risk ownership:** This includes laying out who and what is at risk, who is responsible, and what are the related risk financing needs and capacities.

These aspects are matched with either existing risk financing options and providers, or with plans to develop the necessary risk finance options. Risk responsibility spans from individual levels to community and municipality level and eventually to the sovereign level, which drives national CDRFI strategies and climate policies. Clear delineation of risk ownership and bearing capacity can ensure appropriate and effective risk management and response planning.

- **Timeliness:** Matching is done across several parameters, including the timing of disbursement. Different phases (pre-disaster, response, recovery and rehabilitation) need different qualities and quantities of finance. Rapidly available finance often comes at a higher cost but can enable essential responses that reduce suffering as well as lower the overall cost of the disaster.
- **Cost:** Different financial instruments have varying costs, such as premium, cost of capital and opportunity costs, which need to be optimized for fiscal efficiency.
- **Disbursal mechanisms:** Efficient and transparent fund disbursement processes are essential to maintaining trust and accountability in the use of CDRFI instruments. Some systems can be described as money-in, while some are money-out. Money-in systems bring in the financial resources needed through, for example, risk transfer products, contingent credit mechanisms, contingency funds, prearranged finance and forecast-based finance or financial market instruments such as catastrophe bonds, where appropriate. Money-out systems make sure these resources reach the end beneficiaries, and may include shock-responsive social protection, early action protocols, contingency plans, cash transfers and others (IGP, 2024b).

The following sections provide a short introduction to different disaster risk finance instruments under the overarching groups of risk retention, risk transfer and external risk finance.

Risk retention

Risk retention is the decision by an individual, organization or country to continue to hold responsibility for addressing a specific risk it faces (that is, to retain the risk), instead of transferring the risk to a (re)insurance company. Risks may be retained when the individual, organization or government considers that the cost of retaining the risk is lower than the cost of insuring against it. However, when a risk is retained, any losses that occur because of that risk have to be paid out of reserve funds, which means that it is very important to determine that potential losses will be affordable before deciding to retain a risk (IGP, 2024a). Instruments include:

Ex-ante finance

- **Government revenue and budget allocations for risk reduction:** Risk reduction can be funded through regular budget allocations, drawing from different national or local governmental income streams.
- **Contingency and reserve funds:** Contingency funds are part of annual budgets. They cover unexpected events and are quickly disbursable. Reserve funds are separate from the budget and require emergency declarations for disbursement. They grow over time and are suited for less frequent, severe events.
- **Extrabudgetary funds:** These funds are managed outside the national budget. They include offshore sovereign wealth and provident funds, which provide liquidity for severe events under specific conditions.
- **Contingent credit:** These prearranged credit lines, often with a standby fee, are readily available once disaster strikes. Instruments such as the World Bank's Contingent Emergency Response Component (CERC) and the Asian Development Bank (ADB) contingent financing programmes provide rapid funds reallocation for disaster response. Countries can also qualify for a special financial arrangement called a Development Policy Loan with a Catastrophe Deferred Drawdown Option (Cat DDO). Countries that avail of this

have a line of credit ready and waiting for them if a large-scale disaster occurs.

Ex-post finance

- **Budget reallocation and realignment:** Governments can reallocate in-year budget lines after disasters and realign budgets to prioritize reconstruction, though this can be costly and may involve a lengthy process.
- **Taxation changes post-disaster:** Taxes are the main finance source of national budgets and sovereign wealth funds. Post-disaster, taxes can be increased for recovery funds, though this process is slow. Tax pauses are another tool that can be used to assist affected populations.
- **Post-disaster loans:** Loans can be taken up by individuals, businesses and countries post-disaster to cover necessary expenses.

Risk transfer

Risk transfer is a way of managing risk that involves transferring the potential financial consequences of a risk outcome from one party to another. Insurance is a tool for risk transfer. Relevant concepts and instruments include:

Risk carriers

- **Pools:** Risk pooling is a key principle of risk management and insurance. By creating a diversified portfolio or pool of the risks faced by a large number of contributors, each contributor's share of the pool is made less risky than it would be to carry the individual risk alone. (World Bank, 2017). Regional risk pools are collaborative initiatives that pool risks among countries to provide cost-efficient parametric insurance coverage that can enable countries hit by disaster to rapidly access financial resources. Regional pools like the African Risk Capacity (ARC), the Caribbean Catastrophe Risk Insurance Facility Segregated Portfolio Company (CCRIF SPC), the Pacific Catastrophe Risk Insurance Company (PCRIC) and the Southeast Asia Disaster Risk Insurance Facility (SEADRIF) provide countries with parametric insurance for quick liquidity and enhance regional capacity. Risk pools are also possible on a national or subnational level.
- **(Re)insurance arrangement:** Insurance involves a company providing financial protection to individuals or businesses against specific risks in exchange for premiums. Reinsurance is used by an insurance company to transfer part of its risk to another insurer (the reinsurer), ensuring it can cover large or unexpected claims. These arrangements spread risks across multiple entities, improving financial stability and protecting against catastrophic losses. Reinsurance companies can act as primary insurers for large corporations, countries or risk pools.
- **Catastrophe (CAT) bond:** A CAT bond is an insurance-linked security (ILS) that transfers disaster risks to the capital market through a special purpose vehicle (SPV). Investors provide capital to the SPV, receive interest and agree that funds may be used to cover losses for the insured party if a disaster exceeds a predefined threshold. This helps corporations, insurers, countries and public risk pools to manage large-scale catastrophe risks (IGP, 2024a). CAT bonds should be distinguished from green, blue and impact bonds, which raise funds for disaster risk reduction and adaptation projects, and so are not part of CDRFI.

Risk transfer modalities

- **Policyholder – macro, meso and micro level:** Macro-level solutions cover sovereign needs and are taken up by governments. Meso-level insurance provides insurance coverage to a collective body, such as a farmers' collective or business. Any claims paid to it are distributed to the individuals it represents, who are thus indirect beneficiaries of financial protection. Microinsurance is the direct insurance of individuals or small-business policyholders.
- **Coverage and trigger:** Risk transfer solutions can be triggered by various mechanisms including indemnity (actual losses), index (estimated loss index), parametric (predefined event parameters) and hybrid triggers. In the case of

index or parametric triggers, basis risk must be considered. Basis risk occurs when payouts from index-based products do not match actual losses, influenced by product design and data resolution. Governments can mitigate basis risk by enforcing quality standards for parametric insurance.

- **Insured assets:** A large array of insurance products may be relevant in the context of climate risks, such as life and health insurance, non-life insurance including property insurance, and insurance for critical infrastructure or natural assets. Parametric insurance coverage is increasingly used to protect intangible assets, such as business interruption and additional costs of working.
- **Takaful:** This is a form of Islamic insurance in which members contribute to a pool system to guarantee each other. A sharia-compliant insurance alternative, takaful is a mutual approach in which policyholders are also the owners.

External risk finance

External risk finance involves financial support from external sources for managing disaster risks (Denno Cissé, 2021). Grants from governments, multilateral organizations and other organizations are often used for immediate post-disaster relief and recovery efforts. Humanitarian assistance after disasters is another form of external finance, and is crucial for highly indebted countries. Anticipatory action or forecast-based finance (FbF) is a form of finance that uses extreme weather forecasts to trigger humanitarian actions in advance of the disaster event occurring.

Key message 2

Including CDRFI provides a wide range of benefits for climate policies

CDRFI instruments can protect people and assets from climate impacts and encourage climate-friendly and resilient investments – the objective of many climate policies. The following analysis is based on and expands on Denno Cissé (2021), European Commission (2018), Jarzabkowski et al. (2019) and Ahmed, Kulick et al. (2021).

Figure 3: Potential benefits of CDRFI in adaptation and climate policy

Financial liquidity and stability

- **Providing quick and reliable financial support:** CDRFI provides mechanisms to disburse funds quickly and reliably when disasters strike. This rapid access to financial resources is essential for emergency response as well as recovery and reconstruction efforts, and can help minimize disruption to lives and economies.
- **Promoting economic stability and reducing fiscal burdens:** CDRFI solutions can promote economic growth and provide fiscal stability by protecting public budgets from the financial impacts of disasters. This stability is crucial for maintaining government services and infrastructure before, during and after a disaster, ensuring that resources are available for necessary adaptation measures. Integrating CDRFI into climate policy frameworks can make policy measures more effective by reducing the fiscal burden on governments and taxpayers associated with climate-related disasters.

Mobilizing finance and securing investments

- **De-risking and enabling climate-friendly and resilient investments:** CDRFI secures climate finance investments, such as in infrastructure,

by encouraging climate-resilient design of infrastructure investments and providing the resources needed to recover from disasters and quickly return to intended functions. This ensures the longevity and resilience of investments, enhances creditworthiness and enables long-term planning, which can attract investors and facilitate public-private partnerships. By providing financial protection, CDRFI frees up financial resources, including at the individual and meso-level, for more resilient and climate-friendly practices and investments.

- **Supporting financial strategy:** Although most CDRFI instruments are risk finance tools that require funding themselves, they act as a key component in a country's disaster risk finance strategy and complement a climate finance strategy by protecting existing investments and unlocking new investments for climate change adaptation efforts.

Better climate and disaster risk management

- **Establishing a cost-efficient risk management strategy:** Using CDRFI implies having a concrete strategy to optimize resilience choices and develop financial protection strategies for residual climate risks. An effective CDRFI scheme considers long-term costs and benefits, integrating a broad range of risk management tools such as prevention, protection and early warning systems.
- **Incentivizing disaster risk reduction and adaptation:** Depending on instrument choices, risk-reflective pricing can set incentives for risk reduction and investment in climate-resilient infrastructures. Risk assessment and pricing, in aggregate, serve to determine the cost of inaction and set a strong signal toward reducing greenhouse gas emissions.
- **Promoting risk awareness and reduction:** Implementing minimum building standards, "build back better" requirements and other resilience measures as part of insurance policies can further promote risk awareness and reduction. These measures ensure that rebuilt structures are more resilient to future extreme weather events.

Bringing different stakeholder groups together

- **Fostering collaboration between public and private sectors:** By leveraging private sector contributions, governments can optimize resource allocation and implement climate policy more efficiently, including protecting the most vulnerable from climate change.
- **Establishing institutional synergies:** Institutional arrangements needed to develop CDRFI naturally need to link adaptation, disaster risk management (DRM) and finance. This integrated approach can lead to synergies and more comprehensive and effective adaptation strategies.

Improved data and capacities

- **Improving data and analytics:** A major benefit of integrating CDRFI in adaptation planning is that CDRFI risk models, assessments and data can be further used to define resilience baselines and evaluate investment risks. This approach supports informed, cost-effective adaptation strategies, closes protection gaps and captures the true value of investments. Better data generation, management and analysis can support continuous improvement and monitoring of adaptation strategies and measures.
- **Developing capacity:** Investing in capacity development is crucial to realizing the potential of CDRFI. This includes training government actors to understand and implement CDRFI solutions and supporting providers to develop context-appropriate products and services.
- **Conducting scenario planning and stress testing:** CDRFI-related tools enable countries to carry out scenario planning and stress testing, helping to anticipate the impacts of various climate scenarios on their climate action goals. This fosters the development of resilient and adaptive strategies.

Supporting those that need it most

- **Stimulating market development:** Developing insurance markets as part of a CDRFI strategy can improve access to financial protection against other risks, by making available, for example, inclusive health, life and casualty insurance.

- **Fostering solidarity and risk distribution:** Insurance schemes based on solidarity aim for maximum coverage to distribute risk evenly across a population. This approach helps ensure that all members of a community are protected against climate-related risks, building collective resilience.
- **Supporting agriculture and vulnerable sectors:** Insurance schemes can also be tailored to support specific sectors, such as agriculture. Multi-risk insurance products, premium subsidies and requirements for comprehensive coverage help protect farmers and their livelihoods from climate-related risks.

Key message 3

NAPs and NDCs are key frameworks for integrating CDRFI into national climate policies

If the challenges of climate change are to be met, thoughtful and well-designed climate policy is essential, including setting in motion the transition to zero-carbon economies and societies and increasing resilience to escalating climate impacts. Within the process of the United Nations Framework Convention on Climate Change (UNFCCC), two policies are of particular relevance to adaptation: National Adaptation Plans and Nationally Determined Contributions.

National Adaptation Plans

Climate change adaptation planning was formally recognized in 2001 at the Conference of the Parties to the United Nations Framework Convention on Climate Change (COP7) through the Marrakech Accords, which introduced National Adaptation Programmes of Action (NAPAs) to address urgent adaptation needs in least developed countries (LDCs). However, NAPAs faced criticism for their short-term focus and lack of integration into broader development strategies (Hardee and Mutunga, 2010). To address this, COP16 launched the NAP process under the Cancun Adaptation Framework in 2010. Initially, the NAP process focused on LDCs, aiming to identify their "medium- and long-term adaptation needs and developing and implementing strategies and programmes to address those needs" (UNFCC, 2012 – 5/CP.17, para. 15). Other developed and developing countries were encouraged to develop national adaptation policies.

Box 1: Objectives of the NAP process

THE OBJECTIVES OF THE NAP PROCESS ARE:

A. to reduce vulnerability to the impacts of climate change, by building adaptive capacity and resilience,

B. 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/CP, 2012 - 5/CP.17, para. 1).

In 2023, the COP28 decisions significantly increased the urgency of developing and implementing NAPs. The Global Goal on Adaptation (GGA) mandates that by 2030, all Parties are expected to have in place NAPs that include up-to-date risk assessments, multi-hazard early warning systems and comprehensive implementation strategies that are mainstreamed into relevant strategies and plans. Equally, by 2030, all Parties are expected to have made progress on implementation and to be monitoring progress through an operationalized monitoring, evaluation and learning (MEL) system (UNFCCC, 2023). As of October 2024, only 58 developing countries and 2 developed countries had submitted NAPs, and 102 developing countries (of which 32 are LDCs) had funding proposals approved under the Green Climate Fund (GCF) Readiness and Preparatory Support Programme (UNFCCC, 2024c).

Guiding principles and elements of the NAP process

NAPs are a key means to communicate adaptation needs and are envisioned as "a continuous, progressive and iterative process which follows a country-driven, gender-sensitive, participatory and fully transparent approach" (LDC Expert Group, 2012). NAPs should be based on the best available science, consider traditional and indigenous knowledge, avoid being prescriptive and aim to support country-specific needs and priorities. The NAP process encourages building on past experiences, consolidating adaptation activities, ensuring continuity in adaptation planning and integrating adaptation into existing development frameworks. It should also facilitate the provision of adequate support, encourage learning and managing multiple stress factors and promote streamlined adaptation approaches within the UNFCCC. The NAP process involves several iterative steps divided into four main elements, as shown in figure 4.

Figure 4: Key steps in the NAP Technical Guidelines | Source: LDC Expert Group (2012).

Strategies to implement and finance adaptation

The NAP sets out overarching and sectoral goals for adaptation. More detailed strategies on financing and implementation are often created after the planning and publication of the NAP. An implementation strategy translates the NAP's goals and objectives into actionable steps and specifies sources of finance and responsibilities of different stakeholders in greater detail. This enables adaptation priorities to be implemented through projects and programmes (NAP Global Network, 2023). Financing strategies for adaptation are nationally coordinated approaches to identify and scale up financing for climate adaptation priorities, enabling NAP implementation. These strategies may be developed at various levels and tailored to specific sectors. Their main objectives are to connect adaptation finance with broader financial systems, prioritize resources and integrate adaptation into national development goals. Involving adaptation planners in national financing strategies bridges silos and allows them to highlight the costs, benefits and resilience opportunities of adaptation investments (Murphy, 2022; Murphy, 2023; Murphy and Parry, 2024).

The role of comprehensive risk management and CDRFI in NAPs

NAPs should continue to employ and strengthen a CRM approach. CRM is a holistic approach to identifying, assessing, prioritizing and managing climate-related risks, which include both immediate extreme weather events and long-term slow-onset processes. Based on risk analyses, CRM integrates DRR, adaptation, preparedness, risk finance and transformational approaches to manage the full spectrum of climate-related risks. CRM is also a useful approach in the context of the discussion and emerging landscape on addressing loss and damage. Within CRM, CDRFI provides a structured approach to managing various layers of risk, from frequent, low-severity events to rare, high-severity disasters. CDRFI enables and secures investment in adaptation, and at the same time, provides the necessary finance to quickly respond to disaster impacts. A rapid response can significantly lower the overall costs of disaster, thus minimizing further or cascading loss and damage. If the NAP does not consider financial risks and adequate CDRFI solutions, risk management in the NAP is likely to remain incomplete, putting adaptation efforts and potential benefits and successes at risk. Integrating CRM and CDRFI in NAPs also aligns with the objectives of the UNFCCC Warsaw International Mechanism (WIM) Technical Expert Group on Comprehensive Risk Management (TEG CRM), whose workplans frequently refer to linking NAP with CRM and DRR (see also Annex I: CDRFI in UNFCCC).

Nationally Determined Contributions

NDCs are a key tool for reducing national emissions and adapting to the impacts of climate change. They are central to the Paris Agreement adopted in 2015, which aims to limit global warming to well below 2°C above pre-industrial levels and pursues efforts to limit warming to 1.5°C. NDCs are submitted by each country outlining their post-2020 climate actions, and are to be updated every five years to increase ambition over time (UNFCCC, 2015). The NDC process consists of several steps (UNFCCC Secretariat, 2024a):

- **Preparation:** In drafting their NDCs, countries engage in domestic processes involving a broad range of stakeholders. This involves assessing national circumstances, capabilities and priorities, setting mitigation and adaptation goals, and planning the means of implementation, including finance, technology and capacity-building.
- **Communication:** NDCs are communicated to the UNFCCC and recorded in the NDC registry. They must include information necessary for clarity, transparency and understanding (CTU) as per the guidance from the COP and the Conference of the Parties serving as the meeting of the parties

to the Paris Agreement (the CMA).

- **Implementation:** Countries are responsible for implementing the policies and measures outlined in their NDCs, which often involve cross-sectoral and multi-level governance mechanisms. The implementation is monitored and reported through national communications and biennial reports submitted to the UNFCCC.
- **Review and enhancement:** NDCs must be reviewed and updated every five years to enhance ambition. The Global Stocktake, which is to be conducted every five years and completed its first iteration in 2023, assesses collective progress towards achieving the purpose of the Paris Agreement and its long-term goals, informing subsequent NDCs.

State of NDCs and inclusion of adaptation

As of 9 September 2024, 169 NDCs representing 195 Parties to the Paris Agreement were available. Of these, 153 are new or updated NDCs, reflecting increased ambition and better alignment with the Paris Agreement's temperature goals. Adaptation was included in the NDCs of 81 percent of Parties, with priority placed on food security, water resources, ecosystems, human health and economic sectors, followed by DRM, coastal areas, urban habitats, livelihoods and ocean ecosystems (UNFCCC, 2024b). Adaptation actions include, among others, integrating risk management into development policies, enhancing early warning systems, establishing information mechanisms and databases and strengthening CDRFI (UNFCCC, 2024a).

Of all NDCs with adaptation components, 96 percent outline policy frameworks linking adaptation to climate plans, disaster reduction, sectoral policies and development frameworks, highlighting the importance of alignment and mainstreaming (UNFCCC, 2024b). A coherent approach is essential to ensure that adaptation priorities from NAPs are integrated into NDCs, so as to prevent duplication and promote cohesive national climate policies. Recent decisions from the Global Stocktake and the Global Goal on Adaptation have heightened the importance of NAPs, with all Parties encouraged to formulate and implement them by 2030, which further underscores the need to align NAPs with NDCs.

CDRFI benefits for NDCs

Incorporating CDRFI can strengthen NDCs across the areas of mitigation, adaptation and loss and damage. The adaptation component of NDCs should align with a CRM and risk layering approach, ideally based on the NAP. This should include quantified risk assessments, cost-effective strategies for risk reduction, risk finance and risk retention. Incorporating CDRFI components in this way can ensure synergy and make NDCs more comprehensive. An increasing number of countries incorporate loss and damage estimates and related actions in their NDCs. CDRFI can play a crucial role in managing residual risks by providing tools for risk quantification and effectively addressing impacts. NDCs can also use CDRFI to actively de-risk their low-carbon investments and encourage climate-friendly practices by using differentiated premiums as incentives. The data, assessments and methodologies generated through CDRFI can be used for stress testing, planning and reporting.

Key message 4

Many countries are already successfully integrating CDRFI in their NAPs and NDCs

This report is based on a detailed review of all available NAPs (at 30 April 2024) and NDCs (at 29 February 2024), which were analysed for their inclusion of relevant CDRFI-related terms and concepts.

CDRFI in NAPs - summary of findings

An analysis of the 54 available NAPs reveals several key themes and trends on CDRFI integration in NAPs. Of the 54 analysed NAPs, 44 include CDRFI, which is given low consideration in 18 countries, medium consideration in 9 countries and high consideration in 17 countries. Some countries make the link between adaptation and CDRFI explicit by stressing how these instruments can secure other adaptation actions, improve adaptive capacity and build long-term resilience, incentivize adaptation action and offset costs, and anchor DRF for government planning. CDRFI is not widely used in NAPs to support mitigation-related activities, but this may be because NAPs are largely focused on adaptation.

Many countries report significant challenges due to increased insurance costs and limited access to insurance products. These issues particularly impact economic sectors such as agriculture, which are highly vulnerable to climate change. Risk layering, which is pivotal in CRM, is emphasized: countries integrate multiple phases of risk management, including risk assessment, risk reduction and financial protection through insurance and other instruments. Several NAPs discuss the need for innovative financial strategies, exploring various financing instruments and potential financial sources such as green bonds, resilience bonds and public-private partnerships. These strategies aim to mobilize the resources needed for effective climate adaptation.

The private sector can play an important role in climate adaptation, particularly in providing financing and implementing CDRFI mechanisms. Insurance companies and financial institutions are essential for data collection, risk forecasting and product development, which means that public-private partnerships are very important.

Action items and strategy elements on CDRFI vary greatly with regard to length, detail, position in the text and linkage to existing policies. Prominent themes include agricultural insurance, infrastructure protection and innovative risk transfer instruments like index insurance, all aimed at providing financial protection and de-risking adaptation investments. Insurance is a central theme in many NAPs, addressing various sectors and hazards. Agricultural insurance is the most frequently mentioned, targeting farmers' vulnerability to climate impacts. Other key sectors include infrastructure, fisheries, forestry and housing. Innovative insurance mechanisms, such as index and parametric insurance, are promoted to enhance resilience. Countries also highlight the need for local as well as international reinsurance, premium subsidies and governance reforms to support insurance schemes. Institutional and capacity-building measures are emphasized to improve insurance system implementation and accessibility. Risk pooling mechanisms and risk retention strategies, such as contingency funds, when they are included, are identified as crucial for managing residual risks and ensuring rapid disaster response.

With regard to prominent thematic areas, (adaptive) social protection mechanisms have been identified as one key element in enhancing resilience, especially for vulnerable populations, by linking social protection systems with insurance schemes to provide support during and after climate-related events. High-quality

data and risk assessments are essential for developing effective CDRFI products. NAPs highlight the role of insurance data in improving governance, enhancing early warning systems and linking them with CDRFI, and upgrading the data base for agricultural insurance to make payouts more predictable. Finally, building technical capacity across various stakeholder groups is vital for the successful implementation of CDRFI mechanisms. NAPs emphasize training, education and institutional capacity-building to sustain long-term climate adaptation efforts.

Insurance readiness and levels of CDRFI integration into NAPs are correlated. This suggests that improving insurance readiness at individual, market and governance levels, increasing stakeholder awareness and building capacity increases the likelihood that CDRFI will be included in NAPs. The correlation is stronger when NAPs without any CDRFI, which are drawn up by countries with varying degrees of readiness, are excluded, indicating the need for further research.

CDRFI in NDC - summary of findings

CDRFI integration in NDCs has increased over time: 41 percent of countries (69) have employed diverse financial instruments and strategies in their latest NDC to address the risks associated with climate-related disasters. CDRFI is primarily included in the adaptation, finance and loss and damage sections of NDCs. NDCs and NAPs should take a coherent approach to prevent duplication and ensure national climate policies are cohesive. Although the general thematic foci of CDRFI in NAPs and NDCs are similar, in countries that have both NAPs and NDCs, there is little alignment between NAPs and NDCs in relation to the level of inclusion of CDRFI-related content. This represents a missed opportunity, since many NAPs make strong points that could easily be included in the adaptation component of the NDC. Effectively linking NAPs and NDCs could provide much-needed policy coherence and make a strong case to attract financing. Several NDCs already highlight the importance of integrating CDRFI into national development plans and climate. NDCs also touch upon the value of CDRFI for mitigation, discussing the benefits of linking climate insurance to renewable energy and building codes, offering reduced insurance rates for climate-friendly vehicles, or using insurance to de-risk mitigation investments.

Insurance mechanisms are described in NDCs as pivotal tools for enhancing resilience in vulnerable sectors. Many countries have recognized the critical role of insurance in mitigating the financial impacts of climate-related events. For instance, agricultural insurance is featured in 41 NDCs, reflecting its importance in safeguarding farmers and ensuring food security. However, countries also highlight the rising costs of insurance and the significant barriers to access, especially for marginalized communities and actors in the informal sector. This underscores the need for targeted interventions to make insurance more affordable and accessible. NDCs highlight innovative financing mechanisms, such as parametric insurance, pools and CAT bonds, since these tools are designed to provide immediate financial relief following disasters, ensuring quick recovery and reconstruction. Risk retention measures, such as the establishment of contingency funds or contingent credit, are another prominent feature, and are essential for fiscal preparation for disasters. Regional risk pools are mentioned by comparatively few countries, leaving great potential to further expand their role in NDCs.

PPPs are described as vital for the successful implementation of CDRFI: many countries are leveraging PPPs to mobilize financial resources and foster innovation in climate risk management. The private sector's involvement is crucial for developing new insurance products and expanding the reach of financial instruments designed to protect against climate risks. Countries are increasingly recognizing the need for comprehensive risk assessments and data-driven decision-making to inform their financial strategies and enhance resilience. Additionally, 22 countries highlight social protection for vulnerable groups in their NDCs, and 5 countries make a connection between (micro-)insurance and financial safety nets.

Key message 5:

Countries can take practical steps to improve CDRFI integration in climate policy

Building on this analysis, the following general recommendations are suggested to improve the integration of CDRFI in NAPs and NDCs. Practical steps and detailed tips to integrate CDRFI in NAPs can be found in UNDP's guidance note: "Integrating disaster risk finance into National Adaptation Plans".

Strengthen policy frameworks and institutional arrangements

- **Improve interministerial coordination:** Since finance ministries are usually responsible for CDRFI, while environment/climate ministries handle adaptation, strong coordination between these two stakeholders can be decisive in ensuring better integration.
- **Develop a risk layering approach:** Few countries refer to a national CDRFI strategy or a coordinated approach. Countries should develop a risk layering strategy and link and feed it into the NAP process.
- **Develop comprehensive policies:** Robust national policies should be established that integrate CDRFI mechanisms within broader climate, disaster management and development strategies. These policies should be coherent and aligned with national adaptation priorities.
- **Include a macroeconomic perspective:** Relatively few countries refer to macroeconomic circumstances, or to the benefits of prearranged finance in avoiding excessive uptake of debt after disasters. NAPs could be more strongly linked to macroeconomic strategies.
- **Enhance institutional capacity:** Capacity should be built among relevant institutions, including government agencies, financial institutions and insurance companies, to enable them to design, implement and manage CDRFI instruments effectively.
- **Encourage public-private partnerships:** Collaboration between public and private sectors should be fostered to leverage private sector expertise and resources in developing and implementing CDRFI solutions.

Promote risk assessment and data management

- **Conduct comprehensive risk assessments:** Climate risk assessments should be regularly updated using probabilistic modelling to identify vulnerabilities and inform the design of adaptation actions and appropriate CDRFI instruments. These assessments should consider gender and social dimensions and make use of data created through CDRFI processes.
- **Improve data and analytics:** Countries should invest in robust data collection and analytics to support informed decision-making. Advanced technologies and methodologies should be used to upgrade risk modelling and forecasting.

Enhance financial instruments and mechanisms

- **Diversify financial instruments:** The use of CDRFI instruments, including insurance, risk pools, catastrophe bonds and contingency funds, should be promoted, given the comprehensive financial protection they provide against climate risks. The more experience a country has with CDRFI instruments, the easier it is for the country to include them in climate strategies, since stakeholders have more knowledge and awareness of their opportunities and challenges.
- **Consider premium subsidies:** Subsidies could be provided for insurance premiums, especially for vulnerable groups and critical sectors, to enhance the accessibility and affordability of insurance products.

Strengthen social protection and support systems

- **Integrate adaptive social protection (ASP):** Social protection programmes can be linked with CDRFI instruments to provide timely support to vulnerable populations during and after climate-related disasters. These programmes should be gender-responsive and inclusive.
- **Develop tailored microinsurance schemes:** Microinsurance products should be developed and tailored to the needs of low-income and marginalized communities to build their resilience to climate risks.

Foster regional and international collaboration

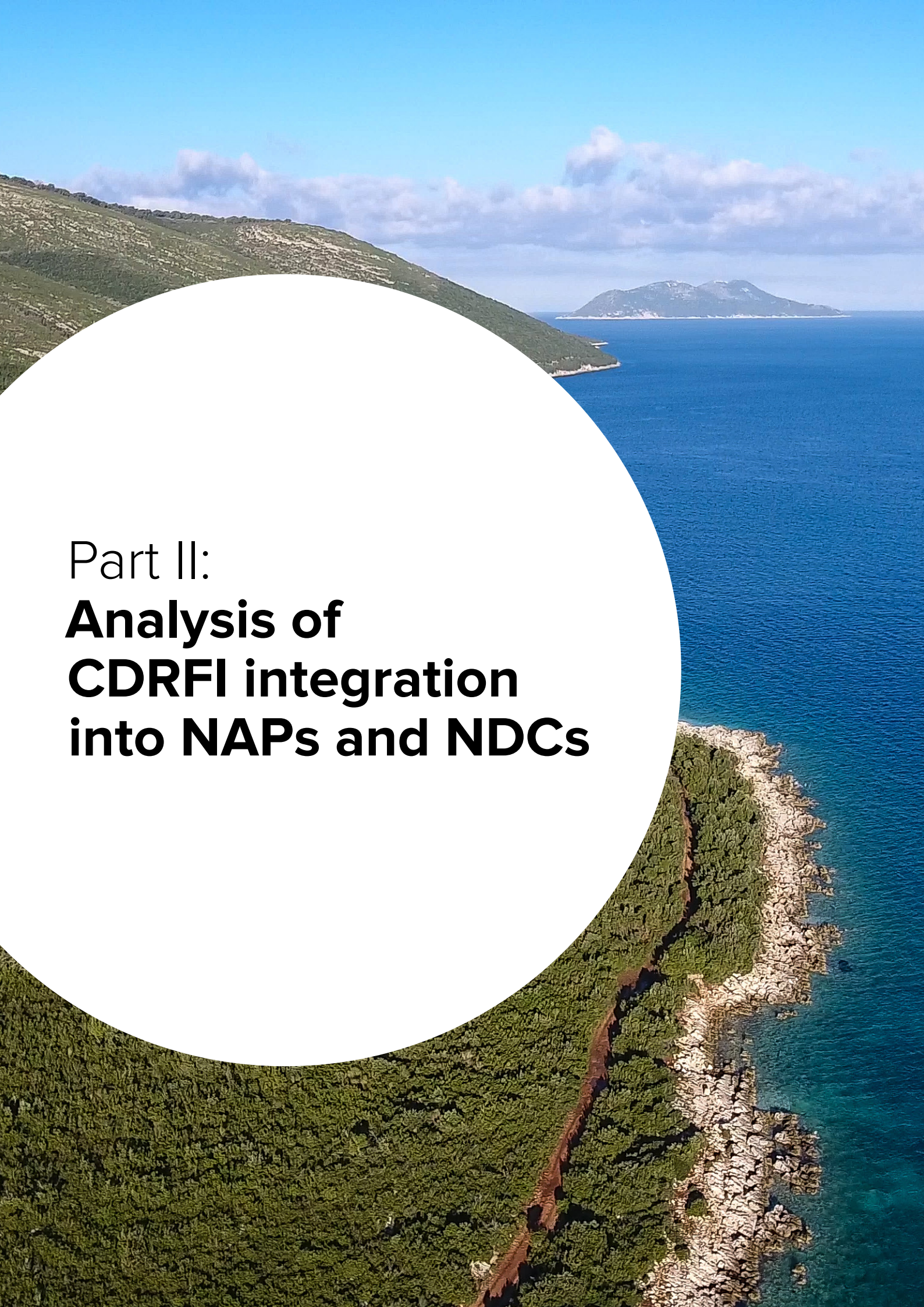
- **Engage in regional risk pools:** Countries should participate in regional risk pooling mechanisms to share risks and resources with neighbouring countries, increasing collective resilience to climate impacts.
- **Seek international support:** International funding, technical assistance and capacity-building programmes are available to support the development and implementation of CDRFI instruments.

Raise awareness and build capacity

- **Promote risk awareness:** Educational campaigns and training programmes can raise awareness about the benefits of CDRFI for adaptation and resilience planning and encourage proactive risk management among stakeholders.
- **Build technical capacity:** Investing in training and capacity-building initiatives can help government officials, financial institutions and community organizations to implement and manage CDRFI solutions and integrate them into climate policies.

Monitor, evaluate and adapt

- **Establish monitoring and evaluation frameworks:** Robust monitoring and evaluation frameworks are needed to assess the effectiveness of CDRFI initiatives and their impact on adaptation and to ensure continuous improvement.
- **Adapt and update strategies:** NAPs and NDCs should be regularly reviewed and updated to reflect new data, new CDRFI instruments or strategies and lessons learned from past experiences, ensuring adaptive and responsive climate strategies.



Part II:
Analysis of CDRFI integration into NAPs and NDCs

Methodology

The following analysis is based on a detailed review of all available NAPs until 30 April 2024 and NDCs up to 29 February 2024. A keyword search (terms available in Annex I) was conducted and key document sections were also manually skimmed. Relevant text segments were coded in different categories using the quantitative data analysis software tool, MAXQDA 2022 (see table 1). A coded element is, at minimum, the sentence in which the keyword appears and, at maximum, one paragraph if subsequent sentences contain the same keyword. Following the coding, analytical methods following Kuckartz's (2014) thematic qualitative text analysis process were used to assess and synthesize the information.

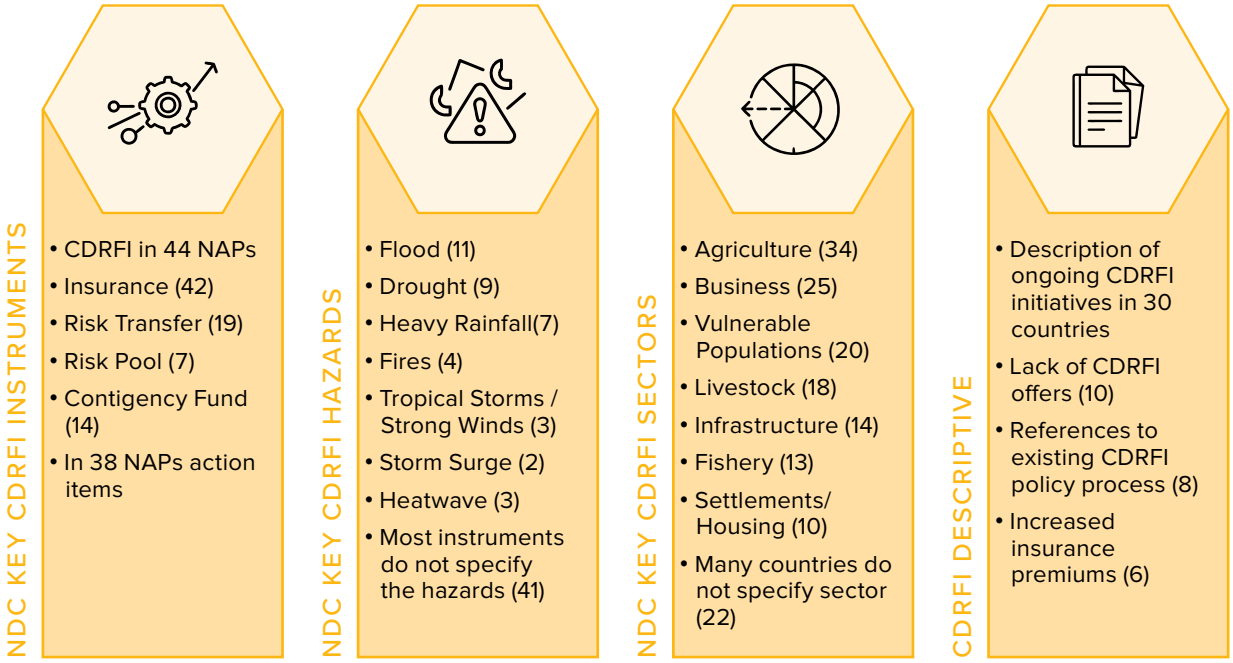
Table 1: Categories and sub-codes used for coding

CATEGORIES	SUB-CODES
CDRFI INSTRUMENT	Insurance, risk pools, contingency fund, risk transfer, other
TYPE OF TEXT	Action Item, descriptive element
PART OF DOCUMENT	NAP: Introduction, Diagnostics, Priorities, Implementation, Financing, MEL, Other NDC: General, Financing, Loss and Damage, Adaptation, Mitigation
HAZARD	Not specified, hail, drought, storms, floods, rainfall, hurricanes/ cyclones, storm surges, sea level rise (SLR), fires, landslides, erosion, heatwave
SECTOR	No specific sector, business, governance, agriculture, livestock, fisheries, forestry, vulnerable populations, livelihoods, natural areas, water, energy, infrastructure, settlement/housing, tourism, health
OTHER INFORMATION	(Adaptive) social protection, disaster risk management, data issues

To determine whether a country's NAP and NDC includes plans to take action on CDRFI-related topics, the text segments that included CDRFI content were categorized as either descriptive segments or action items. Descriptive elements highlight key issues, challenges or needs but do not outline actionable steps or plans, while action items clearly specify the CDRFI instruments or initiatives a country will implement through its NAP or NDC. The analysis then investigated the proposed instruments and reported issues to find common groups and identify trends.

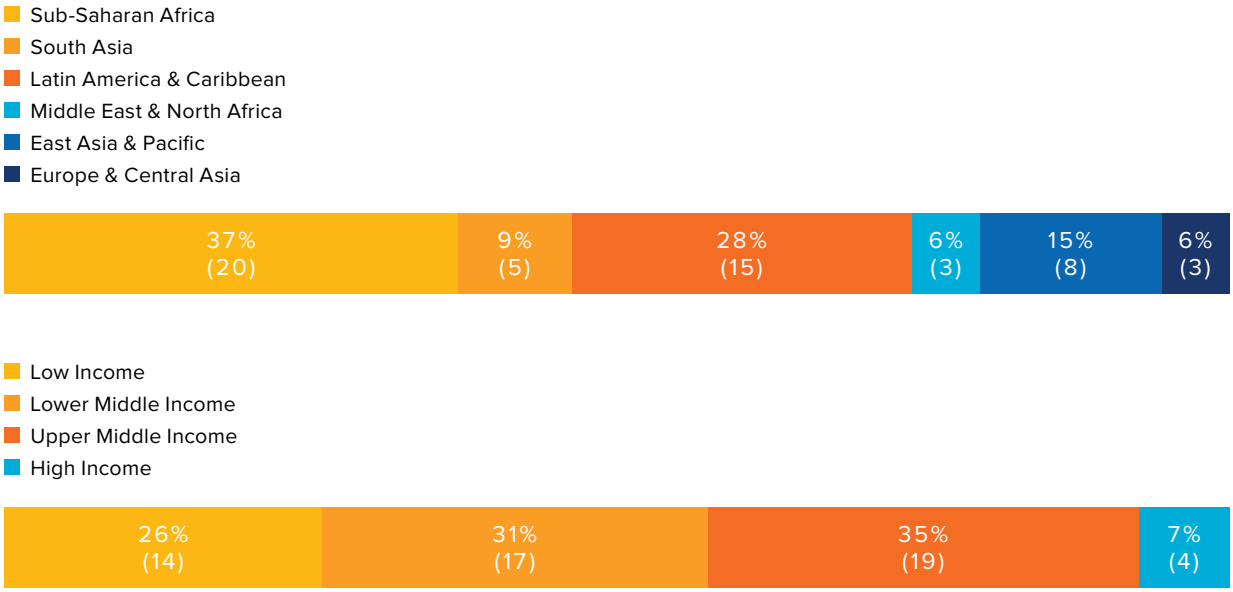
CDRFI in National Adaptation Plans

Figure 5: Key CDRFI trends across NAPs (number of countries featuring key CDRFI instruments, hazards, sectors and descriptive CDRFI content)



By the cut-off date of this analysis on 30 April 2024, 54 countries had submitted NAPs, each with varying levels of integration of CDRFI (see figure 5). Paraguay is the only country that submitted an updated NAP (UNFCCC Secretariat, 2024b). This means 55 documents were included in the analysis, but since Paraguay's updated NAP did not contain any CDRFI instruments, only the first one was used. Figure 6 shows the distribution of NAPs across regions and income groups.

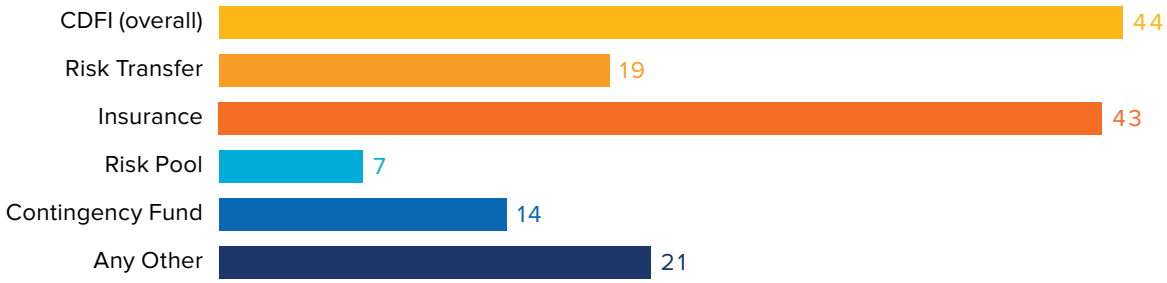
Figure 6: NAP distribution across regions and income groups as of 20 April 2024



Level of integration of CDRFI into NAPs

Among the 54 countries that published NAPs, 44 included some form of CDRFI-related content (see figure 7).

Figure 7: Number of countries mentioning CDRFI and specific CDRFI instruments in NAPs



NAPs were rated on their level of integration of CDRFI, allowing for a more accurate form of assessment, since CDRFI text segments are of different lengths and depths of content and can be repetitive, such as when a single action item features in the main text and the annexes or in several lists. This largely depends on the structure of the NAPs.

The levels were first oriented on a quantitative framework (0 CDRFI-related text segments: none; 0–5: Low; 5–10: Medium; > 10: High), but the researchers' case-to-case qualitative interpretation was decisive in determining the final rating. Based on this analysis, NAPs for 18 countries show low consideration of CDRFI, 9 countries medium and 17 countries high levels of CDRFI content. The list of countries by level of integration is shown in table 2. A list of NAPs analysed, including the level of CDRFI consideration and more details on CDRFI elements, is provided in Annex II.

Table 2: NAPs categorized by level of CDRFI integration

CDRFI INTEGRATION LEVEL (NUMBER OF COUNTRIES)	COUNTRIES
HIGH (17)	Albania, Bangladesh, Bhutan, Brazil, Cameroun, Chile, Colombia, Costa Rica, Fiji, Kiribati, Paraguay, Peru, St. Lucia, Suriname, Thailand, Uruguay, Zambia
MEDIUM (9)	Argentina, Benin, Burkina Faso, Ethiopia, Grenada, Kenya, Nepal, Pakistan, St. Vincent & the Grenadines
LOW (18)	Armenia, Bosnia and Herzegovina, Cambodia, Central African Republic, Chad, Congo, Dem. Rep., Guatemala, Liberia, Madagascar, Morocco, Mozambique, Niger, Palestine, Papua New Guinea, Sierra Leone, South Sudan, Sri Lanka, To-go
NONE – NAP without CDRFI components (10)	Burundi, Cabo Verde, Ecuador, Haiti, Kuwait, Marshall Islands, South Africa, Sudan, Timor-Leste, Tonga

Figures 8, 9 and 10 show the distribution of CDRFI integration in NAPs across geographic regions, across income groups, and over time. Latin America and the Caribbean is the region with most CDRFI integration, with 60 percent of all NAPs having high CDRFI integration. Sub-Saharan Africa has submitted the largest number of NAPs but has comparatively few with high or medium CDRFI content. In South Asia as well as Europe and Central Asia, all NAPs show some level of CDRFI consideration.

Figure 8: Distribution of NAPs by region and level of CDRFI integration

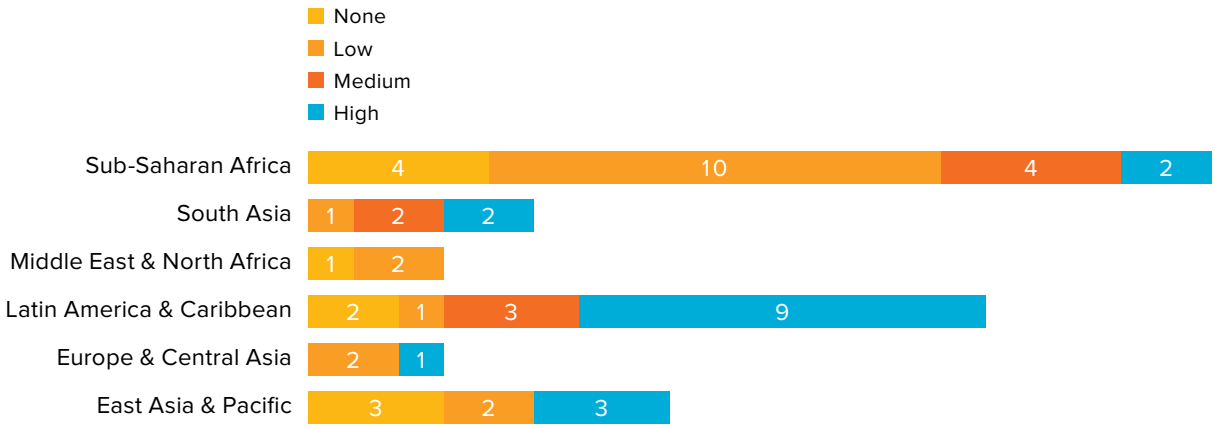
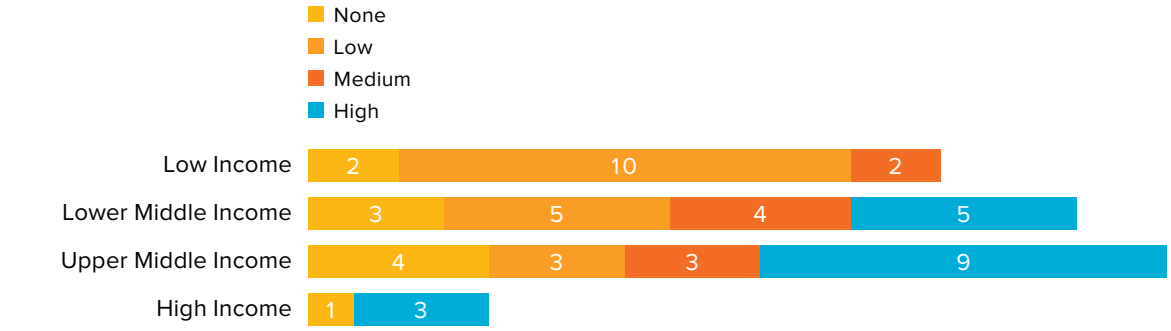


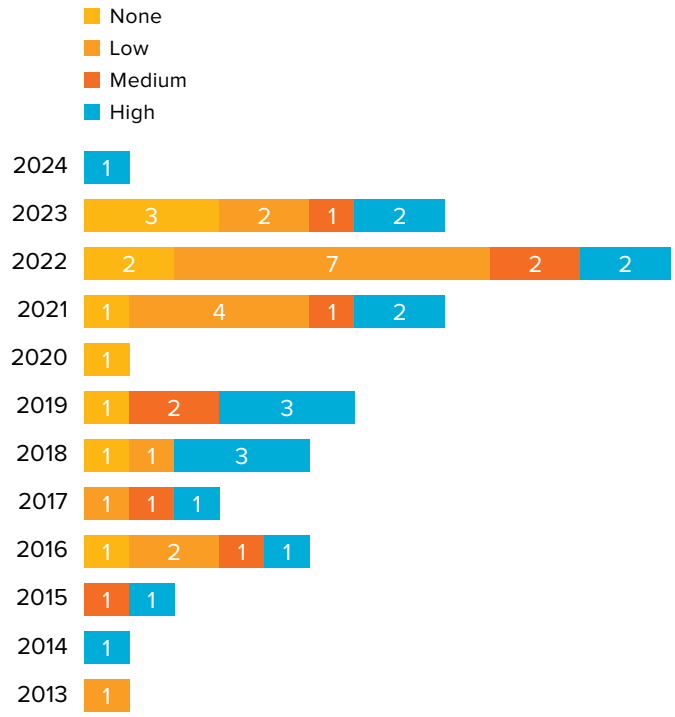
Figure 9 compares CDRFI integration by income group, and shows that middle-income and high-income countries consider CDRFI more. No low-income country has high CDRFI consideration, and most have low consideration. However, only two low-income countries include no CDRFI at all. Upper-middle-income countries have 60 percent of NAPs with high CDRFI integration, but also 22 percent of those in which CDRFI is not mentioned. In lower-middle-income countries, distribution across consideration groups is fairly even.

Figure 9: Distribution of NAPs by income group and level of CDRFI integration



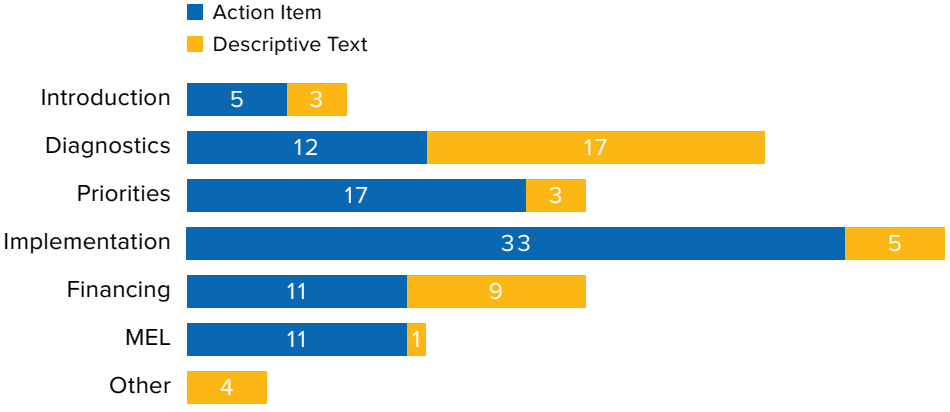
When analysed across the years of submission, the distribution of high and medium-ranked NAPs is fairly even (figure 10). Rather, the effects of the COVID-19 pandemic on NAP submission become apparent.

Figure 10: Distribution of NAPs by year of publication and level of CDRFI integration



To identify whether the country is planning to act on CDRFI-related topics, CDRFI segments have been assessed to determine whether they are descriptive or constitute an action item. NAPs for 40 countries include specific CDRFI action items, while 30 include descriptive elements, such as mentioning increased insurance premiums or stating the need for risk transfer but not further proposing modalities or goals. Four countries include descriptive elements but no action items (**Bosnia and Herzegovina, Central African Republic, Democratic Republic of the Congo and Guatemala**). Overall, there are twice as many action text segments as descriptive text segments (c. 200 and 100). As expected, more countries have action items in the implementation section, while descriptive items are more often found in the diagnostics and financing sections. Figure 11 shows the distribution of CDRFI-related content across different sections of the NAPs.

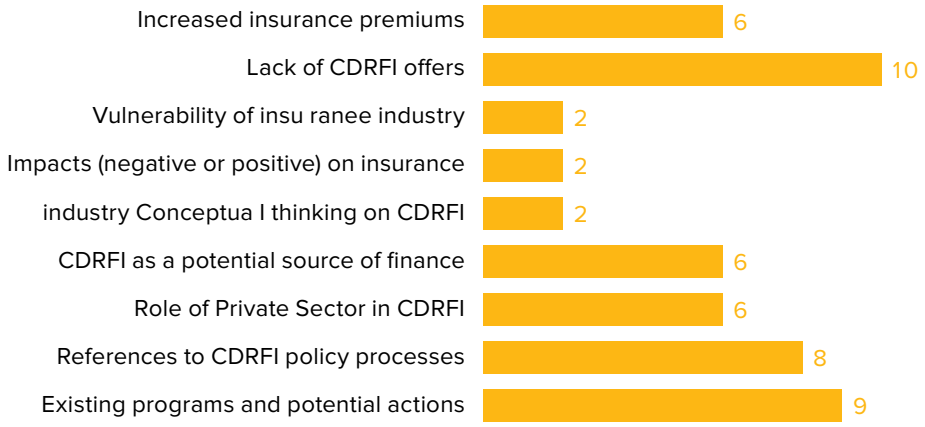
Figure 11: Distribution of countries including CDRFI segments in different parts of the NAP (hits only counted once per document)



Descriptive segments on CDRFI in NAPs

Descriptive CDRFI text segments describe a situation or baseline, issue or problem, or existing arrangements or conceptual thinking without (yet) suggesting specific action. NAPs for 30 countries included descriptive statements. Figure 12 gives an overview of common themes across documents. Key descriptive segments are on: i) the lack of CDRFI offers; ii) existing and potential CDRFI interventions; and iii) references to ongoing CDRFI policy processes. Countries also incorporate comprehensive risk management strategies, innovative financing instruments and private sector roles into their NAPs.

Figure 12: Themes of descriptive CDRFI segments in NAPs



Increased insurance premiums, lack of CDRFI offers and impact on the insurance industry

Most descriptive text segments are related to insurance mechanisms (c. 80 of 105). Increased insurance premiums due to climate change impacts are reported by six countries (**Armenia**, **Brazil**, **Cameroon**, **Peru**, **Saint Lucia** and **Saint Vincent and the Grenadines**). Nine countries refer to the lack of offers or access to CDRFI products, mostly climate risk insurance (**Argentina**, **Democratic Republic of the Congo**, **Kiribati**, **Nepal**, **Palestine**, **Paraguay**, **Saint Lucia**, **Sierra Leone** and **Uruguay**). The lack of access to insurance is identified as a vulnerability indicator in **Chile**. **Bangladesh** and **Bhutan** report that the insurance industry is vulnerable to climate impacts. The industrial sector in **Brazil** is vulnerable to increased costs due to climate impacts that might lead to contraction, including through increased insurance costs. In **Madagascar**, the insurance industry is cited as one sector that would benefit from incentives to invest in adaptation actions.

Conceptual thinking on CDRFI

Several NAPs articulated the countries' CDRFI-related concepts and their relevance to adaptation. **Colombia** provides a table laying out different activities under integrated climate risk management phases (reduce vulnerability; reduce hazards and exposure; solidarize, transfer and share risks; prepare and respond effectively; increase capacity to deal with "surprises". Colombia, Government of Colombia, 2012b, p. 53). Colombia also brings in the concept of risk layering to effectively manage financial risks:

> In the case of climate risks for which a "high" magnitude is foreseen, the improvement of adaptive capacities and access to resources for rehabilitation and reconstruction must be planned. To this end, it is necessary not only to direct public and private resources towards efficient emergency response, but also to design insurance and financial products to transfer risk, and to train entities to implement them, as well as to design policies that contemplate mandatory insurance or the design of fiscal schemes (Colombia, Government of Colombia, 2012b, p. 143).

Saint Lucia goes even further, listing and describing not only the elements of comprehensive climate risk management (risk assessment, risk reduction, risk transfer and risk retention), but also explaining in detail potential actions and challenges for the country. This includes discussing different financial instruments (risk pools, insurance policies on meso and micro levels, catastrophe bonds) as well as measures to strengthen risk retention capacities such as retaining risk, contingency funds, increasing remittances and strengthening savings and loan associations, together with their potential downsides (Saint Lucia, Government of Saint Lucia, 2018, pp. 135–139).

CDRFI as a potential source of finance

Several countries explain CDRFI instruments and existing donors or institutions (e.g., **Guatemala**, **Peru** and **Zambia**), while some discuss the suitability of CDRFI instruments, especially in the wider context of financing the NAP (**Bangladesh**, **Colombia**, **Peru** and **Suriname**). In **Bangladesh**, risk transfer is mentioned together with innovative but more revenue-generating instruments such as green bonds, resilience bonds, blended finance, reimbursable project aid, strengthening capital markets, green loans and strengthening public-private partnerships. **Peru** includes both private sector (especially insurance companies) insurance products and microfinance as potential financing streams for the NAP, while Suriname considers a wide range of innovative climate finance instruments, such as climate bonds, debt-for-nature-swaps, PPPs and contingently recoverable grants, alongside insurance pools and risk transfer instruments. The country's NAP states:

> For Suriname, many of the climate change interventions that may be contemplated are relatively new and therefore carry higher investor risk. A means to transfer some of the risks associated with developing new and innovative economic activities would be to consider the use of insurance (Suriname, Government of Suriname, 2019, p. 145).

De-risking climate investments, the NAP suggests, is one of the strengths of CDRFI instruments:

> The development of parametric insurance instruments may be one of many insurance tools that could augment the attractiveness of investing in measures to reduce the impact of climate change. While this offers an option similar to the Caribbean Catastrophe Risk Insurance Facility (CCRIF), it would require research and design for which donor agencies and partners could provide technical assistance. Similar to the capitalization of CCRIF, this form of instrument would also need to be supported by the international community for the development of a climate change insurance product (Suriname, Government of Suriname, 2019, p. 145).

The role of the private sector in CDRFI

The private sector has a crucial role in climate adaptation, and insurance companies have a particularly important part to play. Private sector partners can provide financing for adaptation, either independently or through public-private partnerships, aiding in risk transfer and mobilizing finance (e.g., in **Colombia**). They can serve as implementation partners for adaptation activities directly or indirectly related to CDRFI, as they do in countries like the **Central African Republic**, **Niger**, **Peru** and **Zambia**. They also contribute to climate data collection, risk forecasting and modelling, as seen in **Pakistan**.

Box 2: The private sector in Pakistan's NAP

Pakistan's NAP Objective 3 for the DRM sector is "Investing in disaster risk reduction to bolster the resilience of communities and critical infrastructure". A medium-term goal is to "Develop and implement climate and disaster risk finance and insurance products, with a focus on the most vulnerable and marginalized communities" (Pakistan, Ministry of Climate Change and Environmental Coordination, 2024, p. 61). The agriculture–water nexus is one of the country's key adaptation strategies. This includes a medium-term goal of "Identifying and developing a risk management system including crop insurance, including private sector engagement" (Pakistan, Ministry of Climate Change and Environmental Coordination, 2024, p. 40).

Pakistan also explained the potential roles of the private sector:

There is plenty of opportunity for the private sector to implement adaptation actions in collaboration with the government and development partners and explore blended -financing options. [...] These frameworks should be further strengthened by: (i) integrating climate costs in project designs; (ii) incorporating resilience as part of the evaluation criteria for tenders; (iii) including climate experts on project approval committees; and **(iv) fostering partnerships with the insurance industry and engineering firms on the use of climate screening and risk forecasting tools**. In addition, sharing information and building capacity to tap into these frameworks will be a necessary component for building an enabling environment.

(Pakistan, Ministry of Climate Change and Environmental Coordination, 2024, p. 80).

References to CDRFI policy processes

Countries reference international and national policies related to climate risk and insurance in various ways. **Paraguay** highlights Article 8 of the Paris Agreement on loss and damage, which addresses insurance and risk transfer. **Saint Lucia** mentions the WIM ExCom and its Fiji Clearing House on Risk Transfer. National strategies often already include CDRFI, such as **Chile's** Adaptation Plan, **Argentina's** Joint Declaration of Sustainable Finance and the EU Strategy on Adaptation as described by **Albania**. **Peru** highlights the role of the InsuResilience Global Partnership in risk financing, and describes the government's Fondo de Garantía para el Campo y del Seguro Agropecuario (Guarantee Fund for Rural Areas and Agricultural Insurance), which supports agricultural insurance to mitigate climate risks for vulnerable agricultural producers. **Fiji's** focus includes Sustainable Development Goal (SDG) 8 on decent work and economic growth, and the country aims to strengthen financial institutions' capacity to expand insurance services. **Brazil's** National Irrigation Policy (Law 12787/2013) encourages sustainable irrigation, integrating sectoral policies to promote efficient water use and combat desertification. Brazil also implements the Agricultural Activity Guarantee Programme (PROAGRO) and the Rural Insurance Premium Subsidy Programme (PSR).

Existing programmes and potential actions

Countries describe their existing CDRFI-related programmes, which are, in most cases, taken up again later as adaptation actions. Several countries list a number of potential adaptation actions or indicators, without yet formally committing to implementing them. An interesting case is **Chad**, which lists the development of climate risk insurance as one of many options for the priority intervention "Risk management, infrastructure and land-use-planning". Nevertheless, the option was given the lowest possible rating during a NAP stakeholder consultation with regards to effectiveness, feasibility,

cost/benefit and acceptability, and was thus not taken up again. **The Democratic Republic of the Congo** lists the creation of risk-sharing capacities as an important role of the state, without going into further actionable detail. Other countries first list potential adaptation options on CDRFI in various degrees of detail and then focus on a few selected ones (**Bangladesh**, **Bhutan**, **Burkina Faso**, **Colombia**, **Fiji** and **Saint Lucia**). Insurance is included in the potential list of **Bosnia and Herzegovina's** NAP indicators, but indicators are more often integrated into action items or strategy descriptions.

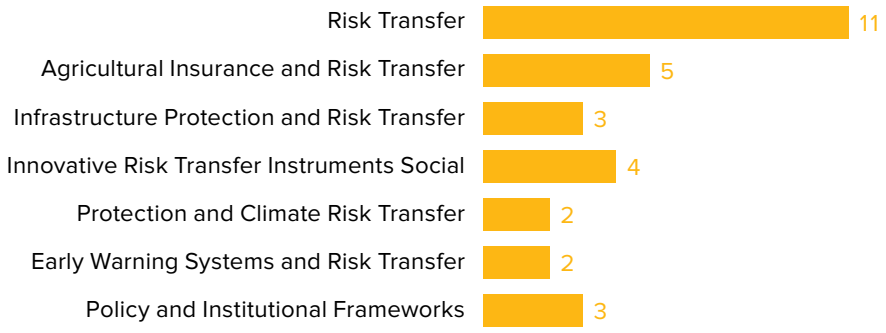
CDRFI action items in NAPs

The NAPs for 38 countries include segments relating to specific CDRFI-related action items, which are discussed below, grouped by CDRFI instruments.

Risk transfer and insurance

Risk transfer shifts the financial burden of specific risks from one party to another. This means that a household, community, business or government will receive financial support from another party after a disaster in exchange for providing that party with compensatory benefits, such as payments or other resources. Insurance is a common example of risk transfer, where individuals or organizations pay regular premiums to an insurer in exchange for coverage in case of a loss or disaster (UNDRR, 2017). Figure 13 shows the context in which the term 'risk transfer' is used in NAPs. Often, but not always, insurance and risk transfer are listed together.

Figure 13: Number of countries featuring risk transfer and related thematic sub-topics in NAPs



Agricultural insurance and risk transfer

Countries such as **Argentina**, **Bangladesh**, **Costa Rica**, **Peru** and **Uruguay** focus on promoting agricultural insurance and risk transfer mechanisms. These include introducing insurance for critical infrastructure and vulnerable groups, developing new insurance products incorporating adaptation measures and creating funds to support agricultural insurance.

Infrastructure protection and risk transfer

Bangladesh, **Colombia** and **Costa Rica** emphasize financial protection for infrastructure projects through risk transfer and insurance. This includes frameworks for protecting critical coastal infrastructure and ensuring that public service institutions hold insurance as part of their business continuity plans.

Innovative risk transfer instruments

Bangladesh, **Costa Rica**, **Fiji** and **Sri Lanka** are encouraging private sector engagement and innovative financing. They focus on introducing innovative risk transfer instruments, such as index insurance, and incorporating adaptation criteria into financial instruments.

Social protection and climate risk transfer

Nepal and **Pakistan** are developing climate and disaster risk finance products for vulnerable and marginalized communities. These include strengthening adaptive social protection systems and creating insurance products for the most at-risk populations.

Early warning systems and risk transfer

Argentina and **Morocco** are integrating early warning systems with risk transfer mechanisms. This combination aims to improve preparedness and resilience against climate-related disasters.

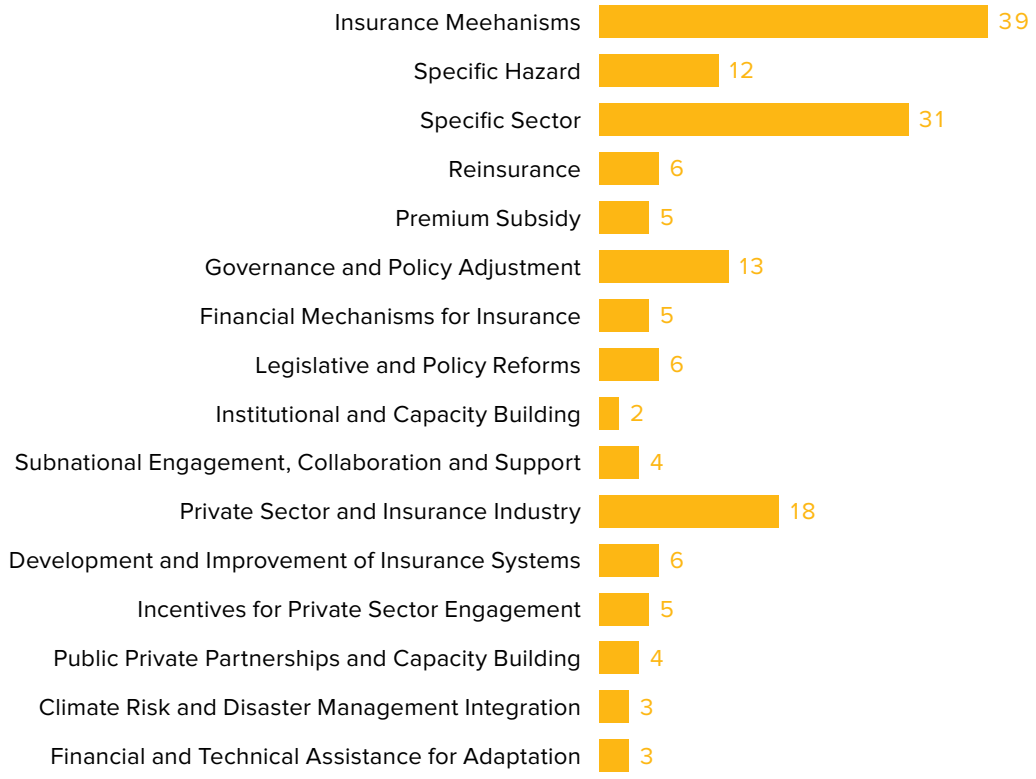
Policy and institutional frameworks

Costa Rica and **Sri Lanka** are establishing robust policy frameworks for risk transfer. This involves incorporating climate risk into insurance governance and conducting policy studies to explore innovative risk transfer tools. **Colombia's** NAP stresses the importance of PPPs for risk transfer.

Insurance mechanisms

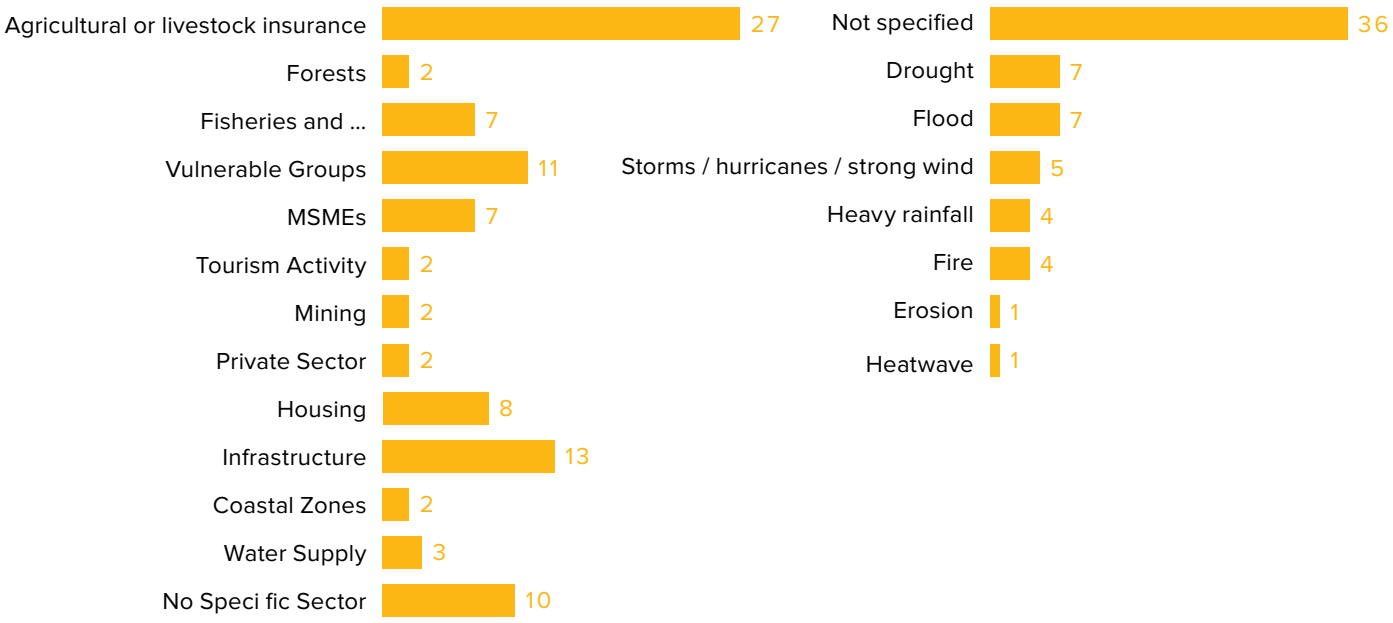
Insurance is the CDRFI instrument for which implementation is most frequently planned (that is, for which an action item has been created). It features in 39 countries. Action items include both introducing new schemes and scaling up existing schemes, as well as conducting feasibility studies, making policy adjustments or carrying out capacity-building measures, among others. Insurance is generally regarded as an optional offer, and only Uruguay's NAP for the agriculture sector (Uruguay, Ministry of Livestock, Agriculture and Fisheries, 2019, p. 99) considers the idea of requiring insurance for agricultural activities.

Figure 14: Number of countries featuring insurance action items in NAPs



Sectors and hazards

Figure 15: Number of countries featuring insurance action items in NAPs, by hazards and sectors



- **Agricultural or livestock insurance** is the sector most frequently addressed, appearing in 28 documents (**Albania**, **Argentina**, B**angladesh**, **Benin**, **Bhutan**, **Brazil**, **Burkina Faso**, **Central African Republic**, **Chile**, **Ethiopia**, **Fiji**, **Grenada**, **Liberia**, **Madagascar**, **Morocco**, **Nepal**, **Pakistan**, **Palestine**, **Papua New Guinea**, **Paraguay**, **Peru**, **South Suda**n, **Suriname**, **Thailand**, **Togo**, **Uruguay** and **Zambia**).
- **Forests** are addressed in **Bangladesh** (focusing on the livelihoods of forest resource users) and **Argentina** (protecting native forests from forest fires).
- **Fisheries and aquaculture** insurance is addressed in seven countries (**Bangladesh**, **Chile**, **Grenada**, **Peru**, **Saint Lucia**, **Sierra Leone**, **Suriname** and **Zambia**).
- **Vulnerable groups** that should specifically benefit from insurance are mentioned in NAPs for 11 countries (**Bangladesh**, **Benin**, **Brazil**, **Burkina Faso**, **Grenada**, **Nepal**, **Pakistan**, **Peru**, **Saint Lucia**, **Sierra Leone**, **Thailand**).
- **Micro-, small and medium-sized enterprises (MSMEs)** insurance is mentioned in **Albania**, **Bangladesh**, **Cameroon**, **Chile**, **Paraguay**, **Peru** and **Uruguay**. **Tourism activity** is mentioned in **Mozambique** and **Nepal**. **Mining** is mentioned in **Cameroon** and **Zambia**. The wider **private sector** is targeted in **Kiribati** and **Thailand**.
- **Housing** insurance is mentioned in **Albania** (catastrophe insurance for homeowners), **Colombia** (risk transfer and insurance for infrastructure), **Fiji** (insurance and incentive for constructing climate-resilient housing), **Saint Lucia** (adjustment of the legislation system to link property insurance), **Saint Vincent and the Grenadines** (housing compensation scheme), **Suriname** (specialized insurance coverage scheme for housing), **Thailand** (climate insurance for human settlement) and **Zambia** (insurance for buildings).
- **Infrastructure** insurance is mentioned in **Bangladesh**, **Chad** (where it is rated very low priority), **Colombia** (for transport), **Nepal**, **Niger** (where insurance companies are cited as a potential finance source), **Suriname** and **Zambia**. Insurance for public institutions is mentioned in **Costa Rica**, **Fiji** (energy assets), **Kiribati** (public assets), **Mozambique** (public infrastructure), **Niger** (through ARC, and with insurance companies as a potential finance source), **Saint Vincent and**

the Grenadines (CCRIF for transport and works) and **Zambia** (hydroelectric assets). Insurance for coastal zones is mentioned in **Brazil** (in relation to preliminary work to enable insurance for projects) and **Mozambique** (as tourism activity). Insurance for **water supply** is mentioned in **Brazil**, **Nepal** (for local governments) and **Zambia** (for insurance companies to support).

- **No specific sector** is related to some mentions of insurance in **Albania**, **Bangladesh**, **Cambodia** (where insurance is mentioned in relation to ASP), **Costa Rica** (vulnerable sectors), **Kiribati**, **Mozambique**, **Saint Lucia**, **Sri Lanka** and **Suriname**.

With regard to **hazards**, most countries do not specify the hazards for their action items on insurance, at least in some of their references (36 countries). Several countries specify insurance-related action on **drought** (seven countries) and **flood** (seven), **storms** or **hurricanes** (five), **heavy rainfall** (four) and **fires** (four), **erosion** (one) and **heatwave** (one).

Reinsurance

Reinsurance is a financial arrangement in which an insurance company transfers a portion of its risk to another (large) insurer to reduce its potential losses from major claims. In their NAPs, six countries mention the use of reinsurance as a critical disaster risk finance instrument. **Albania** highlights Europa Re's dual role as a knowledge and reinsurance provider for local risk insurance products. **Costa Rica** plans to introduce new insurance and reinsurance products. Kiribati plans to incorporate reinsurance to support local businesses against climate hazards through microinsurance schemes. **Paraguay** proposes creating a state reinsurance fund to develop agricultural insurance. **Saint Lucia** and **Zambia** recognize reinsurance as an essential risk transfer mechanism.

Premium subsidy

The level of insurance premiums depends on the risks associated with the insured events. Therefore, increasing climate risks can lead to higher premium rates, which may be subsidized by governments or international organizations. NAPs highlight various premium subsidy initiatives to support agricultural and disaster risk insurance. **Albania** plans a sustainable premium subsidy scheme for flood insurance targeting vulnerable communities. **Brazil's** Rural Insurance Premium Subsidy Programme aims to enhance access to rural insurance. **Nepal** incorporates insurance subsidy mechanisms within broader strategic assessments. **Morocco** aims to increase coverage rates for state-subsidized agricultural insurance programmes for crops and fruit trees. **Uruguay** promotes agricultural insurance through farm insurance subsidies and developing new coverage, including index insurance. The country also analyses subsidy systems to expand coverage for family farmers. No country mentions premium subsidy needs at the sovereign level, for example, for the need to take out insurance through a risk pool.

Governance and policy adjustment

Several countries not only mention the necessity of providing or upscaling CDRFI instruments but also describe the need to build an enabling environment across sectors, especially with regard to government provisions and regulations.

Financial mechanisms for insurance: Ethiopia plans to implement enabling financial mechanisms to accommodate drought and crop insurance. **Fiji** is focused on building financial institutions' capacity to expand access to banking, insurance and financial services, improving financial literacy and integrating climate resilience into finance mechanisms. **Saint Vincent and the Grenadines** aims to strengthen domestic financial institutions to provide insurance and to establish an institutional framework. **Uruguay** aims to strengthen institutional capacities for CRM and for the development of risk insurance systems and risk assessments. **Thailand** seeks financial mechanisms for climate adaptation and is aiming to develop business models for different CDRFI and climate finance instruments. **Costa Rica** plans to develop methodologies to integrate adaptation criteria into financial instruments.

Legislative and policy reforms: Albania aims to

enact reforms for catastrophe and weather risk insurance markets, as well as to address insurance affordability and availability issues. **Bangladesh** plans to reform insurance policies to address climate impacts on marginalized groups and MSMEs. **Brazi**l is aware of a potential need to revise rural insurance and related policies in the light of climate change impacts and aims to regulate and stimulate the use of insurance for extreme hydrological events targeted at each user sector and category of use. **Nepal** seeks to provide adaptive social protection through insurance companies that support government plans and policies. **Saint Lucia** proposes legislation linking property insurance with construction quality and climate risk. **Suriname** aims to provide fiscal incentives, such as differentiated insurance premiums, to encourage investments in adaptation.

Institutional and capacity-building: Fiji plans to enhance insurance for key energy assets as part of its broader DRR strategy. Palestine seeks to build capacities for agricultural insurance in the context of the **Palestinian** Disaster Risk Reduction and Insurance Fund (PADRRIF).

Subnational engagement, collaboration and support: Fiji aims to address risks through partnerships between the government, financial service providers and civil society organizations. **Nepal** aims to develop guidelines to support local governments in integrating water use and insurance. **Paraguay** aims to establish a public-private working group and insurance funds for climate risks to cover the most vulnerable sectors. **Suriname** includes insurance in district adaptation plans and proposes fiscal incentives for adaptation investments.

Private sector and insurance industry

The private sector is featured in some NAPs as the object for insurance, for example, in relation to insurance for MSMEs. In others, it is described as an important partner for the development of CDRFI solutions, a provider of climate finance including but not limited to PPPs, and as a crucial stakeholder for data provision, risk modelling and risk management. **Development and improvement of insurance systems: Albania's** NAP notes that risk insurance as an innovative financing mechanism is currently being tested, though it will not be readily available in the short term. **Costa Rica** plans to develop tools to incorporate adaptation criteria into financial risk transfer instruments such as insurance and reinsurance. **Pakistan** seeks to integrate climate costs into project designs and foster partnerships with insurers on risk forecasting tools. **Paraguay** intends to establish a public-private insurance fund to cover climate risks, involving various financial and productive sectors. **Thailand** supports climate insurance businesses through financial mechanisms, emphasizing fairness and accessibility. **Uruguay** aims to enhance institutional capacities for climate risk management and improve agricultural insurance, including by creating commercial products for drought risk. **Zambia** promotes private sector participation in green practices and aims to provide climate finance and insurance.

Incentives for private sector engagement: Bangladesh plans to engage the private sector in climate finance through innovative financing instruments, tax exemptions and green bonds. **Bhutan** focuses on social and environmental risk management by aligning with green financing guidelines and implementing insurance schemes. **Niger** identifies private insurance companies as potential funding sources. **Peru** highlights the diverse roles of private sector actors, from large companies to MSMEs and insurers, in climate resilience. **Madagascar** aims to obtain private sector support for climate resilience through subsidies, low-interest loans, tax exemptions and public investments. **Suriname** offers fiscal incentives like differentiated insurance premiums and tax benefits to encourage adaptation investments.

Public-private partnerships and capacity-building: Argentina is promoting sustainable finance development with a Joint Declaration from key regulatory authorities to attract investments for climate adaptation. **Colombia** uses PPPs to link private capital with public infrastructure projects, involving risk transfer mechanisms. **Paraguay** plans to

build capacity for environmental governance through PPPs. **Saint Lucia** aims to develop partnerships to involve the private sector in community climate resilience, focusing on agriculture insurance.

Climate risk and disaster management integration: **Kiribati** incorporates climate risks into business plans and is assessing the feasibility of microinsurance.

Sierra Leone emphasizes the private sector's role in information dissemination, financial support and climate-related insurance to enhance resilience. **Suriname** intends to use insurance to mitigate climate-related risks and attract investment, developing parametric insurance instruments with international support.

Figure 16: Number of countries featuring action items on specific CDRFI instruments in NAPs

Risk pooling

Risk pooling is the practice of sharing all risks among a group of risk exposure units. **Regional risk pooling** mechanisms are features across NAPs. **Chad** and **Niger** are collaborating with ARC. Chad is creating and operationalizing a national scheme with ARC, while Niger is using ARC's Africa RiskView platform for drought management and insurance. It is important to note that many countries that are ARC members or are eligible to be members did not mention the risk pool in their NAP.

In Latin America and the Caribbean, **Saint Lucia** and **Saint Vincent and the Grenadines** are engaging with CCRIF. Saint Lucia continues its participation in regional risk pooling and insurance platforms, whereas Saint Vincent and the Grenadines mentions CCRIF testing various insurance models for feasibility. **Suriname**, similarly, is exploring the development of parametric insurance tools like those used by CCRIF, but would need to attract investment and obtain international support to design and set up its tools.

In Europe, **Albania** mentions the World Bank's insurance programme for South-East Europe (Southeast Europe Catastrophe Risk Insurance Facility, SEE CRIF), through which it focuses on flood insurance schemes with sustainable premium subsidies for socially vulnerable groups.

CAT bonds

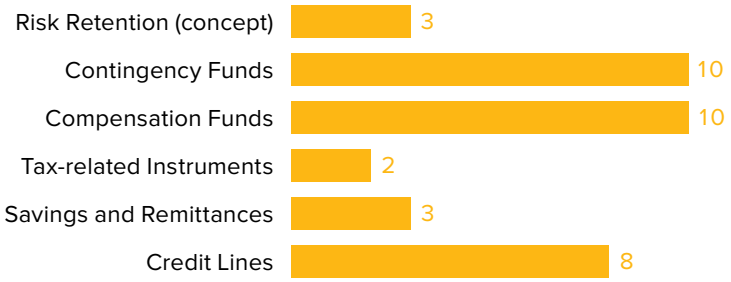
Only **Saint Lucia** mentions participation in catastrophe bond insurance platforms like the World Bank MultiCat Programme for better risk pooling and planning against catastrophic events. Authors and readers of NAPs need to be careful to distinguish between CAT bonds and regular bonds. A range of countries, such as **Bangladesh**, **Pakistan**, **Saint Lucia** and **Suriname**, refer to green and blue bonds in the context of climate financing, while also naming risk transfer instruments as potential financing sources in the same paragraph, which can easily lead to confusion regarding the nature of these different instruments.

Guarantees

Brazil's Agricultural Activity Guarantee Programme (PROAGRO) and Family Farming Agricultural Activity Guarantee Programme (PROAGRO-Mais) ensure financing and payment capacity for farmers against commodity price fluctuations and climate-induced harvest failures, with special terms for family farmers in the semi-arid north-east. **Costa Rica** aims to implement adaptation criteria in implementing financial risk transfer instruments, such as guarantees, while **Uruguay's** Fondo de Reconstrucción y Fomento de la Granja (FRFG, Farm Development Fund) promotes climate risk management and guarantees for the farming sector.

Risk retention

Figure 17: Number of countries featuring action items on risk retention in NAPs



Risk retention

Three countries incorporate risk retention strategies by accepting and absorbing climate change impacts through various financial mechanisms. **Saint Lucia** emphasizes the importance of having contingency funds with flexible and rapid disbursal systems, developing remittance systems and strengthening savings and loan associations for financially vulnerable groups. **Bhutan** and **Uruguay** focus on institutional capacity-building for climate risk evaluation and management. They aim to enhance risk transfer tools and retention funds and design retention fund systems and subsidies to expand insurance coverage for vulnerable groups, such as family farmers in Uruguay. These countries recognize the need for flexible financial responses and acknowledge the increased costs of damages as risks rise.

Contingency funds

Ten countries have established or are in the process of establishing contingency funds to support rapid disaster response and recovery. **Argentina** stresses the need for agile and independent financing sources, including revolving and compensation funds, particularly for biodiversity and common goods. **Brazil** provides financial compensation to farmers affected by significant crop losses through the Garantia Safra (Harvest Guarantee) fund. **Cameroon** is updating its National Contingency Plan and operationalizing an emergency fund, while **Chad** aims to enhance its community early warning and rapid response system, including through training and coordination support, upgrading equipment and establishing a contingency fund. **Colombia** lists potential risk transfer methods such as insurance, securities and contingent credits. Its plan also involves the National Disaster Risk Management Fund (FNGRD) Disaster Management Sub-account, Recovery Sub-account and Financial Protection Sub-account.

Fiji integrates risk transfer mechanisms and contingency finance into development planning to alleviate resource strains at national and household levels. **Kenya** has a National Drought and Disaster Contingency Fund to manage drought and disaster risks. **Palestine** highlights the need to develop capacities for its Disaster Risk Reduction and Insurance Fund to support agricultural insurance and compensation. **Paraguay** proposes creating a public-private climate risk insurance fund for vulnerable sectors and **Suriname** plans to establish a disaster relief fund and specialized insurance schemes for vulnerable areas.

Compensation funds

A range of countries introduce the concept of compensation or a compensation fund. Sometimes linked to insurance, these funds finance affected groups after a disaster. The payout modalities are mostly not clarified in detail. As most of them are designed as nationally financed instruments, they are grouped under risk retention.

Financial mechanisms for adaptation and compensation funds: Morocco suggests formalizing compensation mechanisms for disaster-related damages to enhance societal resilience. **Thailand** proposes financial mechanisms such as rehabilitation and reparation funds, climate insurance systems

and payment for ecosystem services to support climate change adaptation. **Uruguay's** FRFG promotes climate risk management for farms and provides emergency support not covered by existing insurance, funded by the national budget.

Insurance and compensation schemes: Bangladesh aims to build the resilience of vulnerable poor communities by introducing gender-, age- and disability-responsive diversified livelihoods, effective insurance mechanisms and climate resilience funds, though its NAP leaves unspecified whether these mechanisms are meant for rapid payout. **Bhutan** recommends climate risk management for food production through insurance and compensation schemes for climate impacts and livestock protection against wildlife and extreme conditions. **Brazil's** Garantia Safra programme compensates farmers for crop losses due to drought or excessive rain through government-provided financial compensation.

The **Democratic Republic of the Congo** emphasizes state involvement to ensure compensation for risks during exceptional climate events. **Saint Lucia** plans to develop and implement social benefits, insurance, pensions and compensation schemes for fishers and their families affected by climate impacts. Similarly, **Saint Vincent and the Grenadines** mentions a housing compensation scheme for climate impacts.

Institutional capacity development for compensation: Palestine identifies a need to develop institutional capacities for agricultural insurance and compensation, leveraging the existing Palestinian Disaster Risk Reduction and Insurance Fund to operate effectively.

Tax-related instruments

Bangladesh emphasizes increasing coverage of tax rebates, subsidies and crop insurance for informal sector actors and cottage, micro-, small and medium-sized enterprises (CMSMEs) based on risk maps to build resilience. Key strategies include tax exemptions, holidays and value-added tax exemptions to encourage private sector engagement in climate finance. Similarly, **Thailand** supports the role of the private sector in climate risk management by offering tax exemptions and low-interest loans for climate adaptation projects and promoting climate insurance businesses for at-risk populations.

Savings and remittances

Cameroon stresses the importance of savings for artisanal businesses. **Fiji** highlights flexible savings accounts, long-term deposit schemes and remittance services, including efforts by the Reserve Bank Fiji and Fiji Development Bank. In **Peru**, financial inclusion through savings, remittances and digital delivery channels, among others, supports climate resilience and economic activities, including green technologies and resilient infrastructure.

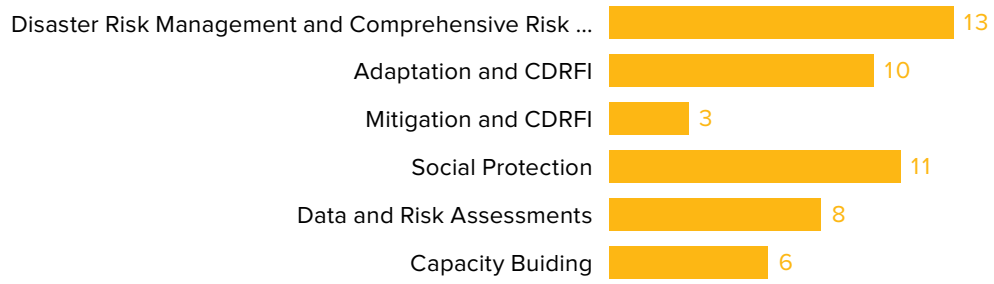
Credit lines

NAPs highlight the use of credit lines as a crucial risk retention tool to support vulnerable populations. **Bangladesh** recommends increasing financial stability and risk transfer and retention mechanisms for vulnerable MSMEs. **Benin** and **Kenya** propose establishing affordable credit lines for urban and rural poor, youth and other vulnerable groups, while Benin also focuses on improving microfinance access for women and youth. **Brazil** prioritizes rural credit and insurance for efficient water resource projects and combating desertification. **Cambodia** advocates for microfinancing to aid local communities in climate responses. **Cameroon** emphasizes encouraging informal savings and medium-term credit availability. **Fiji** highlights flexible savings, credit programmes and incentives for climate-resilient housing. **Papua New Guinea** is working towards establishing farmer cooperatives and microcredit facilities, while **Saint Lucia's** NAP considers contingency financing and credit as methods for risk retention.

Key CDRFI themes and trends across NAPs

Several countries have incorporated CDRFI into their broader frameworks for DRM and climate adaptation. Their activities involve connecting CDRFI to measures like preventive and corrective actions, early warning systems, risk evaluation and tailored community support. Most countries highlight the importance of financial tools such as insurance in bolstering infrastructure resilience, aiding vulnerable sectors and strengthening institutional capabilities. Countries also consider leveraging CDRFI to secure adaptation initiatives, manage costs and even support climate mitigation activities. This section discusses some key themes related to CDRFI that became apparent in the NAP analysis.

Figure 18: Number of countries featuring key CDRFI themes in NAPs



Disaster risk management and comprehensive risk management

CDRFI is one element in comprehensive climate and disaster risk management, and 13 countries make this link explicit within their NAPs.

Figure 19: Number of countries linking CDRFI with DRM and CRM and thematic sub-topics in NAPs

Preventive and corrective actions

Argentina emphasizes comprehensive climate risk management, which involves using financial instruments to support preventive and corrective actions against fires, droughts, floods and other extreme weather events. This includes broadening access to insurance markets to mitigate income variability for agricultural producers, linking DRM to CDRFI. Similarly, **Colombia** uses mutual and reserve funds as part of its DRM strategy, integrating financial instruments to support adaptive learning and management, thereby making it more possible to fund preventive measures.

Early warning systems and rapid response

In **Liberia**, strengthening early warning and rapid response systems ties into CDRFI by providing mechanisms to alert communities and mobilize funds quickly to mitigate disaster impacts. **Morocco** is developing early warning systems and risk transfer instruments such as insurance, directly connecting DRM to CDRFI by ensuring financial preparedness and quick response capabilities. **Saint Lucia** is improving hazard mapping and early warning systems, as well as participating in regional risk pooling, exemplifying how CDRFI tools can support effective disaster response and recovery efforts.

Risk assessment and reduction

Brazil's National Plan for Reduction of Risks and Disasters, which includes agricultural insurance, illustrates how risk assessment and reduction efforts can be financed through CDRFI mechanisms to protect the agricultural sector. **Uruguay** is developing risk management strategies, including risk assessment tools and climate risk maps, supported by retention funds and subsidies, highlighting the link between DRM activities and CDRFI.

Community and sector-specific support

In **Bangladesh**, government-subsidized, insurance-based risk recovery mechanisms, such as ad hoc cash transfers and emergency funds, make use of CDRFI to support communities during and after disasters. **Liberia's** insurance schemes and early warning systems for the livestock and crop sectors highlight the role of CDRFI in providing financial protection and reducing vulnerability to climate variability.

Infrastructure and housing resilience

Bangladesh focuses on climate-proofing transport and communication infrastructure with the help of financial instruments, tying into CDRFI by securing funds for infrastructure resilience and maintenance. **Fiji** addresses the lack of climate-resilient housing and promotes insurance coverage, linking DRM efforts to CDRFI by ensuring financial mechanisms are in place to support rebuilding and recovery.

Institutional and policy integration

Fiji involves finance and planning institutions in climate change and disaster-resilient development, ensuring the strategic use of CDRFI resources to support nationwide adaptation efforts. **Kiribati** encourages the private sector to integrate climate change and disaster risks into business plans and assess the feasibility of insurance, connecting institutional efforts to CDRFI.

Establishment of funds and insurance programmes

Cameroon is operationalizing emergency funds and updating contingency plans, reflecting the application of CDRFI tools to improve financial readiness and response capabilities. **Suriname** aims to establish disaster relief funds and specialized insurance coverage for health, housing and infrastructure, demonstrating the integration of CDRFI mechanisms to protect vulnerable sectors.

Comprehensive risk management strategies

Argentina uses financial instruments and insurance in agriculture to stabilize income, tying comprehensive risk management directly to CDRFI and reducing vulnerability to climate events. **Uruguay's** integrated risk management plans, including climate insurance and early warning systems, link DRM with CDRFI by providing financial tools to mitigate economic impacts and improve resilience.

Disaster management without a direct CDRFI connection

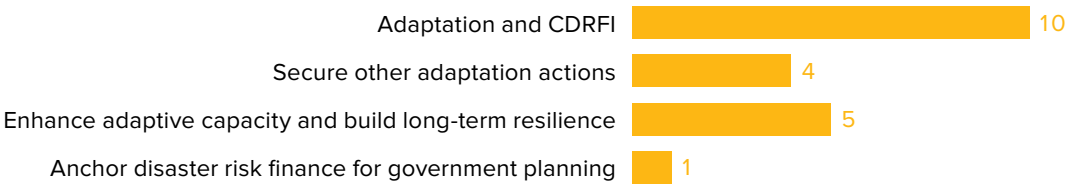
Many NAPs link adaptation action to disaster risk management or disaster management. These countries include **Argentina**, **Benin**, **Brazil**, **Burundi**, **Chad**, **Colombia**, **Madagascar**, **Nepal**, **Paraguay**, **Peru**, **Sierra Leone** and **Timor-Leste** (and it is possible that more countries do so, since the search made was not specific to DRR and DRM). Countries emphasize comprehensive risk management, early warning systems, contingency planning, capacity-building and the integration of disaster management into national policies. They focus on increasing response capabilities to various hazards,

including extreme weather events, epidemics and technological accidents. Cross-level interaction and institutional frameworks are seen as crucial for effective implementation.

Adaptation and CDRFI

While all actions in an NAP refer to adaptation, 10 countries make a more explicit link between the use of CDRFI instruments and the intended adaptation benefit.

Figure 20: Number of countries linking CDRFI to adaptation and thematic subcategories in NAPs



Secure and incentivize other adaptation actions

CDRFI secures climate finance investments, such as in infrastructure, by providing financial protection against climate-related risks. This ensures the longevity and resilience of these investments, allowing them to recover from disasters more quickly and perform their intended function. **Brazil** aims to facilitate the appraisal of insurance for works and adaptation projects in the Coastal Zone, where potential risk is assessed at 136 billion Brazilian real (c. $23.4 billion). **Sri Lank**a is exploring market-based instruments including index insurance for motivating adaptive actions, while **Togo** plans to conduct a feasibility study on implementing an agricultural insurance system to support sustainable adaptation measures. **Suriname** proposes covering the incremental costs of adaptation through fiscal incentives such as tax benefits, subsidies, differentiated property taxes, insurance premiums and subsidized loans to encourage adaptation investments. Nevertheless, details on how this offset should work are not provided.

Enhance adaptive capacity and build long-term resilience

Bangladesh aims to improve its social safety nets to increase resilience and adaptive capacity and plans to link these social programmes to insurance, and similarly, **Sierra Leone** aims to strengthen the adaptive capacity of the most vulnerable groups and communities through social safety nets and insurance schemes. **Cameroon** highlights the need to build long-term resilience through insurance, and aims to encourage banks and insurance companies to promote resilient land use and construction so as to reduce long-term risk costs. **Thailand** aims to adopt financial mechanisms to support climate change adaptation, such as climate insurance systems and funds for disaster impacts. **Uruguay** stresses the importance of promoting climate insurance to enhance adaptive capacity in the wine value chain, focusing on research and risk transfer tools.

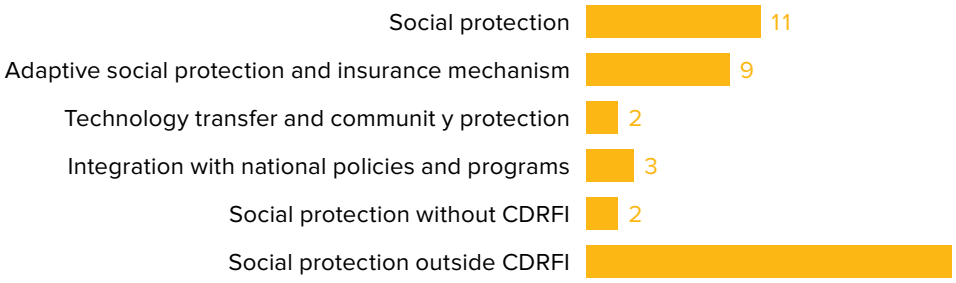
Anchor disaster risk finance for government planning

Fiji emphasizes the central role of finance and planning institutions in nationwide strategies for climate change and disaster resilience, leveraging financial and technical support, including insurance.

Social protection

Social protection is crucial to support vulnerable populations and to help them adapt to and cope with the effects of climate change. It has the potential to be linked to several CDRFI instruments in both money-in systems (such as risk pool payouts) and money-out systems (such as premium-supported micro insurance schemes). The NAPs of 11 countries link these instruments.

Figure 21: Number of countries linking CDRFI to social protection and thematic subcategories in NAPs



Adaptive social protection and insurance mechanisms

Bangladesh aims to increase social safety net coverage through traditional initiatives such as food for work, cash transfers and emergency medication during and after disasters, complemented by innovative insurance-based risk recovery mechanisms. **Benin** is focused on expanding and reinforcing social protection and insurance mechanisms to guard against climate risks. **Bhutan** is developing safety nets like crop insurance and credit facilities to cope with extreme weather events. **Cambodia** promotes adaptive social protection through insurance schemes, but lacks detailed action items. **Kenya** is seeking to expand social protection and insurance mechanisms against climate hazards. **Nepal** plans to operationalize adaptive and shock-responsive social protection frameworks, involving insurance companies to support government plans. **Saint Lucia** is developing social benefits and insurance schemes for fishers and their families to mitigate climate-related impacts. **Sierra Leone** aims to strengthen the adaptive capacity of vulnerable groups through social safety nets and insurance schemes. And in **Suriname**, subnational/district adaptation strategies are to include social protection plans alongside technology transfer and dissemination.

Technology transfer and livelihood support

Sierra Leone focuses on enhancing the adaptive capacity of vulnerable groups through social protection measures that include technology transfer and livelihood support. In **Suriname**, district adaptation plans incorporate technology transfer and dissemination as part of their social protection strategies.

Climate-resilient infrastructure and community protection

Bangladesh is implementing climate-resilient housing and infrastructure to protect against disasters, supported by insurance and social safety nets. **Grenada** is investigating insurance options and risk transfer instruments to enhance social protection for agriculture and fishing communities. **Pakistan** is developing climate and disaster risk finance and insurance products with a focus on vulnerable communities.

Integration with national policies and programmes

Nepal's adaptive social protection frameworks are aligned with government plans and policies. **Pakistan** is building on existing programmes to establish a shock-responsive social protection system, concentrating on the most vulnerable and marginalized communities.

Social protection without CDRFI

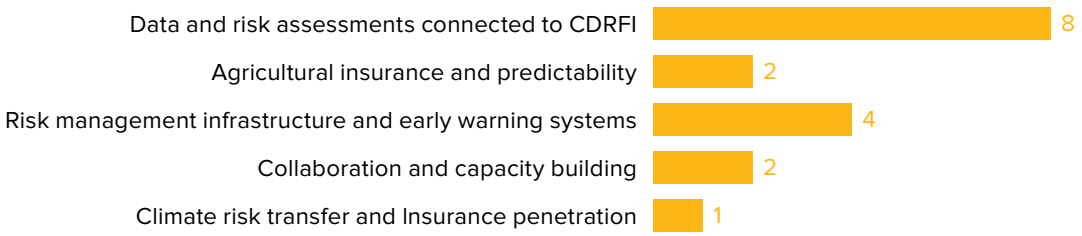
In 23 countries, social protection is featured in NAPs without links to CDRFI (**Argentina**, **Benin**, **Burkina Faso**, **Burundi**, **Cambodia**, **Cameroon**, **Chad**, **Colombia**, **Costa Rica**, **Ethiopia**, **Grenada**, **Kiribati**, **Liberia**, **Marshall Islands**, **Morocco**, **Mozambique**, **Nepal**, **Pakistan**, **Peru**, **Sierra Leone**, **Saint Vincent and the Grenadines**, **Togo** and **Uruguay**). In these NAPs, the focus is on the integration and enhancement of social protection systems in response to climate change. Key themes include strengthening social protection for vulnerable populations, promoting

adaptive social protection and integrating these measures into national strategies. The need to address socioeconomic inequalities, gender gaps and territorial disparities is emphasized. NAPs also highlight the importance of occupational health and safety, supporting livelihoods and ensuring equitable access to basic services, education and healthcare. Climate change adaptation is seen as crucial for building resilience in communities, particularly for women, children and impoverished groups.

Data and risk assessments connected to CDRFI

A major benefit of integrating CDRFI in adaptation planning is that CDRFI-related risk models, assessments and data can be further used to define resilience baselines and evaluate investment risks. This approach supports informed, cost-effective adaptation strategies, helps close protection gaps and captures the true value of investments. Eight countries connect CDRFI to topics related to data and risk analytics in their NAPs. A larger number of countries elaborate on the importance of data without linking it to CDRFI. This shows awareness of the importance of a risk-informed approach, and could feed into CDRFI development and implementation. However, these more general data needs have not been assessed in this analysis.

Figure 22: Number of countries featuring data issues related to CDRFI and thematic subtopics in NAPs



Agricultural insurance and predictability

Brazil and **Liberia** stress the importance of improving agricultural insurance predictability to enhance climate resilience in farming. Brazil's plan focuses on effective resource investment and collaboration with national food and nutritional security authorities to boost readiness and resilience in the agricultural sector. Liberia shares this objective, underscoring the importance of predictable insurance planning for climate adaptation.

Risk management infrastructure and early warning systems

Chad aims to operationalize a national risk management scheme in cooperation with ARC, creating an observatory to prevent and manage climate-related risks and disasters. **Morocco** is integrating early warning systems and financial risk transfer instruments, combining these with task forces for displacement and rehabilitation. **Peru** is strengthening its agrometeorological systems and implementing early warning mechanisms for fishing and aquaculture, incorporating climate change scenarios to support decision-making. **Uruguay** emphasizes CRM, including through training in climate risk evaluation tools, designing retention funds and subsidies and expanding agricultural insurance coverage for family producers.

Collaboration and capacity-building

Niger is collaborating with ARC and the National Disaster Prevention and Management Authority to provide risk management solutions and drought insurance through the Africa RiskView platform. Suriname's district adaptation plans include tools for data collection, monitoring, communications and early warning systems, alongside technology transfer, insurance and social protection measures.

Climate risk transfer and insurance penetration

Uruguay is evaluating climate risks, testing index insurance against drought and excessive rainfall and working to expand insurance coverage. These

efforts are aimed at integrating climate risk data into decision-making and building resilience through improved public policies and insurance products.

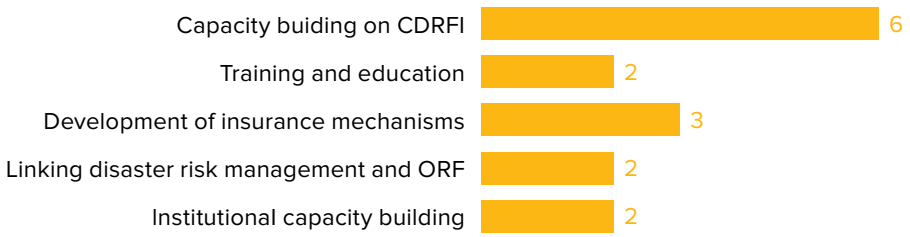
Data issues outside CDRFI

NAPs also include various data issues unrelated to CDRFI. Some examples include **Bosnia and Herzegovina** and **Fiji's** focus on data collection and quality assurance, emphasizing the need for accurate, user-friendly data for decision-making. **Kiribati** and **Mozambique** aim to enhance early warning systems and data-sharing mechanisms. **Pakistan** and **South Sudan** highlight the importance of open access to climate-related data and regional data compatibility. **Timor-Leste** stresses improved coordination and common databases to streamline climate adaptation and disaster risk reduction efforts.

Capacity-building

CDRFI requires high technical capacity across different stakeholder groups, and capacity requirements are discussed by six countries.

Figure 23: Number of countries featuring CDRFI capacity-building and thematic subtopics in NAPs



Training and education

In **Cameroon**, non-governmental organizations (NGOs) and civil society organizations focus on training industrial managers and insurance companies on the impacts and opportunities of climate change. Similarly, **Kenya** discusses the importance of capacity-building in indigenous knowledge, livestock insurance schemes, early warning systems, early action, livestock management and breeding.

Development of insurance mechanisms

Palestine highlights the need to develop institutional capacities to operate the Palestinian Disaster Risk Reduction and Insurance Fund. **Colombia** concentrates on training entities to implement insurance and financial products for risk transfer. In **Uruguay**, training in climate risk evaluation tools, designing retention funds and subsidizing risk transfer instruments are considered essential to increase insurance coverage for family producers.

Linking DRM and DRF

Argentina focuses on strengthening early warning systems, promoting risk transfer instruments and improving horticultural infrastructure. In **Colombia**, training on emergency management and implementing risk transfer through insurance are key activities.

Institutional capacity-building

Nepal is building the capacity of local governments and communities to cope with climate risks, promoting private sector engagement in agricultural insurance. **Saint Vincent and the Grenadines** focuses on strengthening domestic financial institutions to expand access to insurance and financial services.

Box 3: UNDP's work on insurance-related capacity-building

EXAMPLE 1: Certificate programme for inclusive insurance – Africa College of Insurance and Social Protection (ACISP)

This scholarship programme provides access to the International Certification in Inclusive Insurance for insurance practitioners, focusing on developing products for low- and middle-income customers and for MSMEs. The project aims to create more efficient and impactful insurance markets by increasing the quality and quantity of insurance through structured capacity-building. The programme partners with insurance training institutes and organizations including ACISP, UNDP Insurance and Risk Finance Facility and the International Labour Organization (ILO) to offer internationally recognized training in inclusive insurance, based on global best practices (UNDP, 2024b).

EXAMPLE 2: Collaborative capacity-building on actuarial expertise

UNDP has collaborated with Milliman, one of the world's largest independent actuarial and consulting firms, on the Global Actuarial Initiative (GAIN), a programme to strengthen actuarial expertise in developing countries so as to improve risk management and support innovative, affordable insurance solutions for vulnerable populations. The GAIN programme is building actuarial expertise, improving data availability, supporting resilient risk management and advocating for enabling environments for insurance in developing countries. Starting in Colombia, Egypt, Nepal and Nigeria in 2022, the initiative will be rolled out to cover 20 countries in the coming years, strengthening local actuarial professionals and institutions with support from UNDP Country Offices (UNDP, n.d.).

Mitigation and CDRFI

CDRFI can be used not only for adaptation but also to enhance mitigation efforts. Insurance is a key tool to de-risk and encourage climate-friendly investments. **Fiji** and **Zambia** both emphasize the importance of insurance for critical energy infrastructure as part of their disaster risk financing strategies. Fiji focuses on key energy assets, while Zambia specifically targets hydroelectric power plants and stations. These efforts aim to protect essential energy sources from disaster-related damages, ensuring that operation can be continued and reducing potential disruptions that could indirectly increase greenhouse gas emissions. **Brazil** focuses on the agricultural sector, working towards improving and expanding insurance coverage for rural areas. This strategy aims not only to support adaptation actions but also to prevent and compensate for agricultural climate losses. By integrating these insurance mechanisms with approaches to reduce greenhouse gas emissions, Brazil's plan addresses both adaptation and mitigation, recognizing the interlinked nature of climate risks and agricultural productivity.

CDRFI in Nationally Determined Contributions

Figure 24: Key CDRFI trends across NDCs (number of countries featuring key CDRFI Instrument, hazards, sectors and considerations across latest NDCs)

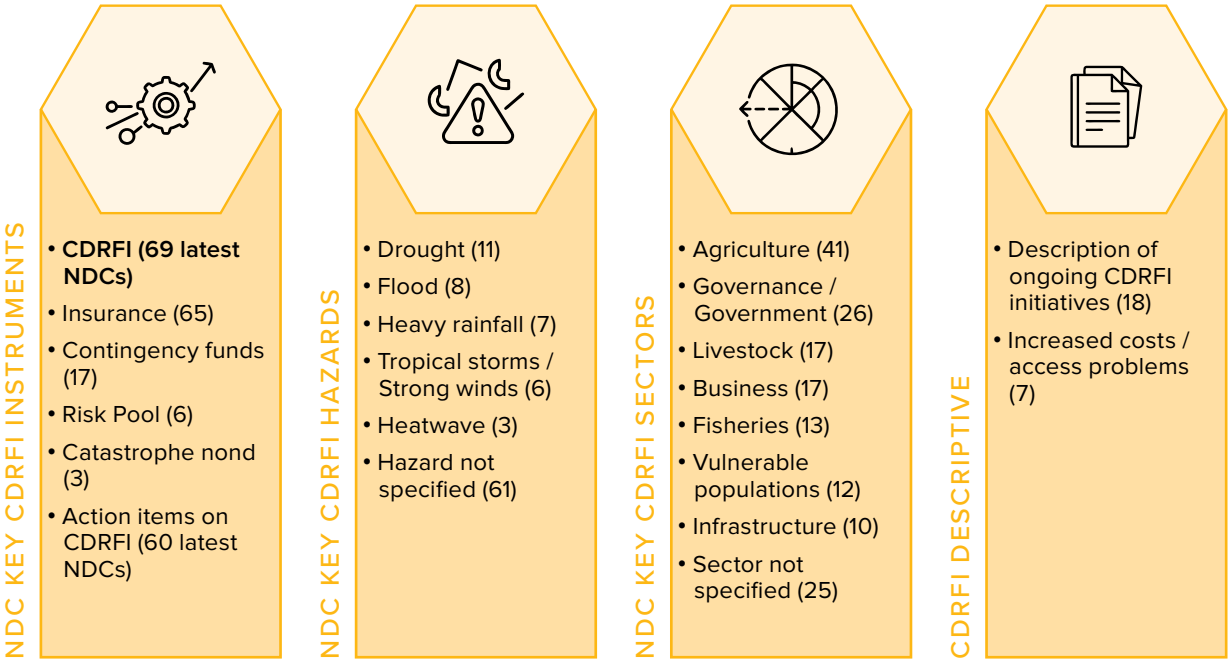
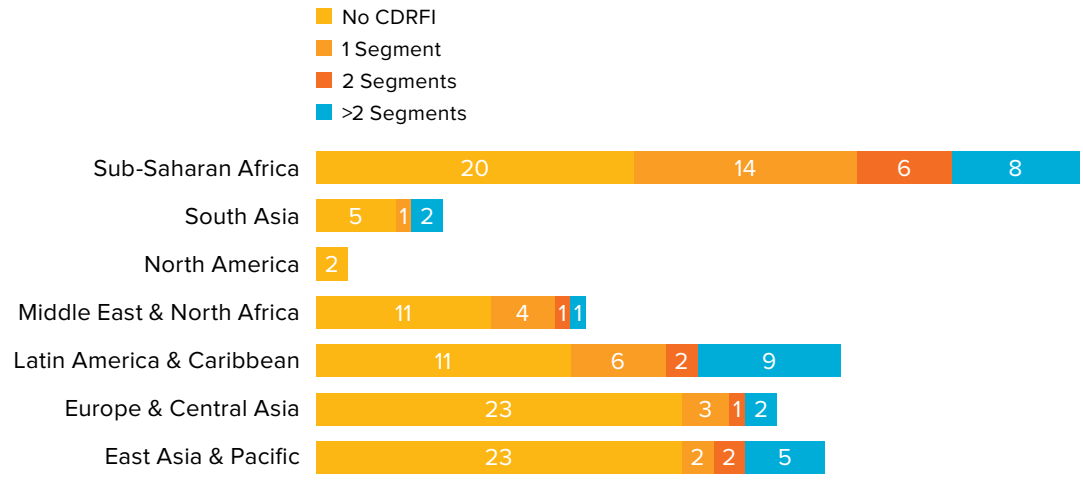


Figure 24 provides an overview of the analysis conducted on NDCs. An initial screening was conducted for all NDC documents available on 29 February 2024, after which the latest versions, that is, those that are currently binding, were coded more precisely. NDCs show a clear trend towards incorporating more CDRFI in revised versions of the NDC: 35 countries did not feature CDRFI in their first version, but do feature it in later versions, while 57 countries have increased their content on CDRFI in later versions. Eight countries featured CDRFI in earlier versions, but not in their latest version. More details on the NDCs and the key codes for each country can be found in Annex III.

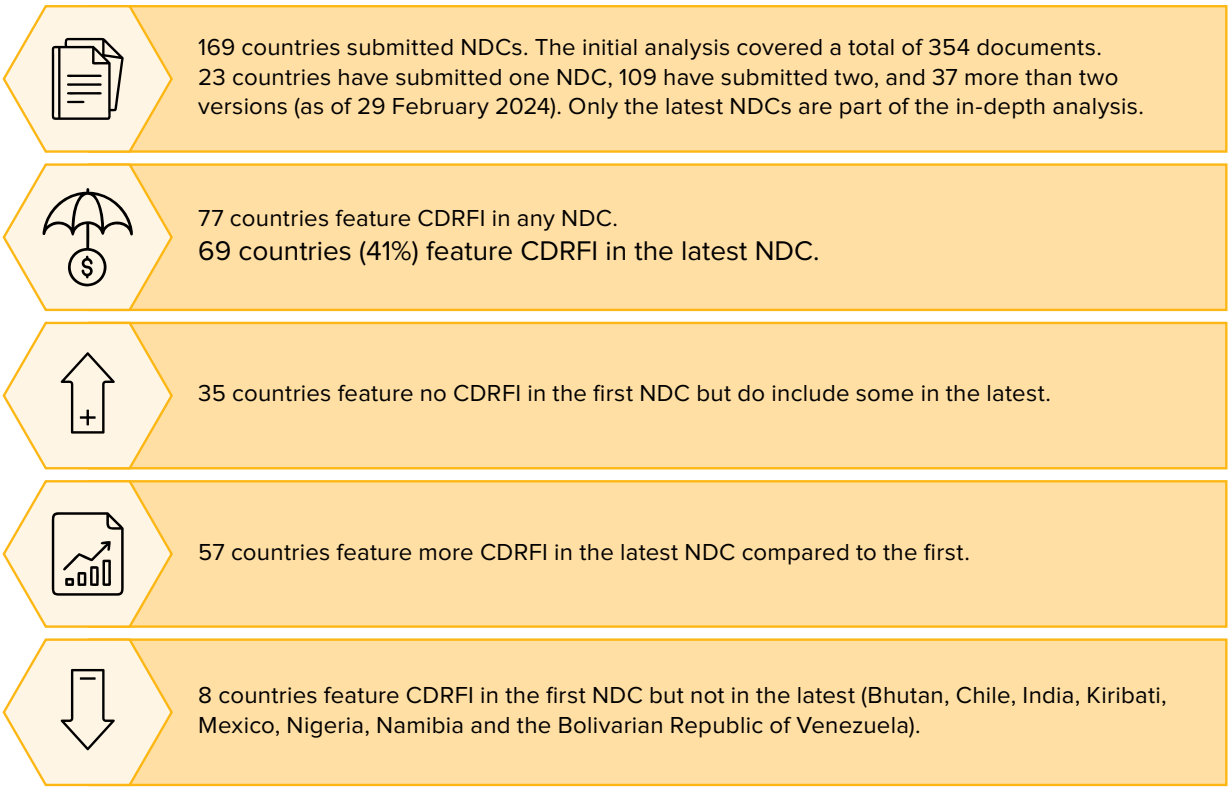
Overview of CDRFI in NDC documents

Figure 25: Key CDRFI trends across NDCs



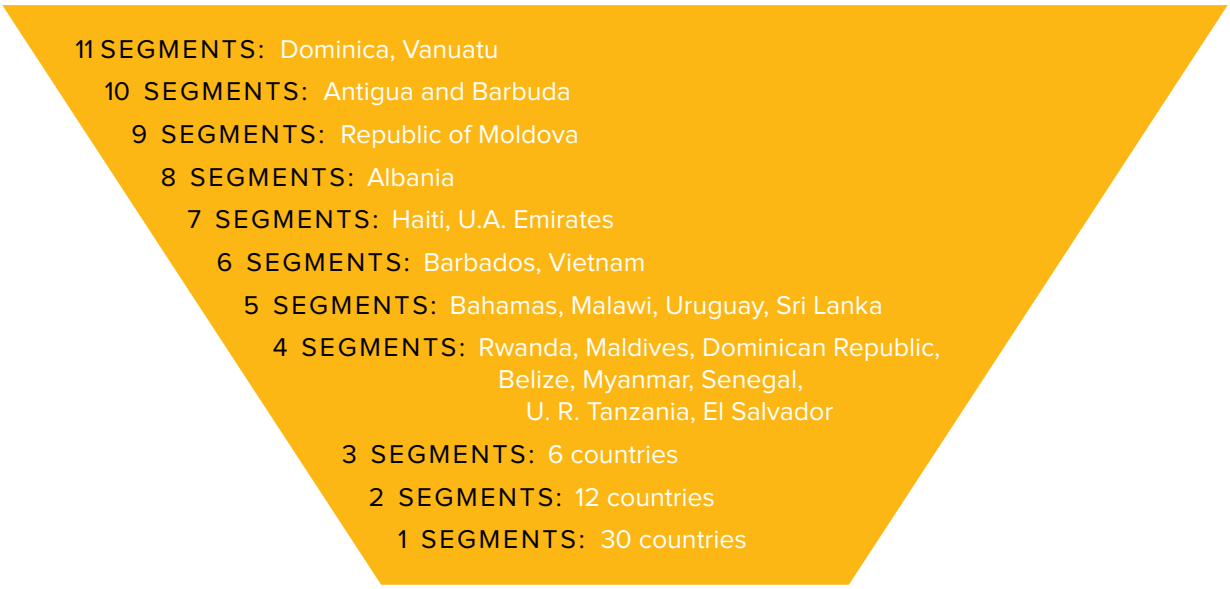
In terms of geographic regions, sub-Saharan Africa is leading CDRFI integration in NDCs, with 58 percent of the latest NDCs featuring some CDRFI content. As with NAPs, Latin America and the Caribbean is also strong, with CDRFI featured in 52 percent of NDC submissions. South Asia is less consistent in CDRFI integration NDCs compared to NAPs (38 percent vs. 100 percent). North America, Europe and Central Asia, and East Asia and the Pacific feature surprisingly little CDRFI content.

Figure 26: Number of all NDCs and countries featuring CDRFI-related text in their latest NDC across regions



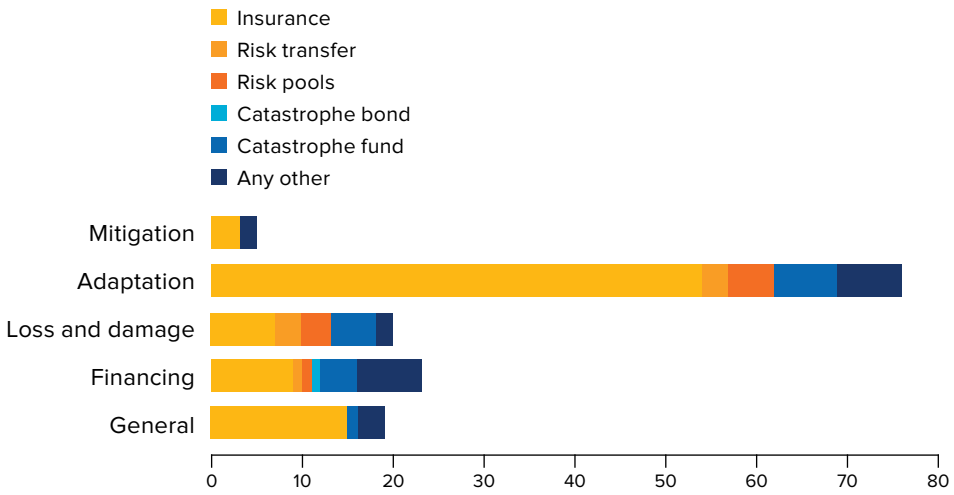
Due to the number of documents and the generally quite low number of coded CDRFI text segments (max. 11), no rating was conducted for NDCs. Rather, any NDC with more than two segments on CDRFI can be regarded as medium/high. Figure 27 shows the countries with the most CDRFI text segments. Small Island Developing States (SIDS) such as Dominica, Vanuatu, Antigua and Barbuda, Haiti, Barbados and the Bahamas are frontrunners on CDRFI inclusion into NDCs. The Republic of Moldova and Albania, two east European countries, are also in the lead on CDRFI inclusion. The United Arab Emirates features seven segments, many of which are on insurance for the energy sector.

Figure 27: Countries featuring CDRFI-related text segments in their latest NDC in descending order



Regarding the structure of NDC documents, most NDCs include a general or introductory section, a main section focusing on mitigation and a financing section. Many countries choose to include an adaptation component, while some include a specific chapter on loss and damage. CDRFI is primarily included in the adaptation, finance and loss and damage sections, as shown in figure 28.

Figure 28: Position of CDRFI-related segments by instrument in different parts of latest NDCs (hits only counted once per document)



Adaptation

The CDRFI segments in the adaptation sections of NDCs frequently emphasize fiscal preparation, including emergency funds and the development of insurance schemes. Key themes include financial support for agricultural and livestock adaptations, risk pooling and insurance mechanisms. Many documents highlight the importance of enhancing social protection measures and improving resilience through infrastructural adaptations and community-based approaches. The overarching goal is to strengthen capacity to withstand and recover from climate-related impacts, ensuring sustainable development and reduced vulnerability for affected populations.

Loss and damage

Sections on loss and damage in the NDCs emphasize the need for mechanisms to address economic and non-economic losses resulting from climate-related events. Key themes include establishing loss and damage funds, enhancing insurance coverage and developing compensation schemes for affected communities. The importance of data collection and monitoring to assess the extent of losses and inform policy decisions is also frequently mentioned. These sections often call for international cooperation and support to effectively manage and mitigate the impacts of loss and damage.

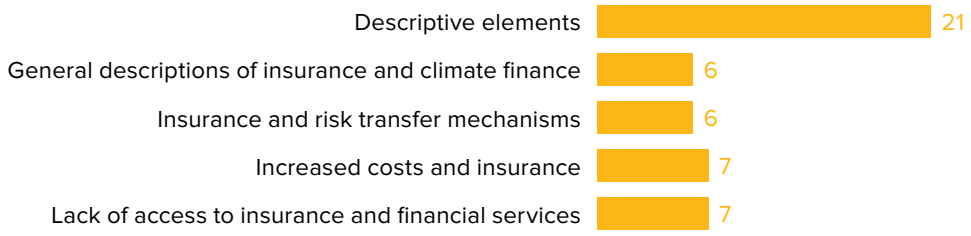
Financing

Disaster risk financing is often included in sections of the NDCs that call attention to the need for increased financial resources to support climate resilience and adaptation projects. Countries underline the necessity of accessing international funds, grants and concessional loans and place a strong emphasis on innovative financing mechanisms. These often include insurance or CAT bonds next to climate finance instruments such as green bonds and public-private partnerships. It is important to note that most CDRFI instruments are risk finance tools that themselves require funding. Nevertheless, these instruments form a key component of a country's disaster risk finance strategy and can complement a climate finance strategy by protecting existing investments and unlocking new investments for climate change adaptation efforts. The NDCs also discuss the importance of integrating disaster risk finance into national budgets and financial planning processes, ensuring that financial systems are robust and can effectively respond to and recover from disasters.

Descriptive elements on CDRFI

Descriptive CDRFI text segments describe a situation or baseline, issue or problem, or existing arrangements or conceptual thinking without (yet) suggesting specific action to be taken. The NDCs of 25 countries include descriptive elements on CDRFI, on topics shown in figure 29.

Figure 29: Number of countries with descriptive elements on CDRFI and related subtopics in their latest NDC



General descriptions of insurance and climate finance

Some countries provide general descriptions of their climate finance strategies. The Marshall Islands mentions its role as co-chair of the InsuResilience Global Partnership at the time of publication of its NDC. Mauritius discusses insurance, funding and technology transfer considerations under the Paris Agreement. Monaco mentions financial and insurance activities related to climate finance. Oman is planning for a national loss and damage policy and response fund. The United Arab Emirates recognizes the role of insurance in sustainable economic transitions, and the United Republic of Tanzania emphasizes private sector engagement in climate finance through various financial institutions.

CDRFI use and support needs

Countries note the importance of risk transfer mechanisms, as well as the ways in which these

mechanisms are used and the support needed to use them effectively. The United Arab Emirates stresses that insurance and risk management are crucial action areas. The Bahamas and Saint Lucia describe the relevance of CCRIF. Cabo Verde and Saint Lucia highlight the need for international support for risk transfer mechanisms, and Timor-Leste seeks support for risk transfer solutions to minimize loss and damage and mentions the work of the Warsaw international Mechanism.

Increased costs and insurance

Several countries report increased insurance costs as a consequence of climate change. Antigua and Barbuda faces rising costs for insurance premiums, food and building supplies. The Bahamas and Dominica also highlight increased insurance costs due to natural disasters, with Dominica noting high costs for insurance, reinsurance and loans. Barbados emphasizes a direct link between climate adaptation and insurance costs affecting market values. Sri Lanka reports higher insurance costs for tourism establishments against frequent disasters, while Viet Nam faces high agricultural insurance costs. Zimbabwe mentions the increased costs and reduced availability of insurance products due to high covariate risks from extreme events.

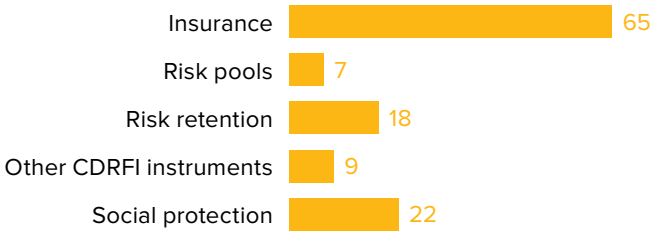
Lack of access to insurance and financial services

Many countries report challenges in accessing insurance and financial services. Chad needs capacity-building and technology transfer in financial risk management. Malawi lacks insurance schemes for farmers and fishers, and Seychelles lacks clear policies on insurance for public infrastructure. Sierra Leone faces rural poverty, with farmers lacking insurance and resources. Tajikistan notes the absence of market mechanisms for climate finance. Viet Nam has an underdeveloped market for disaster risk and climate change insurance, while Zimbabwe highlights limited access to financial services for vulnerable groups.

CDRFI action items and trends across latest NDCs

Countries go into different levels of detail about their existing and intended use of various CDRFI tools. This section describes these tools, as well as the thematic trends that can be identified across different countries for each instrument.

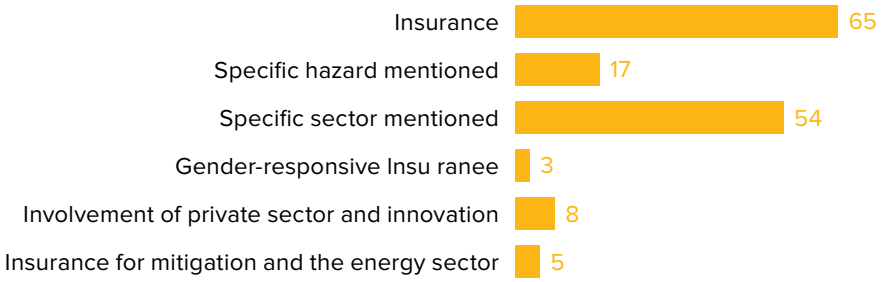
Figure 30: Number of countries featuring CDRFI instruments across latest NDCs



Insurance

Insurance is by far the most frequently cited instrument, mentioned in 65 of the latest NDCs, and is described with varying specificity and application across different contexts.

Figure 31: Number of countries featuring action items on climate-related insurance and thematic subtopics across latest NDCs

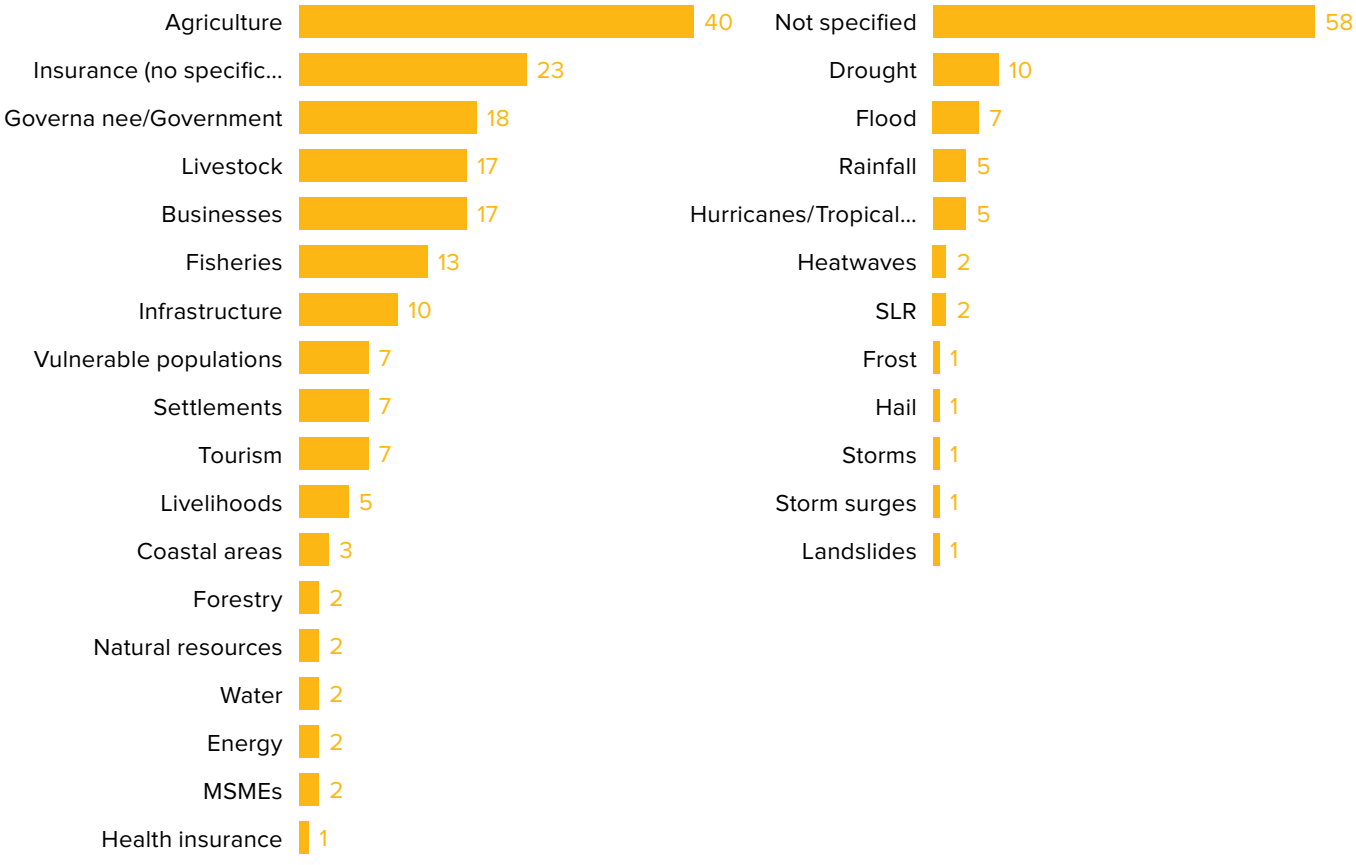


Sectors and hazards

Agriculture is the most frequently mentioned sector (40 countries), reflecting its vulnerability to climate risks. Insurance was also mentioned frequently in relation to **no specific sector** (23), **governance/ government** (18), **livestock** (17), **businesse**s (17) and **fisherie**s (13). Other sectors included **infrastructure** (10), **vulnerable populations** (7), **settlements** (7), **tourism** (7), **livelihoods** (5), **coastal areas** (3), **forestry** (2), **natural resources** (2), **water** (2), **energy** (2) and **MSMEs** (2). **Health** insurance was mentioned once, while some sectors did not specify any insurance coverage.

In most cases, countries **did not specify the type of hazard** at least in some of their CDRFI-related segments (58 countries). Among those that did, **drought** insurance is the most frequently mentioned (10 instances), followed by insurance for **floods** (7), **rainfall** (5) and **hurricanes** (5). Less often referenced were **heatwaves** (2), **sea level rise** (SLR) (2), **frost** (1), **hail** (1), **storms** (1), **storm surges** (1), and **landslides** (1). Fires were not specified in any NDCs with regard to insurance.

Figure 32: Number of countries specifying sectors and hazards of climate risk insurance in their latest NDCs



Gender-responsive insurance

Several NDCs highlight gender-responsive climate risk insurance initiatives. **Antigua and Barbuda** are implementing schemes focused on gender inclusivity in various sectors. **Dominica** offers microfinance and insurance to help women rebuild after extreme events. **Honduras** prioritizes gender-responsive agricultural insurance for women and youth. **Sierra Leone** is strengthening adaptive capacity with social safety nets and insurance for vulnerable groups. These measures aim to address gender-specific needs, improving resilience and supporting recovery from climate-related impacts.

Involvement of the private sector and innovation

Many countries are integrating private sector involvement into their climate risk insurance strategies. Common themes include public-private partnerships, financial innovation and targeted sectoral support. PPPs are mentioned by countries such as **Guyana**, **Lebanon** and the **Republic of Moldova**. These countries are promoting collaboration between the financial system and supply chain actors, including banks and insurance companies, to enhance climate resilience. The **United Arab Emirates** is also involving the insurance sector in assessing climate risks and raising awareness among industry professionals. **China** and **Dominica** are focusing on innovative financial instruments like public liability and microinsurance for the private sector and vulnerable communities. **Malawi** and the **Marshall Islands** are developing customized risk financing solutions, with the Marshall Islands co-chairing the InsuResilience Global Partnership during the period when its NDC was being prepared.

Insurance for mitigation and the energy sector

Antigua and Barbuda use catastrophic insurance instruments for extreme weather events linked to energy and building codes. In the **United Arab Emirates**, Ras Al Khaimah Insurance offers reduced rates for Battery Electric Vehicles to promote their uptake. The United Arab Emirates is also implementing risk insurance schemes for power generation to mitigate the impacts of climate change, and the country is including the insurance sector in climate risk assessments and updates to its National Climate Change Adaptation Programme. **Belize** is exploring financing options, including insurance products, for forest and mangrove protection and restoration as part of its mitigation strategy. **Costa Rica** is strengthening financial instruments like carbon pricing, insurance and tariffs to finance both adaptation and mitigation needs. **Mauritius** includes in its NDC insurance actions to meet specific needs under the Paris Agreement, which relate to mitigation efforts.

Risk pools

Figure 33: Number of countries featuring risk pools and thematic subcategories across latest NDCs

Regional insurance pools

The Bahamas, Barbados and Saint Lucia mention that they use CCRIF for parametric insurance. This mechanism provides quick payouts following disasters, helping these countries manage financial volatility and respond swiftly to emergencies. Myanmar participates in the SEADRIF regional risk financing facility to enhance its disaster preparedness and resilience. No country mentions ARC or PCRIC,

which is surprising, given the relatively large number of countries holding ARC policies.

Sector-specific pools and schemes

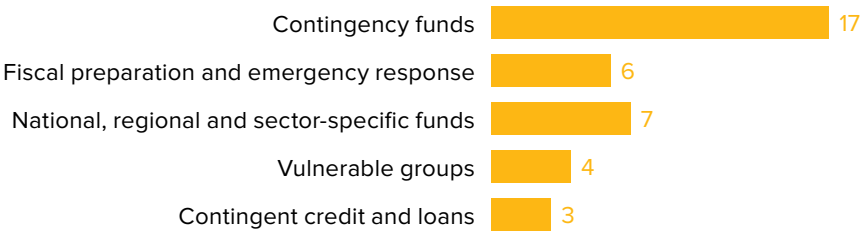
Albania and Türkiye mention risk pooling with regard to their sector-specific insurance schemes for aquaculture and agriculture, respectively.

Financial sector reforms

The Republic of Moldova is strengthening its financial sector to better disclose and manage climate risks. This includes expanding into new risk pooling markets and ensuring that investment decisions are climate-resilient.

Risk retention

Figure 34: Number of countries featuring contingency funds and thematic subcategories across latest NDCs



Contingency funds

The NDCs for 17 countries include contingency funds, with different thematic foci.

National contingency funds and emergency response: Albania, **Cameroon**, **the Dominican Republic**, **El Salvador**, **the Republic of Moldova** and **Sri Lanka** stress the importance of establishing contingency funds for disaster risk management. These funds support fiscal preparation and ensure rapid response and recovery. They include emergency loans, response mechanisms and comprehensive risk management frameworks integrating financial instruments for climate resilience. The Republic of Moldova and Sri Lanka are incorporating these funds into risk management frameworks, promoting fiscal preparedness and climate-resilient investments.

National, regional and sector-specific funds: Haiti, **Madagascar**, **Myanmar**, **Oman** and **the Bolivarian Republic of Venezuela** are creating national and regional funds dedicated to addressing losses and damages from climate change and disasters. These funds support national disaster response and strengthen regional capacities to manage hydrometeorological emergencies. Oman is planning a national loss and damage policy and response fund. **Jordan** and **Mauritania** highlight the use of contingency funds and financial resources specifically aimed at supporting vulnerable sectors like agriculture, providing compensation after disasters (e.g., for farmers post-drought).

Vulnerable groups: Cabo Verde, **Malawi**, **Saint Lucia** and **Timor-Leste** focus on contingency funds to protect and support vulnerable populations. These funds prioritize timely responses to climatic shocks and disasters, offering flexible and rapid disbursement systems to assist low-income and affected communities.

Contingent credit and loans

Barbados has joined the Contingent Credit Facility for Natural Disaster Emergencies of the Inter-American Development Bank (IDB), taking an approach that leverages international support through grants and loans for disaster response. **The Dominican Republic** and **El Salvador** also integrate contingency funds within broader strategies, including emergency loans and multi-disaster response mechanisms.

Other CDRFI instruments

Figure 35: Number of countries featuring other CDRFI instruments and specific types across latest NDCs

CAT bonds and debt clauses

Belize and **Seychelles** are exploring various innovative financing mechanisms, including catastrophe bonds. CAT bonds are listed next to climate finance sources such as green bonds, so it is important to note that these instruments differ: while CAT bonds are part of CDRFI, green bonds are not. **Barbados** has introduced debt instruments with disaster-linked clauses.

Compensation mechanisms

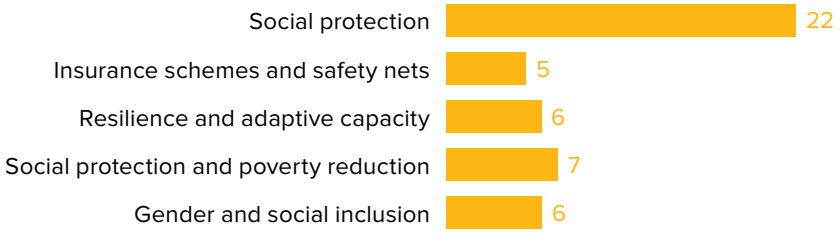
Haiti and **Vanuatu** are focusing on compensation funds for climate-related losses and damages. Vanuatu is also seeking compensation through international mechanisms for climate loss and damage.

Risk management and financial strategies

China and **Saint Kitts and Nevis** emphasize comprehensive risk management frameworks, early warning systems and financial support policies. More specifically, Saint Kitts and Nevis is focusing on risk assessment, reduction, transfer and retention strategies. **Dominica** is establishing Climate Change Trust Funds, which will develop instruments including risk sharing support via subordinated/mezzanine debt and junior equity. **Timor-Leste** is planning to support forecast-based financing initiatives.

Social protection

Figure 36: Number of countries featuring social protection and thematic subcategories across latest NDCs



Insurance schemes and safety nets

Several countries are focused on developing insurance schemes and social protection systems to mitigate the impacts of climate change-related disasters. **Albania**, **Dominica**, **Pakistan**, the **Republic of Moldova** and **Vanuatu** highlight the importance of microinsurance and safety nets. These measures aim to assist marginalized communities, provide financial support after disasters and increase climate resilience through social protection programmes.

Resilience and adaptive capacity

Countries such as **Antigua and Barbuda**, **Chad**, **Mozambique**, **Myanmar**, **Senegal** and **Viet Nam** prioritize building resilience and adaptive capacity among vulnerable populations. Their initiatives include strengthening social protection systems, integrating gender-focused interventions and promoting community-based adaptation models. The objective is to bolster the ability of communities to cope with and recover from climate-related shocks.

Social protection and poverty reduction

Dominica, **Honduras**, **Jamaica**, **Norway**, **South Africa**, **Tunisia** and **Turkmenistan** emphasize the role of social protection in poverty reduction and inclusive development. These nations aim to ensure a just transition, address structural economic weaknesses and provide extensive social protection systems. Measures include workforce reskilling, job creation and safeguarding natural resources to create a resilient and inclusive economy.

Gender and social inclusion

Chad, **Malawi**, **the Dominican Republic**, **Grenada**, **Indonesia**, and the **Bolivarian Republic of Venezuela** underscore the need for gender-sensitive social protection measures. These countries aim to address cultural barriers, increase women's adaptation capacity and implement gender-focused protocols for climate-related shocks. Initiatives include establishing social support funds, promoting public dialogue on labour standards and ensuring the social protection of workers and communities.

Comparative analysis of countries with NAPs and NDCs

Table 3: Comparison of NAPs and latest NDCs for countries with both policies

COUNTRY	NDC # of CDRFI Text Segments in Latest NDC	NAP Level of DRF Integration	InsuRisk Readiness Score	NDC (left) and NAP (right) Type of CDRFI I = Insurance, RT = Risk Transfer, RP = Risk Pool, CF = Contingency Fund, AO = Any Other		NDC Part of Document G = General, F = Finance, L&D = Loss and Damage, A = Adaptation	NAP Part of Document IN = Introduction, D = Diagnostics, P = Priorities, IMP = Implementation, F = Financing, MEL, O = Other , AX = Annex
Burundi	0	None	0.11				
Cabo Verde	3	None	0.58	I, RT, CF		G, F, L&D, A	
Ecuador	0	None	0.39				
Haiti	7	None	0.15	I, CF, AO		L&D	
Kuwait	2	None	0.48	I		G	
Marshall Islands	1	None		I		G	
South Africa	0	None	0.62				D, P, O
Sudan	1	None	0.17	I		A	D, IMP, AX
Timor-Leste	3	None	0.65	I, RP, CF, AO		F, A	IMP
Tonga	0	None					IMP
Armenia	0	Low	0.41		I		D
Bosnia and Herzegovina	0	Low	0.34		I, AO		MEL, AX
Cambodia	0	Low	0.32		I		P
Central African Republic	0	Low	0.04		I		
Chad	2	Low	0.16	I, AO	I, RP, CF, AO	G, A	D, P, IMP, F, AX
D. R. Congo.	0	Low	0.07	I	RT, RP, AO	A	P
Guatemala	0	Low	0.36		I, RT		D
Liberia	1	Low	0.29	I	I	A	D, IMP
Madagascar	1	Low	0.28	I, CF	I	L&D, A	P, F
Morocco	1	Low	0.34	I	I, RT, AO	A	P, IMP
Mozambique	2	Low	0.25	I	I	A	D, IMP
Niger	2	Low	0.18	I	I, RP	A	D, F
Papua New Guinea	2	Low	0.36	I	I, AO	A	D
Sierra Leone	3	Low	0.16	I	I	G, A	D, P, IMP, F, MEL, AX
South Sudan	1	Low	0.03	I	I	A	
Sri Lanka	5	Low	0.54	I, RT, CF	I, RT	L&D, A	IMP

COUNTRY	NDC # of CDRFI Text Segments in Latest NDC	NAP Level of DRF Integration	InsuRisk Readiness Score	NDC (left) and NAP (right) Type of CDRFI I = Insurance, RT = Risk Transfer, RP = Risk Pool, CF = Contingency Fund, AO = Any Other		NDC Part of Document G = General, F = Finance, L&D = Loss and Damage, A = Adaptation	NAP Part of Document IN = Introduction, D = Diagnostics, P = Priorities, IMP = Implementation, F = Financing, MEL, O = Other , AX = Annex
Togo	1	Low	0.29	I	I	A	
West Bank and Gaza	0	Low	0.06		I		IN, D, P, IMP, F, MEL, O
Argentina	0	Medium	0.45		I, RT, CF		IMP, F
Benin	0	Medium	0.42		I		IMP, MEL, AX
Burkina Faso	1	Medium	0.27	I	I	A	IMP
Ethiopia	2	Medium	0.23	I	I	A	IN, P, IMP, MEL
Grenada	0	Medium	0.32		I, RT		D, P, IMP
Kenya	1	Medium	0.51	I	I, CF, AO	A	D, IMP, F
Nepal	0	Medium	0.38		I, RT		D, IMP
Pakistan	1	Medium	0.33	I	I, RT, AO	A	IMP, F
Saint Vincent and the Grenadines	1	Medium	0.33	I	I, RP, AO	A	IN, D, IMP, MEL, O
Albania	8	High	0.36	I, RP, CF	I, RP	A	IN, P, IMP, F, AX
Bangladesh	0	High	0.42		I, RT, CF, AO		IN, D, P, IMP, F, MEL, AX
Bhutan	0	High	0.47		I, CF		D, P, IMP, AX
Brazil	0	High	0.49		I, CF, AO		D, P, IMP
Cameroon	2	High	0.23	CF	I, CF, AO	A	D, IMP, F, MEL
Chile	0	High	0.62	A	I, RT, AO		
Colombia	0	High	0.43		I, RT, CF, AO		D, P, F, AX
Costa Rica	2	High	0.59	I	I, RT	F, A	P, IMP, MEL, AX
Fiji	0	High	0.44		I, RT, CF, AO		D, IMP
Kiribati	2	High		I	I, AO	A	D, P, IMP, F, MEL, AX
Paraguay	0	High	0.41		I, RT, CF, AO		IMP
Peru	0	High	0.39		I, RT, AO		IN, D, P, IMP, AX
Saint Lucia	2	High	0.25	RP, CF	I, RT, RP, CF, AO	L&D	IMP, MEL
Suriname	0	High	0.54		I, RT, RP, CF, AO		
Thailand	0	High	0.55		I, CF, AO		IN, P, IMP, F, MEL, AX
Uruguay	5	High	0.59	I, RT	I, RT, CF, AO	L&D, A	
Zambia	1	High	0.30	I	I, RT	A	IN, IMP, O, AX

Table 3 compares countries that have submitted both NAPs and NDCs, and gives their scores on the InsuRisk Assessment Tool. The InsuRisk Readiness for Insurance Solutions index consists of three indicators: readiness on an individual level, measured by financial literacy; readiness of the enabling environment, measured by the functioning of government; and readiness of the insurance industry, measured by number of primary non-life insurers, market concentration and market penetration. Although the index score provides an overview of the country's level of market preparedness, it does not capture all aspects of insurance market readiness due to lack of data (e.g., percentage of non-life broker placements). For more information on the methodology, see Cotti et al. (2021) and Sett et al. (2021).

Insurance readiness and NAP-CDRFI integration

There is a highly significant correlation between the country's readiness for insurance solutions and the level of CDRFI integration in its NAP (using analysis of variance, ANOVA). This implies that working on insurance readiness at the individual, market and governance levels increases openness to CDRFI solutions. By increasing the awareness and capacity of relevant government and non-government stakeholders, and potentially creating positive examples, the likelihood of CDRFI being included in the NAP is increased. The model is stronger when NAPs without any CDRFI are excluded. As shown in table 3, NAPs with no CDRFI have very different levels of readiness. More research is needed to understand this finding.

At the same time, some countries (such as Cameroon, Saint Lucia and Zambia) show high integration of CDRFI in their NAPs, but do not yet score highly on readiness. By including CDRFI in their NAPs, the governments of these countries indicate high awareness of and commitment to risk finance solutions. Given that political support and initiative is present, these countries may be good candidates for initiatives such as the Global Shield against Climate Risks or UNDP Insurance and Risk Finance Facility programmes, which could help them improve readiness and increase the availability and uptake of CDRFI solutions.

NAP and NDCs comparison

There is no correlation between NDCs and readiness or in levels of integration between NAPs and NDCs. This reveals a missed opportunity, since many NAPs make strong points, including on a diversity of CDRFI instruments, that could easily be included in the adaptation component of the respective country's NDC. Strongly linking NAPs and NDCs can provide much needed policy coherence and build a strong case to attract financing.

CDRFI in different document sections

Adaptation and loss and damage

Most countries include CDRFI in the adaptation (for NDCs) or implementation (for NAPs) sections of the respective document. Some already refer to loss and damage in the documents. With the operationalization of the Fund for Responding to Loss and Damage, a new funding arrangement to support developing countries that are particularly vulnerable to climate change impacts, as well as the Santiago Network, which supports technical assistance to address climate change impacts in developing countries, the inclusion of actions and needs for loss and damage will likely increase. CDRFI serves as a key link between the concepts of adaptation and loss and damage, focusing on managing and financing residual risks. Residual risks are those that cannot be cost-effectively mitigated through other adaptation options or disaster risk reduction. CDRFI provides the finance needed to address losses and damages when they materialize, but also provides many other adaptation benefits (see Key message 2). Therefore, CDRFI should be considered in both adaptation and loss and damage chapters, with

an emphasis on the importance of prearranged finance in a comprehensive approach to climate risk management and adaptation to climate change.

Financing sections

Many NAPs and NDCs mention CDRFI in their finance sections. While CDRFI instruments are valuable financial tools, they are mainly risk management tools, and they do come at a cost. Risk transfer instruments provide much needed and rapid financial liquidity after a disaster, as risk is transferred to a third party through the payment of a premium. When risk transfer instruments are put in financing sections without further explanation, readers who are not aware of the functionality of risk transfer instruments might believe that they are of similar quality as grants or loans, and so generate climate finance, which means that it is important to be clear about their uses and benefits. Climate policy documents can benefit from taking a realistic view of adaptation finance sources to manage expectations and potentially estimate adaptation finance needs and gaps.

CDRFI for mitigation

Many countries are explicit about using CDRFI for their adaptation infrastructure investments, but few countries mention CDRFI in their mitigation sections or make explicit the need to secure mitigation-related investments and infrastructure against further impacts of climate change. This is a missed opportunity. Using CDRFI in this context can ensure the longevity and resilience of mitigation investments, allowing them to withstand and recover from disasters. As a result, CDRFI can foster investor confidence and promote sustained economic growth and development in climate-vulnerable regions.

Part III:
Case studies on CDRFI and climate policy integration

These case studies of Bangladesh, Colombia and Ethiopia help to provide a more in-depth understanding of the opportunities and challenges of linking CDRFI and climate policy.

Bangladesh

Bangladesh has a coherent set of mutually enforcing climate policies that feature CDRFI in a cross-cutting way, specifically focusing on vulnerable groups. Its comprehensive NAP has been further developed into a climate change and gender action plan and a tangible investment portfolio, and it is currently being translated on a local subdistrict level. The Government of Bangladesh is also working on a National Disaster Risk Financing Strategy, which itself refers to the NAP process. This case study is based on the country's key climate policies (listed below), expert interviews and UNDP (2017).

CDRFI in the NAP

- **Microinsurance and risk financing:** The NAP focuses on scaling up microinsurance and other financial mechanisms for communities in high-risk areas, particularly in coastal regions.
- **Climate Adaptation Fund:** The NAP describes the expansion of the national Climate Change Trust Fund, which finances disaster preparedness and climate risk management projects.
- **NAP Investment Portfolio (2022):** The portfolio includes a short concept note on each of the proposed 113 interventions of NAP for eight distinct sectors and thematic issues. CDRFI is in the plans for disaster, social safety and security, specifically on "Introduction of risk transfer and insurance mechanisms for the protection of critical and disaster protection infrastructure, vulnerable MSMEs and farmers". It also features in other sectoral strategies such as agriculture and policies and institutions (Bangladesh, Ministry of Environment, Forest and Climate Change, 2022a).
- **NAP Investment Menu and Local Adaptation Plan of Action (LAPA) 2024:** UNDP and the United Nations Capital Development Fund (UNCDF) are supporting the translation of the NAP locally. The local investment menu is bilingual and in accessible language, clearly showcasing which NAP-aligned actions will yield which benefits (Local Government Initiative on Climate Change (LoGIC) Project, 2024).
- **NAP challenges:** Challenges in implementing the NAP include limited resources, insufficient capacity-building in ministries and poor interministerial coordination. Further complications may arise from the need to balance investment and technical support priorities, manage competing national development agendas and address gaps in data management for effective monitoring and reporting (Shawkat Ali, 2023).

CDRFI in the NDC

- **Clarity on financing adaptation measures:** The NDC explicitly states the need for significant financial resources to implement adaptation measures, including CDRFI.
- **Technological support:** The NDC highlights the need for technology transfer to improve early warning systems and accelerate the implementation of risk transfer solutions.

Implemented CDRFI (selected)

- **Community-based flood insurance:** Bangladesh has pioneered community-based flood insurance schemes that cover vulnerable populations in flood-prone areas. These schemes are often linked with microfinance initiatives to improve accessibility.
- **Cyclone Preparedness Programme (CPP):** The CPP integrates CDRFI components with disaster preparedness, including prearranged financial mechanisms to ensure swift response and recovery efforts after cyclones (Kundo et al., 2023).
- **Climate Change Trust Fund (CCTF):** The CCTF has been instrumental in financing adaptation projects related to CDRFI. The fund supports

the development of infrastructure, early warning systems and insurance schemes to mitigate the impacts of climate disasters (Mannan et al., 2023).

Planned CDRFI (selected)

- **Global Shield against Climate Risks:** As part of this V20/G7 initiative, Bangladesh will conduct a CDRFI stocktake and gap analysis, based on which a targeted CDRFI support package will be developed.
- **Scaling up climate risk insurance:** Bangladesh plans to expand the scope of climate risk insurance products, particularly for agriculture, fisheries and small businesses in vulnerable regions (LightCastle Analytics Wing, 2021).
- **Innovative financing mechanisms:** The government is exploring the development of climate bonds and other innovative financing mechanisms to mobilize resources for large-scale adaptation and disaster risk reduction projects.
- **Integration of CDRFI into national development plans:** Efforts are ongoing to further integrate CDRFI into Bangladesh's national development plans, ensuring that these financial tools are a core part of the country's strategy for climate resilience.

Selected CDRFI challenges:

The frequent occurrence of climate-related disasters strains existing CDRFI mechanisms and challenges their sustainability. Engaging the private sector in CDRFI efforts remains difficult, particularly in scaling up innovative insurance products. High levels of poverty and socioeconomic vulnerability limit the ability of many people to access and benefit from CDRFI products, necessitating additional support and subsidies.

Box 4: Bangladesh: Important climate policies and actors (selected)

IMPORTANT POLICIES:

- **Bangladesh Climate Change Strategy and Action Plan (BCCSAP)** (Bangladesh, Government of Bangladesh, 2009).
- **Mujib Climate Prosperity Plan (2022–2041)** (Bangladesh, Ministry of Environment, Forest and Climate Change, 2022b).
- **Bangladesh Climate Change Gender Action Plan (ccGAP)** (Bangladesh, Government of Bangladesh and UN Women, 2024).
- **National Adaptation Plan of Bangladesh (2023–2050)** (Bangladesh, Ministry of Environment, Forest and Climate Change, 2023).
- **National Disaster Risk Financing Strategy, Draft** (Bangladesh, Ministry of Disaster Management and Relief, 2024).

IMPORTANT ACTORS:

- **Ministry of Environment, Forest and Climate Change (MoEFCC):** MoEFCC leads climate adaptation and CDRFI initiatives, including the implementation of the BCCSAP.
- **Bangladesh Climate Change Trust (BCCT):** BCCT administers the Climate Change Trust Fund, which finances CDRFI-related projects and initiatives across the country.
- **Ministry of Disaster Management and Relief (MoDMR):** MoDMR is responsible for disaster risk management and the integration of CDRFI mechanisms into disaster preparedness and response strategies.
- **Palli Karma-Sahayak Foundation (PKSF):** PKSF is a key player in promoting microfinance and microinsurance initiatives that are crucial for scaling up CDRFI products in rural areas.

Colombia

Colombia represents an example of successful coordination, integration and policy coherence between CDRFI and climate policy. The country has long-standing interest and experience in CDRFI, and key actors in the field were involved in developing the NAP. This cooperation was facilitated by a cross-cutting coordination body on climate change issues. Key messages on disaster risk finance are coherent across various policy areas, including the climate and adaptation finance strategy. CDRFI strategies are developed at the subnational level, and Colombia is working on monitoring and evaluation and communication strategies for its NAP, while also strengthening access to and coordination of adaptation finance. This case study is based on the country's key climate policies (see below), expert interviews, UNDP (2023b) and World Bank (2016).

CDRFI in the NAP

- **CDRFI in agriculture:** Colombia's NAP includes specific actions to integrate disaster risk insurance and financial safety nets, especially for agriculture.
- **Financial instruments for natural disasters:** Colombia has introduced CAT bonds and public risk funds to provide immediate financial resources after extreme events. The NAP aims to extend these instruments across various sectors, highlighting the importance of strengthening DRF frameworks.

CDRFI in the NDC

- **Expansion of risk transfer solutions:** Colombia's NDC emphasizes expanding insurance products and risk transfer mechanisms, such as CAT bonds and insurance systems, to protect against extreme events.
- **International cooperation:** The NDC underscores the importance of international financial and technical support to scale up CDRFI strategies across the country and develop new financial instruments.

National Climate Finance Strategy (ENFC): Focusing on mitigation and adaptation, the ENFC aims to mobilize resources for climate action. The adaptation finance strategy emphasizes increasing funding for adaptation projects, especially through the GCF and blended finance mechanisms. It aims to balance public and private sector contributions, focusing on protecting natural assets and promoting resilient infrastructure. Climate risk insurance is identified as essential for addressing climate vulnerabilities, and proposals are included to incentivize private investment and develop insurance mechanisms that mitigate risks related to extreme weather events, particularly in agriculture and vulnerable communities (Colombia, National Planning Department and Fedesarrollo, 2022).

Implemented CDRFI (selected)

- **Catastrophe bonds:** Colombia has issued catastrophe bonds to transfer the financial risk of disasters to the capital markets, providing a financial buffer against earthquake damage. The bonds have potential to be expanded to other, climate-related hazards.
- **PPPs:** The government has fostered partnerships with private insurers to develop tailored insurance products that address climate risks, particularly in the agricultural sector.

Planned CDRFI (selected)

- **Expansion of catastrophe insurance:** Colombia is planning to expand its catastrophe insurance coverage to more regions and sectors, including urban infrastructure and ecosystems (World Bank, 2021).
- **Development of climate risk models:** The government intends to invest in more sophisticated climate risk modelling tools to better assess and manage risks, guiding future CDRFI efforts (OECD, 2019).

Selected CDRFI challenges

- **Regulatory barriers:** Complex regulatory frameworks can slow down the adoption and scaling of innovative CDRFI solutions.
- **Coordination across levels of government:** Coordination between national and local governments remains a challenge, affecting the implementation of CDRFI strategies.
- **Vulnerable communities**: Many vulnerable communities, particularly in remote areas, have limited access to CDRFI products, leaving them exposed to climate risks.

Box 5: Colombia: Important climate policies and actors (selected)

IMPORTANT POLICIES:

- **National Adaptation Plan for Climate Change (PNACC)** (Colombia, Government of Colombia, 2012b).
- **National Climate Change Decree (SISCLIMA)** (Colombia, Government of Colombia, 2016).
- **Colombia First NDC (Updated Submission).** Submission date 30 December 2020 (Colombia, Government of Colombia, 2020).
- **Law 1523 of 2012 (Disaster Risk Management Law).** Financial protection through risk retention and risk transfer instruments is a specific objective of the law (Colombia, Government of Colombia, 2012a).
- **Disaster Risk Management and Financial Protection Strategies** for several departments (Colombia, MinHacienda, 2024).
- **National Development Plan 2022–2026.** The plan outlines strategies to integrate climate adaptation and DRM. It emphasizes improving fiscal resilience through financial instruments such as parametric and non-parametric insurance, contingent credits and catastrophe bonds (Colombia, National Planning Department, 2023).

IMPORTANT ACTORS:

- **The Intersectoral Commission on Climate Change (CICC):** CICC was established by decree in 2016 to coordinate the implementation of climate policy at the national level. It is comprised of key line ministries and is alternatingly led by the environment ministry and the national planning department.
- **National Unit for Disaster Risk Management (UNGRD):** UNGRD is responsible for coordinating disaster risk management and the implementation of CDRFI initiatives.
- **Ministry of Environment and Sustainable Development (MinAmbiente):** MinAmbiente leads climate adaptation efforts, including the integration of CDRFI into environmental policies.
- **Ministry of Finance and Public Credit (MinHacienda):** This ministry oversees the financial aspects of disaster risk management, including the issuance of catastrophe bonds and other financial instruments.

Ethiopia

Ethiopia has a long history of engaging with CDRFI. The Government of Ethiopia has finalized and approved its first Disaster Risk Finance Strategy, which presents a comprehensive stocktake of existing initiatives and sets out DRF priorities and considerations on different financing instruments. The DRF recognizes the causal relationship between climate change and disasters and the commonalities between adaptation investment and risk reduction and stresses that the Ethiopian climate policy framework is relevant for DRF. The climate policy documents include CDRFI, with a specific focus on agricultural insurance. This case study is based on these policies, together with expert interviews and research including UNDP (2024a), World Bank (2023) and Ethiopia, Environment, Forest and Climate Change Commission (2019).

CDRFI in the NAP

- **CDRFI integration:** Ethiopia's NAP highlights the importance of CDRFI as a risk mitigation tool, especially in agriculture.
- **Financial risk management strategies:** The NAP emphasizes the need for mechanisms such as risk pools and disaster preparedness funds to improve disaster response and mitigate financial impacts.

CDRFI in the NDC

- **Climate risk finance:** Ethiopia's NDC stresses the need for both national and international investments in adaptation measures, including CDRFI, to reduce vulnerability in agriculture and water resources.
- **Technology transfer and financing:** The NDC highlights the need for technical expertise and financing to scale up CDRFI systems across the country.

Implemented CDRFI (selected)

- **Microinsurance for farmers:** The Ethiopian Agricultural Transformation Agency (ATA), a government agency, has rolled out microinsurance schemes targeting smallholder farmers, offering financial protection against crop losses due to drought. This initiative has improved resilience at the grassroots level (Debouche, 2023).
- **Productive Safety Net Programme (PSNP):** This programme integrates disaster risk financing with social protection, providing cash transfers and food aid to vulnerable households during crises.
- **Sovereign risk financing:** Ethiopia has explored sovereign risk financing mechanisms, including participation in ARC, which provides insurance against extreme weather events, helping the government manage financial risks related to droughts (Nordic Development Fund, 2018).

Planned CDRFI (selected)

- **Scaling up weather index insurance:** Plans are in place to scale up weather index insurance to reach more smallholder farmers, expanding coverage across different regions and crops (Ethiopia, Government of Ethiopia, 2023; UNDP, 2019).
- **Integrated climate risk management framework:** Ethiopia aims to develop a more comprehensive framework that integrates CDRFI into broader climate risk management strategies, including contingency planning and early warning systems (UNDP, 2023a).
- **PPPs:** The government is exploring PPPs to improve the delivery and coverage of CDRFI products, particularly in areas that are hard to reach with conventional insurance products (Ethiopia, Ministry of Finance, 2023).
- **Sovereign risk financing:** The Ethiopian government is exploring a sub-sovereign insurance mechanism to protect public assets, particularly against natural disasters such as flooding.
- **Data and infrastructure:** Efforts are under way to enhance climate data generation and infrastructure, ensuring accurate and timely evidence to support business case development and inform policy decisions.
- **Legal and regulatory frameworks:** Regulatory

authorities are drafting new directives and strengthening institutional capacity to foster the development of the actuarial profession in Ethiopia.

Selected CDRFI challenges

- **Data and infrastructure limitations:** Lack of accurate and timely data, along with infrastructure deficits, hold back the effective implementation and scaling of CDRFI solutions.
- **Lack of awareness and cultural norms:** Cultural perceptions and lack of trust in formal insurance mechanisms pose challenges to the adoption of CDRFI products, particularly in rural areas.
- **Financial sustainability:** Ensuring the financial sustainability of CDRFI schemes, especially in the face of increasing climate risks, is a significant challenge.

Box 6: Ethiopia: Important climate policies and actors (selected)

IMPORTANT POLICIES:

- **National Adaptation Plan (NAP)** (Ethiopia, Government of Ethiopia, 2019).
- **Ethiopia First NDC (Updated submission).** Submission date 23 July 2021 (Ethiopia, Government of Ethiopia, 2021).
- **Ethiopia's Climate Resilient Green Economy Strategy (CRGE)** (Ethiopia, Government of Ethiopia, 2011).
- **Second Growth and Transformation Plan (GTP II), 2016–2020** (Ethiopia, National Planning Commission, 2016).
- D**isaster Risk Financing Strategy 2023–2030.**

IMPORTANT ACTORS:

- **Ministry of Finance and Economic Development (MoFED):** MoFED is responsible for integrating climate finance, including CDRFI, into national economic planning and development strategies.
- **Climate Resilient Green Economy (CRGE) Facility:** This is a financial mechanism to pool and disburse funds for climate resilience and green economy projects.
- **Ministry of Agriculture:** The Ministry of Agriculture is a new but important actor in CDRFI, especially for agricultural insurance.
- **Ethiopian Agricultural Transformation Agency (ATA):** ATA plays a key role in implementing climate-smart agricultural practices, including those linked to CDRFI mechanisms like microinsurance.
- **African Risk Capacity (ARC):** ARC is a specialized agency of the African Union that works with Ethiopia to provide sovereign insurance against climate risks, particularly drought.

References

Ahmed, S., L. S. Kulick, D. Stadtmueller, V. Seifert, S. Kreft, S. Bee, S. Morton, P. Desanker, M. Goldberg and K. Warner (2021). Integrating risk finance into national resilience and adaptation efforts: Policy note. Bonn and Washington, D.C.: InsuResilience Global Partnership and NDC Partnership. Available at https://www.insuresilience.org/wp-content/uploads/2022/10/PolicyNote_Integrating-Risk-Finance-in-Adaptation_022021-1.pdf.

Ahmed, S., V. Seifert and S. Kreft (2021). Enhancement of Nationally Determined Contributions in the context of climate and disaster risk financing. Munich: Munich Climate Insurance Initiative (MCII). Available at https://climate-insurance.org/wp-content/uploads/2020/04/MCII-Background-Note_Vulnerable-Countries_NDCs-CDRFI_25-05-2021.pdf.

Baarsch, F., I. Awal and M. Schaeffer (2022). Climate vulnerable economies loss report: Economic losses attributable to climate change in V20 economies over the last two decades (2000-2019). Accra: V20 Group. Available at https://www.v-20.org/resources/publications/climate-vulnerable-economies-loss-report.

Bangladesh, Government of Bangladesh. (2009). *Bangladesh Climate Change Strategy and Action Plan (BCCSAP), 2009.* Dhaka. Available at https://policy.asiapacificenergy.org/sites/default/files/Bangladesh%20Climate%20Change%20Strategy%20and%20Action%20Plan%202009.pdf.

Bangladesh, Ministry of Environment, Forest and Climate Change (2022a). *Investment Portfolio of National Adaptation Plan of Bangladesh.* Dhaka: Government of Bangladesh.

_____ (2022b). *Mujib Climate Prosperity Plan, 2022–2041*. Dhaka: Government of Bangladesh. Available at https://moef.portal.gov.bd/sites/default/files/files/moef.portal.gov.bd/publications/f6c2ae73_30eb_4174_9adb_022323da1f39/Mujib%20Climate%20Prosperity%20Plan%202022-2041.pdf.

_____ (2023). *National Adaptation Plan of Bangladesh (2023–2050)*. Dhaka: Government of Bangladesh. Available at https://unfccc.int/sites/default/files/resource/NAP-Bangladesh-2023.pdf.

Bangladesh, Ministry of Disaster Management and Relief (2024). *National Disaster Risk Financing Strategy.* Working Draft. Dhaka: Government of Bangladesh. Available at https://modmr.portal.gov.bd/sites/default/files/files/modmr.portal.gov.bd/notices/f7cb1206_1e31_419b_9d49_3d5efe230030/NDRFS%20(Word%20file).docx

Bangladesh, Government of Bangladesh and UN Women. (2024). *Bangladesh Climate Change and Gender Action Plan.* Dhaka. Available at https://moef.portal.gov.bd/sites/default/files/files/moef.portal.gov.bd/page/ac0ce881_4b1d_4844_a426_1b6ee36d2453/ccGAP%20Final%20Print%20Version-25%20April%202024c.pdf.

Bhandary, R. R. and N. Marins (2024). V20 debt review (2nd edition): An account of debt in the Vulnerable Group of Twenty. Boston: CVF-V20, Boston University Global Policy Development Centre. Available at https://www.v-20.org/resources/publications/v20-debt-review-2nd-edition.

Bharadwaj, R., T. Mitchell and N. Karthikeyan (2023). Protecting against sovereign debt defaults under growing climate impacts: Role for parametric insurance. Working Paper. London: IIED. Available at http://pubs.iied.org/21426IIED.

Colombia, Government of Colombia (2012a). Law 1523, adopting the National Policy of Risk Management and the National System of Risk Management. Available at https://climate-laws.org/document/law-1523-adopting-the-national-policy-of-risk-management-and-the-national-system-of-risk-management_5558.

_____ (2012b). *Plan Nacional de Adaptacion al Cambio Climatico: Reduciendo los impactos del clima en el desarrollode Colombia*. Bogotá. Available at https://www4.unfccc.int/sites/NAPC/Documents/Parties/Colombia%20NAP%20Spanish.pdf.

_____ (2016). National Climate Change Decree (SISCLIMA). Available at https://climate-laws.org/documents/national-climate-change-decree-sisclima_c61d?q=National+Climate+Change+Policy&l=colombia&id=national-climate-change-decree-sisclima_9049.

_____ (2020). *Actualización de la Contribución Determinada a Nivel Nacional de Colombia (NDC)*. Bogotá. Available at https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20actualizada%20de%20Colombia.pdf.

Colombia, National Planning Department (2023). *Plan Nacional de Desarrollo 2022-2026*. Bogotá. Available at https://colaboracion.dnp.gov.co/CDT/Prensa/Publicaciones/plan-nacional-de-desarrollo-2022-2026-colombia-potencia-mundial-de-la-vida.pdf.

Colombia, National Planning Department and Fedesarrollo (2022). *Estrategia Nacional de Financimiento Climatico 2022*. Bogotá: Government of Colombia. Available at https://colaboracion.dnp.gov.co/CDT/Ambiente/Finan-

zas%20del%20Clima/Estrategia-Nacional-de-Financimiento-Climatico-2022.pdf.
Colombia, MinHacienda (2024). *Estrategias de Protección Financiera ETs.* Bogotá. Available at https://www.minhacienda.gov.co/webcenter/portal/EntidadesFinancieras/pages_Riesgos/estrategiasdeproteccinfinancieraets.
Cotti, D., M. Hagenlocher, D. Sett, J. Reith, M. Harb, S. Kreft, D. Kaiser, A. Zwick and M. Garschagen (2021). Insurisk report 2021 – Annex. Bonn: United Nations University – Institute for Environment and Human Security (UNU-EHS), Munich Climate Insurance Initiative (MCII), Ludwig-Maximilians Universität München (LMU), Federal Ministry for Economic Cooperation and Development (BMZ), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, and InsuResilience Global Partnership (IGP). Available at https://collections.unu.edu/view/UNU:8331.
Debouche, T. (2023). Analysis of factors affecting growth of agricultural insurance in Ethiopia: the case of Ethiopian Insurance Corporation (EIC). PhD dissertation, St. Mary's University. Available at http://hdl.handle.net/123456789/7711.
Denno Cissé, J. (2021). Climate and disaster risk financing instruments: An overview. New York: UNCDF. Available at https://climate-insurance.org/wp-content/uploads/2021/05/Climate-and-Disaster-Risk-Financing-Instruments.pdf.
Ethiopia, Environment, Forest and Climate Change Commission (2019). Ethiopia's capacity gaps in accessing climate funding: Experiences, successes and remaining challenges. Addis Ababa. Available at https://www4.unfccc.int/sites/SubmissionsStaging/Documents/201907111608---AF%20-Revised%20Requested%20Ethiopia_s%20Adaptation%20Capacity%20Gaps%20(Final).pdf.
Ethiopia, Government of Ethiopia (2011). *Climate-Resilient Green Economy (CRGE) Strategy.* Addis Ababa. Available at https://climate-laws.org/documents/climate-resilient-green-economy-crge-strategy_3970?id=climate-resilient-green-economy-crge-strategy_89a6.
_____ (2019). *Ethiopia's Climate Resilient Green Economy National Adaptation Plan.* Addis Ababa. Available at https://www4.unfccc.int/sites/NAPC/Documents/Parties/Final%20Ethiopia-national-adaptation-plan%20%281%29.pdf.
_____ (2021). Updated Nationally Determined Contribution. Addis Ababa. Available at https://unfccc.int/sites/default/files/NDC/2022-06/Ethiopia%27s%20updated%20NDC%20JULY%202021%20Submission_.pdf.
_____ (2023). *Ethiopia's Long-Term Low Emission and Climate Resilient Development Strategy (2020–2050).* Addis Ababa. Available at https://unfccc.int/sites/default/files/resource/ETHIOPIA_%20LONG%20TERM%20LOW%20EMISSION%20AND%20CLIMATE%20RESILIENT%20DEVELOPMENT%20STRATEGY.pdf.
Ethiopia, Ministry of Finance (2023). *Guidelines for Quantifying Disaster-related Fiscal Risks in Ethiopia*. Addis Ababa. Available at https://www.opml.co.uk/sites/default/files/migrated_bolt_files/guidelines-disaster-related-fiscal-risk.pdf.
Ethiopia, National Planning Commission (2016). *Growth and Transformation Plan II (GTP II) (2015/16-2019/20)*. Addis Ababa. Available at https://www.fao.org/faolex/results/details/en/c/LEX-FAOC169444/.
European Commission (2018). Using insurance in adaptation to climate change. Luxembourg. Available at https://climate.ec.europa.eu/system/files/2018-04/insurance_adaptation_en.pdf.
Hardee, K. and C. Mutunga (2010). Strengthening the link between climate change adaptation and national development plans: Lessons from the case of population in National Adaptation Programmes of Action (NAPAs). *Mitigation and Adaptation Strategies for Global Change*, vol. 15, No. 2 (February), pp. 113–126. Available at https://link.springer.com/article/10.1007/s11027-009-9208-3.
IDOS Research (2022). *NDC Explorer: Climate Risk Insurance*. Available at https://klimalog.idos-research.de/ndc/#NDCExplorer/worldMap?NewAndUpdatedNDC??financeandsupport???cat60.
IGP (2024a). InsuResilience Global Partnership: Glossary. Available at https://www.insuresilience.org/knowledge/glossary/.
IGP (2024b). InsuResilience Global Partnership: Overview of CDRFI instruments. Available at https://www.insuresilience.org/knowledge/instruments/.
IPCC (2023). *Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change* [Core Writing Team, H. Lee and J. Romero (eds.)]. Geneva. Available at https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_FullVolume.pdf.
Jarzabkowski, P., K. Chalkias, D. Clarke, E. Iyahen, D. Stadtmueller and A. Zwick (2019). Insurance for climate adaptation: Opportunities and limitations. Rotterdam and Washington, D.C.: Global Commission on Adaptation.

Available at https://gca.org/wp-content/uploads/2019/07/Insurance-for-climate-adaptation_Opportunities-and-Limitations.pdf.

Kreft, S., L. Schaefer, E. Behre and D. Matias (2017). Climate risk insurance for resilience: Assessing countries' implementation plans: Report no. 23. Munich: Munich Climate Insurance Initiative (MCII). Available at https://climate-insurance.org/wp-content/uploads/2020/04/MCII-DIE_2017_Role_of_CRI_in_NDCs.pdf.

Kuckartz, U. (2014). *Qualitative Text Analysis: A Guide to Methods, Practice & Using Software*. London: SAGE.

Kundo, K. H., M. Brueckner, R. Spencer and J. K. Davis (2023). The politics of linking disaster risk reduction and climate adaptation with social protection in Bangladesh. *International Journal of Disaster Risk Reduction*, vol. 89, Article 103640. Available at https://www.sciencedirect.com/science/article/pii/S2212420923001206.

LDC Expert Group (2012). *National Adaptation Plans: Technical Guidelines for the National Adaptation Plan Process*. Bonn: United Nations Framework Convention on Climate Change Secretariat. Available at https://unfccc.int/files/adaptation/cancun_adaptation_framework/application/pdf/naptechguidelines_eng_high__res.pdf.

LightCastle Analytics Wing (2021). Can climate risk insurance shield Bangladesh from environmental perils?, 19 September. Available at https://www.lightcastlebd.com/insights/2021/09/can-climate-risk-insurance-shield-bangladesh-from-environmental-perils/.

Local Government Initiative on Climate Change (LoGIC) Project (2024). *Investment Menu for Upazilas from The National Adaptation Plan (NAP)*. Dhakar: UNDP and UNCDF. Available at https://bangladesh.un.org/en/267271-investment-menu-upazilas-national-adaptation-plan-nap.

Mannan, S., F. R. S. Ahmed, S. Huq, and M. F. Rahman (2023). Role of adaptation governance of Bangladesh in global climate change discourse. In *Transforming Bangladesh: Geography, People, Economy and Environment*, R. Ahmed, A. Al-Maruf and J. C. Jenkins, eds., pp. 129–135. Cham: Springer.

Miles, K. and I. Hauler (2021). Step by step guidance: How to translate international commitments into action to achieve gender-smart Climate Disaster Risk Finance and Insurance solutions. Bonn: InsuResilience Global Partnership. Available at https://www.insuresilience.org/wp-content/uploads/2022/10/Guidance-Note_InsuResi_Translate_International_Commitments-1.pdf.

Morton, S. and S. Bee (2020). Adaptation and risk finance in NDCs (No. 4). Washington, D.C.: NDC Partnership. Available at https://ndcpartnership.org/sites/default/files/2023-09/insightbrief-adaptationandriskfinanceinndcs-september2020.pdf.

Murphy, D. (2022). *The Landscape of Financing Strategies for Adaptation in Developing Countries: IISD Report*. Winnipeg: International Institute for Sustainable Development. Available at https://www.iisd.org/system/files/2022-08/financing-strategies-for-adaptation-developing-countries.pdf.

_____ (2023). Alignment: A key element of successful financing strategies for climate change adaptation. Winnipeg: International Institute for Sustainable Development. Available at https://www.iisd.org/system/files/2023-08/alignment-financing-strategies-climate-change-adaptation.pdf.

Murphy, D. and J.-E. Parry (2024). Seven guiding principles for preparing financing strategies for climate change adaptation in developing countries, 1 May. Available at https://napglobalnetwork.org/2024/05/guiding-principles-financing-strategies-adaptation/.

NAP Global Network (2023). What we are learning about effective national adaptation plan processes, 24 March. Available at https://napglobalnetwork.org/2023/03/effective-national-adaptation-plan-figure/.

NAP Global Network and InsuResilience Global Partnership (2021). Opportunities for strengthening resilience by integrating Climate and Disaster Risk Finance and Insurance (CDRFI) in National Adaptation Plan (NAP) processes. Winnipeg: International Institute for Sustainable Development. Available at https://napglobalnetwork.org/wp-content/uploads/2021/08/napgn-igp-en-2021-integrating-cdfri-in-national-adaptation-plan-processes.pdf.

Nordic Development Fund (2018). *Insurance Instruments for Africa: Climate Adaptation – First Phase. Final Report*. Helsinki. Available at https://www.ndf.int/media/project-files/africa_insurance_final_report_june_2018.pdf.

OECD (2019). *Risk Governance Scan of Colombia: OECD Reviews of Risk Management Policies*. Paris: OECD Publishing. Available at http://oecd.org/en/publications/risk-governance-scan-of-colombia_eeb81954-en.html.

Pakistan, Ministry of Climate Change and Environmental Coordination (2024). *National Adaptation Plan: Pakistan 2023*. Islamabad. Available at https://unfccc.int/sites/default/files/resource/National_Adaptation_Plan_Pakistan.pdf.

Saint Lucia, Government of Saint Lucia (2018). *Saint Lucia's National Adaptation Plan (NAP): 2018–2028*. Castries. Available at https://unfccc.int/sites/default/files/resource/NAP-Saint-Lucia-2018.pdf.

Sett, D., M. Hagenlocher, D. Cotti, J. Reith, M. Harb, S. Kreft, D. Kaiser, A. Zwick and M. Garschagen (2021). *Insurisk Report 2021: Disaster Risk, Social Protection and Readiness for insurance Solutions*. Bonn: United Nations University – Institute for Environment and Human Security (UNU-EHS). Available at https://digitallibrary.un-.org/record/4066832?v=pdf.

Shawkat Ali, M. (2023). Strategy for implementing all NAP priorities. Presented at LEG Side Event of COP28 in Dubai, 4 December 2023. Available at https://unfccc.int/sites/default/files/resource/Bangladesh_LEG%20side%20event_COP28.pdf.

Suriname, Government of Suriname (2019). Suriname National Adaptation Plan. Paramaribo. Available at https://unfccc.int/sites/default/files/resource/NAP-Suriname-2020.pdf.

UNDP (n.d.). Global Actuarial Initiative. Available at https://irff.undp.org/projects/global-actuarial-initiative.

_____ (2017). National Adaptation Plan process in focus: Lessons from Bangladesh. New York. Available at https://www.undp.org/sites/g/files/zskgke326/files/publications/bangladesh_NAP_country_briefing.pdf.

_____ (2019). Piloting weather insurance for Ethiopian farmers to build resilience, 29 April. Available at https://www.undp.org/ethiopia/news/piloting-weather-insurance-ethiopian-farmers-build-resilience.

_____ (2023a). Ethiopia's insurance landscape and opportunities for risk financing: Building resilient livelihoods, 27 June. Available at https://www.undp.org/ethiopia/blog/ethiopias-insurance-landscape-and-opportunities-risk-financing.

_____ (2023b). Inclusive insurance and risk financing in Colombia: Snapshot and way forward 2023. New York. Available at https://www.undp.org/sites/g/files/zskgke326/files/2023-02/undp_co_pub_inclusive_insurance_Col2023.pdf.

_____ (2024a). Inclusive insurance and risk financing in Ethiopia: Snapshot and way forward 2024. New York. Available at https://www.undp.org/sites/g/files/zskgke326/files/2024-03/inclusive-insurance-and-risk-financing-in-ethiopia_1.pdf.

_____ (2024b). Scholarship programme for inclusive insurance distribution training in Tanzania, 8 May. Available at https://irff.undp.org/article/scholarship-programme-inclusive-insurance-distribution-training-tanzania.

UNDRR (2017). Risk transfer. Available at https://www.undrr.org/terminology/risk-transfer.

UNFCCC (2012). Report of the Conference of the Parties on its seventeenth session, held in Durban from 28 November to 11 December 2011. Addendum. Part two: Action taken by the Conference of the Parties at its seventeenth session. FCCC/CP/2011/9/Add.1. Available at https://unfccc.int/documents/7109.

_____ (2015). Paris Agreement, as contained in the report of the Conference of the Parties on its twenty-first session, FCCC/CP/2015/10/Add.1. Available at https://unfccc.int/process/conferences/pastconferences/paris-climate-change-conference-november-2015/paris-agreement.

_____ (2023). Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation referred to in decision 7/CMA.3. Decision -/CMA.5. Available at https://unfccc.int/sites/default/files/resource/cma5_auv_8a_gga.pdf.

_____ (2024a). Additional information from adaptation components of nationally determined contributions. Annex Adaptation NDC SR 2024. Available at https://unfccc.int/sites/default/files/resource/Annex-Adaptation-NDC-SR-2024.pdf.

_____ (2024b). Nationally determined contributions under the Paris Agreement: Synthesis report by the secretariat. FCCC/PA/CMA/2024/10. Available at https://unfccc.int/sites/default/files/resource/cma2024_10_adv.pdf.

_____ (2024c). Progress in the process to formulate and implement national adaptation plans: Note by the secretariat. FCCC/SBI/2024/23. Available at https://unfccc.int/sites/default/files/resource/sbi2024_23.pdf.

UNFCCC Secretariat (2024a). Nationally Determined Contributions (NDCs). Available at https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs#NDC-Synthesis-Report.

_____ (2024b). Submitted NAPs from developing country Parties. Available at https://napcentral.org/submitted-naps.

Uruguay, Ministry of Livestock, Agriculture and Fisheries (2019). *Plan Nacional de Adaptación a la Variabilidad y el Cambio Climático para el Sector Agropecuario de Uruguay* (National Adaptation Plan to Climate Variability and Change for the Agricultural Sector of Uruguay). Montevideo: Government of Uruguay. Available at https://unfccc.int/sites/default/files/resource/NAP-Agriculture-Uruguay.pdf.

WFP (2024). Understanding Climate and Disaster Risk Finance and Insurance solutions in the Asia Pacific. Rome. Available at https://www.preventionweb.net/media/97742/download?startDownload=20240916.

World Bank (2016). Colombia: Estrategia de política de gestión financiera pública ante el riesgo de desastres por fenómenos de la naturaleza (Colombia: Strategy for public financial management policy in response to the risk of natural disasters). Washington, D.C. Available at https://www.gfdrr.org/sites/default/files/publication/Colombia_Estrategia_de_Pol%C3%ADtica_de_Gesti%C3%B3n_Financiera_P%C3%BAblica_ante_el_Riesgo_de_Desastres_por_Fen%C3%B3menos_de_la%20Naturaleza.pdf.

_____ (2017). *Sovereign Climate and Disaster Risk Pooling: World Bank Technical Contribution to the G20*. Washington, D.C. Available at https://www.gfdrr.org/sites/default/files/publication/WB%20DRFIP_Cat%20Risk%20Pool%20for%20G20_full%20report.pdf.

_____ (2021). El Banco Mundial otorga US$300 millones a Colombia para fortalecer capacidades ante eventos naturales adversos (The World Bank grants US$300 million to Colombia to strengthen capacities against adverse natural events), 17 December. Available at https://www.bancomundial.org/es/news/press-release/2021/12/17/el-banco-mundial-otorga-us-300-millones-a-colombia-para-fortalecer-capacidades-ante-eventos-naturales-adversos.

_____ (2023). *Climate and Disaster Risk Finance Diagnostic 2022 – Ethiopia*. Washington, D.C. Available at https://www.financialprotectionforum.org/publication/climate-and-disaster-risk-finance-diagnostic-2022-ethiopia.

Annexes

Annex I:
CDRFI in UNFCCC

Insurance has been an important element in the UNFCCC process since its inception. Integrating comprehensive risk management and CDRFI in NAPs aligns with the objectives of the UNFCCC Warsaw International Mechanism (WIM) Technical Expert Group on Comprehensive Risk Management (TEG CRM), established at ExCom 7 in 2018, whose workplans frequently refer to linking NAP with CRM and DRR and issues of loss and damage. The following is a selection of the most important decisions of COP and the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) in the areas of adaptation and loss and damage related to CDRFI.

- **United Nations Framework Convention on Climate Change (UNFCCC, 1992):** In Article 4.8, included insurance as one action to consider to address the needs of developing countries.
- **Decision 1/CP.13 (Bali Action Plan, 2007):** Acknowledged the need for risk management and risk reduction strategies, including risk sharing and transfer mechanisms such as insurance to enhance action on adaptation.
- **Decision 1/CP.16 (Cancun Agreements, 2010):** Established the Cancun Adaptation Framework, emphasizing risk reduction and risk transfer mechanisms, including insurance.
- **Decision 3/CP.18 (Doha Climate Gateway, 2012):** Established a pathway towards concrete institutional arrangements to provide vulnerable populations with better protection against loss and damage, including through elements of risk transfer.
- **Decision 2/CP.19 (Warsaw International Mechanism for Loss and Damage, 2013):** Outlined the functions of the WIM, including enhancing understanding of and cooperation on risk transfer and insurance.
- **Decision 1/CP.21 (Paris Agreement, 2015):** In Article 8, acknowledges the importance of risk insurance facilities and other risk transfer mechanisms in addressing loss and damage associated with climate change impacts, and requests the WIM Executive Committee to establish a clearing house for risk transfer to facilitate the adoption of comprehensive risk management strategies.
- **Decision 2/CMA.2 (WIM Review, 2019):** Decides that the Technical Working Group on Comprehensive Risk Management (TEG CRM) shall develop an analysis and identification of enabling conditions for effective implementation of risk transfer facilities and social protection schemes in the context of comprehensive risk management.
- **Decision 2/CP.27 and Decision 1/CMA.4 (Sharm el-Sheikh Climate Change Conference, 2022):** Established a new loss and damage fund. The fund aims to assist developing countries that are particularly vulnerable to the adverse effects of climate change. It includes provisions for risk transfer mechanisms and insurance as part of the broader strategy to address loss and damage.
- **Decision 1/CP.28 and Decision 5/CMA.5 (UAE Consensus, 2023):** Operationalizes the Fund for Responding to Loss and Damage and includes insurance mechanisms and risk-sharing mechanisms in the range of possible financial instruments.

Annex II:
List of keyword search terms

ENGLISH	SPANISH	FRENCH
risk*pool	seguro	assuranc*
parametri	param?tric	obligations catastrophes
contingen*credit	contingenc	protectio* sociale
contingen*fund	bon* catástrofe	conting*
cat*bond	transferencia de riesgo	pool
risk*sharing	protec* social	transfert* risques
insuranc	cr?di* condicional*	ARC
"social protection"	fondo de emergencia	CCRIF
"risk transfer"	fondo de contingencia	PRCIC
ARC	param*	PCRAFI
CCRIF	ARC	"African Risk Capacity"
PRCIC	CCRIF	"Caribbean Catastrophe Risk Insurance Facility"
PCRAFI	PRCIC	"Pacific Catastrophe Risk Insurance Company "
"African Risk Capacity"	PCRAFI	"Southeast Asia Disaster Risk Insurance Facility"
"Caribbean Catastrophe Risk Insurance Facility"	"African Risk Capacity"	
"Pacific Catastrophe Risk Insurance Company "	"Caribbean Catastrophe Risk Insurance Facility"	
"Southeast Asia Disaster Risk Insurance Facility"	"Pacific Catastrophe Risk Insurance Company "	
	"Southeast Asia Disaster Risk Insurance Facility"	

Annex III:
NAPs overview, CDRFI evaluation and analysis summary

Country	Name of document	Year (submission)	Region	Level of DRF Integration
Albania	National Adaptation Planning (NAP) to Climate Change in Albania	2021	Europe & Central Asia	High
Argentina	National Adaptation Plan	2022	Latin America & Caribbean	Medium
Armenia	National Adaptation Plan	2021	Europe & Central Asia	Low
Bangladesh	National Adaptation Plan of Bangladesh (2023-2050)	2022	South Asia	High
Benin	Plan national d'adaptation aux changements climatiques du Bénin	2022	Sub-Saharan Africa	Medium
Bhutan	National Adaptation Plan (NAP) of the Kingdom of Bhutan	2023	South Asia	High
Bosnia and Herzegovina	Bosnia and Herzegovina National Adaptation Plan - NAP	2022	Europe & Central Asia	Low
Brazil	National Adaptation Plan to Climate Change	2016	Latin America & Caribbean	High
Burkina Faso	Burkina Faso National Climate Change Adaptation Plan	2015	Sub-Saharan Africa	Medium
Burundi	Plan national d'adaptation initial	2023	Sub-Saharan Africa	None
Cabo Verde	National Adaptation Plan of Cabo Verde	2022	Sub-Saharan Africa	None
Cambodia	Cambodia Strategic Plan 2014-2023	2013	East Asia & Pacific	Low
Cameroon	Plan National d'Adaptation aux Changements Climatiques du Cameroun	2015	Sub-Saharan Africa	High
Central African Republic	Plan National d'Adaptation aux Changements Climatiques	2022	Sub-Saharan Africa	Low
Chad	First National Climate Change Adaptation Plan of Chad	2022	Sub-Saharan Africa	Low
Chile	Plan Nacional de Adaptación al Cambio Climático	2014	Latin America & Caribbean	High
Colombia	Plan Nacional de Adaptación al Cambio Climático	2018	Latin America & Caribbean	High
Costa Rica	Plan Nacional de Adaptación al Cambio Climático de Costa Rica	2022	Latin America & Caribbean	High
D. R. Congo	National Adaptation Plan to Climate Change (2022-2026)	2022	Sub-Saharan Africa	Low

Country	Name of document	Year (submission)	Region	Level of DRF Integration
Ecuador	Plan Nacional de Adaptación al Cambia Climático del Ecuador	2023	Latin America & Caribbean	None
Ethiopia	Ethiopia's Climate Resilient Green Economy: National Adaptation	2019	Sub-Saharan Africa	Medium
Fiji	Republic of Fiji National Climate Change Policy	2018	East Asia & Pacific	High
Grenada	National Climate Change Adaptation Plan (NAP) for Grenada, Carriacou and Petite Martinique	2017	Latin America & Caribbean	Medium
Guatemala	Plan de Acción Nacional del Cambio Climático, segunda edición	2018	Latin America & Caribbean	Low
Haiti	Plan National d'Adaptation aux Changement Climatique	2022	Latin America & Caribbean	None
Kenya	Kenya National Adaptation Plan 2015-2030	2016	Sub-Saharan Africa	Medium
Kiribati	Kiribati Joint Implementation Plan for Climate Change and Disaster Risk Management (KJIP) 2019-2028	2019	East Asia & Pacific	High
Kuwait	Kuwait National Adaptation Plan 2019-2030	2019	Middle East & North Africa	None
Liberia	Liberia National Adaptation Plan 2020-2030	2021	Sub-Saharan Africa	Low
Madagascar	Plan National d'Adaptation au Changement Climatique (PNA)	2021	Sub-Saharan Africa	Low
Marshall Islands	The National Adaptation Plan of the Republic of the Marshall Islands	2023	East Asia & Pacific	None
Morocco	Plan National Stratégique d'Adaptation (PNSA-2030)	2022	Middle East & North Africa	Low
Mozambique	Mozambique's National Adaptation Plan	2023	Sub-Saharan Africa	Low
Nepal	National Adaptation Plan (NAP) 2021-2015 Summary for Policymakers	2021	South Asia	Medium
Niger	Plan national d'adaptation aux changements climatiques	2022	Sub-Saharan Africa	Low
Pakistan	National Adaptation Plan Pakistan 2023	2023	South Asia	Medium
Palestine	National Adaptation Plan (NAP) to Climate Change	2016	Middle East & North Africa	Low
Papua New Guinea	Papua New Guinea National Adaptation Plan	2023	East Asia & Pacific	Low

Country	Name of document	Year (submission)	Region	Level of DRF Integration
Paraguay	Plan Nacional de Adaptación al Cambio Climático	2017	Latin America & Caribbean	High
Peru	Plan Nacional de Adaptación al Cambio Climático del Perú	2021	Latin America & Caribbean	High
Saint Lucia	Adaptation Plan (NAP) 2018-2028	2018	Latin America & Caribbean	High
Saint Vincent and the Grenadines	National Adaptation Plan for Saint Vincent and the Grenadines	2019	Latin America & Caribbean	Medium
Sierra Leone	Government of Sierra Leone National Adaptation Plan	2022	Sub-Saharan Africa	Low
South Africa	National Climate Change Adaptation Strategy	2020	Sub-Saharan Africa	None
South Sudan	First National Adaptation Plan for Climate Change	2021	Sub-Saharan Africa	Low
Sri Lanka	National Adaptation Plan for Climate Change Impacts in Sri Lanka	2016	South Asia	Low
Sudan	National Adaptation Plan	2016	Sub-Saharan Africa	None
Suriname	Suriname National Adaptation Plan (NAP)	2019	Latin America & Caribbean	High
Thailand	Thailand's National Adaptation Plan (NAP)	2024	East Asia & Pacific	High
Timor-Leste	Timor-Leste's National Adaptation Plan	2021	East Asia & Pacific	None
Togo	Plan National d'Adaption aux Changements Climatiques du Togo	2017	Sub-Saharan Africa	Low
Tonga	Joint National Action Plan 2 on Climate Change and Disaster Risk	2018	East Asia & Pacific	None
Uruguay	Plan Nacional de Adaptación a la Variabilidad y el Cambio Climático	2019	Latin America & Caribbean	High
Zambia	National Adaptation Plan for Zambia	2023	Sub-Saharan Africa	High

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Albania	High	Insurance, Risk Pool	Introduction, Priorities, Implementation, Financing, Annex	Action Item, Desc.	Not specified, Floods	Not specified, Agriculture, Fishery, MSMEs, Business, Settlements/ Housing, Governance	
Argentina	Medium	Insurance, Risk Transfer, Contingency Fund	Implementation, Financing	Action Item, Desc.	Not specified, Drought, Floods, Fires, Hail, Storms	Not specified, Agriculture, Livestock, Forestry, Natural Areas	Social Protection
Armenia	Low	Insurance	Diagnostics	Action Item, Desc.	Not specified	Business, Governance	
Bangladesh	High	Insurance, Risk Transfer, Contingency Fund, Any Other	Introduction, Diagnostics, Priorities, Implementation, Financing, MEL, Annex	Action Item, Desc.	Not specified, Floods, Rainfall	Not specified, Agriculture, Forestry, Fishery, Vulnerable populations, MSMEs, Business, Settlements/ Housing, Infrastructure, Governance	Social Protection
Benin	Medium	Insurance	Implementation, MEL, Annex	Action Item	Not specified	Agriculture, Vulnerable populations	Social Protection
Bhutan	High	Insurance, Contingency Fund	Diagnostics, Priorities, Implementation, Annex	Action Item, Desc.	Not specified, Floods	Agriculture, Livestock, Business, Infrastructure, Governance	Social Protection
Bosnia and Herzegovina	Low	Insurance, Any Other	MEL, Annex	Desc.	Not specified	Agriculture, Livestock, Business	Data Issues
Brazil	High	Insurance, Contingency Fund, Any Other	Diagnostics, Priorities, Implementation	Action Item, Desc.	Not specified, Drought, Floods, Rainfall	Agriculture, Vulnerable populations, Livelihoods, Business, Infrastructure, Coastal Zones, Water, Governance, Natural Areas	Data Issues
Burkina Faso	Medium	Insurance	Implementation	Action Item	Not specified	Agriculture, Livestock, Vulnerable populations, Livelihoods	Social Protection

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Burundi	None						Social Protection
Cabo Verde	None						
Cambodia	Low	Insurance	Priorities	Action Item	Not specified	Not specified	Social Protection
Cameroon	High	Insurance, Contingency Fund, Any Other	Diagnostics, Implementation, Financing, MEL	Action Item, Desc.	Not specified, SLR	Not specified, Vulnerable populations, MSMEs, Business, Mining, Settlements/ Housing, Infrastructure, Governance	Social Protection
Central African Republic	Low	Insurance		Desc.		Not specified, Agriculture, Governance	
Chad	Low	Insurance, Risk Pool, Contingency Fund, Any Other	Diagnostics, Priorities, Implementation, Financing, Annex	Action Item, Desc.	Not specified	Not specified, Vulnerable populations, Infrastructure, Governance	Social Protection, Data Issues
Chile	High	Insurance, Risk Transfer, Any Other	Priorities, Implementation	Action Item, Desc.	Not specified	Agriculture, Livestock, Fishery, MSMEs, Business	
Colombia	High	Insurance, Risk Transfer, Contingency Fund, Any Other	Diagnostics, Priorities, Financing, Annex	Action Item, Desc.	Not specified	Not specified, Vulnerable populations, Business, Settlements/ Housing, Infrastructure, Governance	Social Protection
Costa Rica	High	Insurance, Risk Transfer	Priorities, Implementation, MEL, Annex	Action Item	Not specified	Not specified, Business, Governance	Social Protection
D.R. Congo	Low	Risk Transfer, Risk Pool, Any Other	Priorities	Desc.	Not specified, Rainfall	Not specified, Agriculture, Governance	
Ecuador	None						
Ethiopia	Medium	Insurance	Introduction, Priorities, Implementation, MEL	Action Item	Drought, Floods	Agriculture, Livestock, Vulnerable populations	Social Protection, Data Issues

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Fiji	High	Insurance, Risk Transfer, Contingency Fund, Any Other	Diagnostics, Implementation	Action Item, Desc.	Not specified, Floods, Hurricans/ Cyclones	Not specified, Agriculture, Livestock, Vulnerable populations, Business, Settlements/ Housing, Energy, Governance	Data Issues
Grenada	Medium	Insurance, Risk Transfer	Diagnostics, Priorities, Implementation	Action Item	Not specified, Rainfall, Storms	Agriculture, Livestock, Fishery, Vulnerable populations, Livelihoods, Governance	Social Protection
Guatemala	Low	Insurance, Risk Transfer	Diagnostics	Desc.	Not specified	Not specified, Business, Governance	
Haiti	None						
Kenya	Medium	Insurance, Contingency Fund, Any Other	Diagnostics, Implementation, Financing	Action Item	Not specified	Agriculture, Livestock, Vulnerable populations	Social Protection
Kiribati	High	Insurance, Any Other	Diagnostics, Priorities, Implementation, Financing, MEL, Annex	Action Item, Desc.	Not specified, Floods, Rainfall, Fires, Erosion, Storms	Not specified, Business, Infrastructure, Governance	Social Protection, Data Issues
Kuwait	None						
Liberia	Low	Insurance	Diagnostics, Implementation	Action Item	Not specified	Agriculture, Livestock	Social Protection, Data Issues
Madagascar	Low	Insurance	Priorities, Financing	Action Item, Desc.	Not specified, Drought	Agriculture, Business	
Marshall Islands	None						Social Protection
Morocco	Low	Insurance, Risk Transfer, Any Other	Priorities, Implementation	Action Item	Not specified	Not specified, Agriculture, Governance	Social Protection, Data Issues
Mozambique	Low	Insurance	Diagnostics, Implementation	Action Item	Not specified	Not specified, Tourism, Infrastructure, Coastal Zones	Social Protection, Data Issues

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Nepal	Medium	Insurance, Risk Transfer	Diagnostics, Implementation	Action Item, Desc.	Not specified	Agriculture, Livestock, Vulnerable populations, Tourism, Infrastructure, Water, Governance	Social Protection
Niger	Low	Insurance, Risk Pool	Diagnostics, Financing	Action Item, Desc.	Drought	Agriculture, Livestock, Business, Infrastructure	Data Issues
Pakistan	Medium	Insurance, Risk Transfer, Any Other	Implementation, Financing	Action Item, Desc.	Not specified	Not specified, Agriculture, Vulnerable populations, Business	Social Protection, Data Issues
Palestine	Low	Insurance	Diagnostics	Action Item, Desc.	Not specified	Agriculture, Fishery, Governance	Data Issues
Papua New Guinea	Low	Insurance, Any Other	Implementation	Action Item	Not specified	Agriculture	
Paraguay	High	Insurance, Risk Transfer, Contingency Fund, Any Other	Introduction, Diagnostics, Priorities, Implementation, Annex	Action Item, Desc.	Not specified	Not specified, Agriculture, Livestock, Fishery, Vulnerable populations, MSMEs, Governance	Data Issues
Peru	High	Insurance, Risk Transfer, Any Other	Diagnostics, Priorities, Implementation, Financing, MEL, Annex	Action Item, Desc.	Not specified, Drought, Floods, Storm Surges, Storms, SLR	Agriculture, Livestock, Fishery, Vulnerable populations, Business, Governance	Social Protection, Data Issues
Saint Lucia	High	Insurance, Risk Transfer, Risk Pool, Contingency Fund, Any Other	Introduction, Diagnostics, Implementation, MEL, Other	Action Item, Desc.	Not specified, Hurricans/ Cyclones, Storm Surges, Rainfall, Storms, SLR	Not specified, Agriculture, Fishery, Vulnerable populations, Livelihoods, Business, Tourism, Settlements/ Housing, Infrastructure, Governance	Social Protection

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Saint Vincent and the Grenadines	Medium	Insurance, Risk Pool, Any Other	Diagnostics, Implementation, Annex	Action Item, Desc.	Not specified, Drought, Floods, Hurricans/ Cyclones, Heatwave	Agriculture, Livestock, Forestry, Fishery, Vulnerable populations, Business, Tourism, Settlements/ Housing, Infrastructure, Governance	Social Protection, Data Issues
Sierra Leone	Low	Insurance	Diagnostics, Priorities, Other	Action Item, Desc.	Not specified	Agriculture, Fishery, Vulnerable populations, Business, Coastal Zones	Social Protection
South Africa	None						
South Sudan	Low	Insurance	Implementation	Action Item	Not specified	Agriculture	Data Issues
Sri Lanka	Low	Insurance, Risk Transfer	Implementation, MEL	Action Item	Not specified	Not specified, Agriculture, Business, Governance	
Sudan	None						
Suriname	High	Insurance, Risk Transfer, Risk Pool, Contingency Fund, Any Other	Introduction, Priorities, Implementation, Financing, MEL, Annex	Action Item, Desc.	Not specified	Not specified, Agriculture, Livestock, Fishery, Business, Settlements/ Housing, Infrastructure, Governance	Social Protection, Data Issues
Thailand	High	Insurance, Contingency Fund, Any Other	Implementation	Action Item	Not specified	Vulnerable populations, Business, Settlements/ Housing, Governance	
Timor-Leste	None						Data Issues
Togo	Low	Insurance	Implementation	Action Item	Not specified	Agriculture	Social Protection
Tonga	None						

Country	Level of DRF Integration	CDRFI Instruments	Text Section	Text Character	Hazard	Sector	Other
Uruguay	High	Insurance, Risk Transfer, Contingency Fund, Any Other	Introduction, Diagnostics, Priorities, Implementation, Financing, MEL, Other	Action Item, Desc.	Not specified, Drought, Rainfall, Fires, Hail, Storms	Not specified, Agriculture, Livestock, Fishery, Vulnerable populations, Livelihoods, MSMEs, Business, Governance	Social Protection, Data Issues
Zambia	High	Insurance, Risk Transfer	Introduction, Implementation, Other, Annex	Action Item, Desc.	Not specified, Drought, Floods, Fires, Heatwave, Storms	Not specified, Agriculture, Livestock, Fishery, Business, Mining, Settlements/ Housing, Infrastructure, Energy, Water, Governance	

Annex IV:
NDCs overview and analysis summary

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Afghanistan	1	23/11/2016	23/11/2016	0								
Albania	2	12/10/2021	21/09/2016	8		0	Insurance, Risk Pools, Cont. Fund	Adaptation	Action Item	Not specified	Agriculture, Livestock, Fishery, Settlements, Tourism	Social Protection
Algeria	1	20/10/2016	20/10/2016	0								
Andorra	3	08/11/2022	24/03/2017	0	0	0						
Angola	2	31/05/2021	16/11/2020	0		0						
Antigua and Barbuda	2	02/09/2021	21/09/2016	10		2	Insurance	General, Loss and Damage	Action Item, Descr.	Not specified, Drought, Floods, Trop. Storms	Agriculture, Livestock, Fishery, Settlements, Businesses	Social Protection
Argentina	3	02/11/2021	17/11/2016	0	0	0						
Armenia	2	05/05/2021	23/03/2017	0		0						
Australia	4	16/06/2022	09/11/2016	0	0	0						
Azerbaijan	2	10/10/2023	09/01/2017	0		0						
Bahamas	2	07/11/2022	21/10/2016	5		0	Insurance, Risk Pools, Any other	General, Loss and Damage, Adaptation, Mitigation	Action Item, Descr.	Not specified, Rainfall, Trop. Storms	Agriculture, Fishery, Tourism, Energy, Businesses	
Bahrain	2	18/10/2021	30/12/2016	0		0						
Bangladesh	3	26/08/2021	21/09/2016	0	0	0						
Barbados	2	30/07/2021	22/04/2016	6		0	Insurance, Risk Pools, Any other	General, Financing, Adaptation	Action Item, Descr.	Not specified, Rainfall, Trop. Storms	Businesses	

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Belarus	2	11/10/2021	21/09/2016	0		0						
Belize	2	01/09/2021	20/04/2016	4		0	Insurance, Catastrophe bond, Any other	Financing, Adaptation, Mitigation	Action Item	Not specified	Agriculture, Fishery, Businesses	
Benin	2	12/10/2021	11/10/2017	0		0						
Bhutan	2	24/06/2021	19/09/2017	0		2						
Bolivia, P.S.	2	15/04/2022	05/10/2016	1		1	Insurance	General, Adaptation	Action Item	Frost, Hail, Drought, Floods	Agriculture	
Bosnia and Herzegovina	2	20/04/2021	16/03/2017	0		0						
Botswana	1	11/11/2016	11/11/2016	0								
Brazil	3	03/11/2023	21/09/2016	0	0	0						
Brunei Darussalam	1	31/12/2020	31/12/2020	0								
Burkina Faso	2	09/10/2021	11/11/2016	1		0	Insurance	Adaptation	Action Item	Not specified	Agriculture	
Burundi	2	05/10/2021	17/11/2018	0		0						
Cabo Verde	2	02/04/2021	21/09/2017	3		0	Insurance, Risk Transfer, Cont. Fund	General, Financing, Loss and Damage, Adaptation	Action Item, Descr.	Not specified	Agriculture, Livestock, Fishery	Data issues
Cambodia	2	21/12/2020	06/02/2017	0		0						
Cameroon	2	11/10/2021	29/07/2016	2		1	Cont. Fund	Adaptation	Action Item	Not specified, Heat wave	No specific sector	
Canada	3	12/07/2021	05/10/2016	0	0	0						
Central African Republic	2	24/01/2022	11/10/2016	0		0						

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Chad	2	19/10/2021	12/01/2017	2		0	Insurance, Any other	General, Adaptation	Action Item, Descr.	Not specified	Infrastructure	Social Protection
Chile	2	09/04/2020	10/02/2017	0		1						
China	2	28/10/2021	03/09/2016	3		1	Insurance, Any other	Financing, Adaptation	Action Item, Descr.	Not specified	No specific sector	
Colombia	4	30/12/2020	12/07/2018	0	0	0						
Comoros	2	05/11/2021	23/11/2016	0		0						
Congo	2	02/08/2021	21/04/2017	1		0						
Cook Islands	1	01/09/2016	01/09/2016	0								
Costa Rica	2	29/12/2020	13/10/2016	2		0	Insurance	Financing, Adaptation	Action Item	Not specified	No specific sector	
Côte d'Ivoire	2	09/05/2022	25/10/2016	1		0	Insurance	Adaptation	Descr.	Not specified	No specific sector	
Cuba	2	17/09/2020	30/12/2016	0		0						
DPR Korea	2	19/09/2019	03/10/2016	0		0						
D. R. Congo	2	28/12/2021	13/12/2017	0		0	Insurance	Adaptation	Action Item	Not specified	Agriculture, Businesses	
Djibouti	1	11/11/2016	11/11/2016	0								
Dominica	2	04/07/2022	21/09/2016	11		4	Insurance, Any other	General, Financing, Adaptation	Action Item, Descr.	Not specified, Rainfall, Trop. Storms, Storm Surges, SLR, Landslides	Agriculture, Fishery, Settlements, Tourism, Energy, Businesses, Infrastructure	Social Protection
Dominican Republic	2	29/12/2020	21/09/2017	4		0	Insurance, Cont. Fund	Financing, Adaptation	Action Item	Not specified	Agriculture, Livestock, Settlements, Businesses, Infrastructure	Data issues, Social Protection, ASP
Ecuador	1	29/03/2019	29/03/2019	0								

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Egypt	2	26/06/2023	29/06/2017	1		0	Insurance	Adaptation	Action Item	Not specified	Agriculture	
El Salvador	1	04/01/2022		4			Insurance, Cont. Fund	General, Financing, Mitigation	Action Item	Not specified, Rainfall	MSMEs	
Equatorial Guinea	2	24/10/2022	30/10/2018	0		0						
Eritrea	1	19/06/2018	19/06/2018	0								
Eswatini	2	12/10/2021	21/09/2016	0		0						
Ethiopia	3	23/07/2021	09/03/2018	2	0	1	Insurance	Adaptation	Action Item	Not specified, Drought	Agriculture, Livestock	
European Union	3	19/10/2023	05/10/2016	0	0	0						
Fiji	2	31/12/2020	22/04/2016	0		0						
France	2	04/03/2021	05/10/2016	0		0						
Gabon	2	06/07/2022	02/11/2016	0		0						
Gambia	2	12/09/2021	07/11/2016	1		1	Insurance	Financing	Action Item	Not specified	No specific sector	
Georgia	2	05/05/2021	08/05/2017	0		0						
Ghana	2	04/11/2021	21/09/2016	0		0						
Grenada	2	01/12/2020	22/04/2016	0		0						
Guatemala	2	23/05/2022	25/01/2017	0		0						
Guinea	2	28/07/2021	21/09/2016	0		0	Insurance	Adaptation	Action Item	Not specified	Agriculture	
Guinea-Bissau	2	12/10/2021	22/10/2018	1		0						
Guyana	1	20/05/2016	20/05/2016	1			Insurance	Adaptation	Action Item	Not specified	No specific sector	
Haiti	2	01/06/2022	31/07/2017	7		1	Insurance, Cont. Fund, Any other	Loss and Damage	Action Item	Not specified	Agriculture, Livestock, Fishery, Settlements, Health	Data issues

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Honduras	2	19/05/2021	21/09/2016	1		0	Insurance	General	Action Item	Not specified	Agriculture	Social Protection
Iceland	2	18/02/2021	21/09/2016	0		0						
India	2	26/08/2022	02/10/2016	0		2						
Indonesia	3	23/09/2022	06/11/2016	0	0	0						
Iraq	1	15/10/2021	15/10/2021	0								
Israel	2	29/07/2021	22/11/2016	0		0						
Jamaica	2	01/07/2020	10/04/2017	0		0						
Japan	2	22/10/2021	08/11/2016	0		0						
Jordan	2	12/10/2021	04/11/2016	0		0	Any other	Adaptation	Action Item	Drought	Agriculture	Social Protection
Kazakhstan	2	27/06/2023	06/12/2016	0		0						
Kenya	2	28/10/2020	28/12/2016	1		1	Insurance	Adaptation	Action Item	Not specified	Agriculture, Livestock, Fishery	Social Protection
Kiribati	2	02/03/2023	21/09/2016	2		3	Insurance	Adaptation	Action Item	Not specified	MSMEs, Infrastructure	
Kuwait	2	12/10/2021	23/04/2018	2		1	Insurance	General	Descr.	Not specified	No specific sector	
Kyrgyzstan	2	09/10/2021	18/02/2020	1		0	Insurance	Adaptation	Action Item	Not specified	No specific sector	
Lao PDR	2	11/05/2021	11/05/2021	0		0						
Lebanon	3	16/03/2021	05/02/2020	1		0	Insurance	Adaptation	Action Item	Not specified	Agriculture, Businesses	
Lesotho	1	22/06/2018	22/06/2018	0								
Liberia	2	04/08/2021	27/08/2018	1		0	Insurance	Adaptation	Action Item	Not specified	Agriculture, Livestock	
Liechtenstein	1	20/09/2017	20/09/2017	0								
Madagascar	2	29/01/2024	21/09/2016	1		0	Insurance, Cont. Fund	Loss and Damage, Adaptation	Action Item	Not specified	Agriculture	

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Malawi	3	30/07/2021	29/06/2017	5	0	1	Insurance, Cont. Fund	Adaptation	Action Item	Not specified, Drought, Floods	Agriculture, Livestock, Fishery	Social Protection, ASP
Malaysia	2	30/07/2021	16/11/2016	0		0						
Maldives	2	28/12/2020	22/04/2016	4		3	Insurance	Adaptation	Action Item	Not specified	Fishery, Tourism, Businesses	
Mali	2	11/10/2021	23/09/2016	0		0						
Marshall Islands	3	21/12/2020	22/04/2016	1	1	0	Insurance	General	Descr.	Not Specified	No specific sector	
Mauritania	2	12/10/2021	27/02/2017	3		1	Insurance, Cont. Fund	Adaptation	Action Item	Not specified, Drought, Storms, Floods, Rainfall	Agriculture, Livestock	Social Protection
Mauritius	3	05/10/2021	22/04/2016	1	0	0	Insurance	General	Descr.	Not specified	No specific sector	
Mexico	3	12/11/2022	21/09/2016	0	0	1						
Micronesia, F. S.	2	12/10/2022	15/09/2016	0		0						
Monaco	2	28/12/2020	26/10/2016	1		0	Insurance	General	Descr.	Not Specified	Businesses	
Mongolia	2	13/10/2020	21/09/2016	1		0	Insurance	Adaptation	Action Item	Not specified	No specific sector	
Montenegro	2	15/06/2021	21/12/2017	0		0						
Morocco	2	22/06/2021	19/09/2016	1		1	Insurance	Adaptation	Action Item	Not specified	Agriculture	
Mozambique	2	27/01/2021	04/06/2018	2		1	Insurance	Adaptation	Action Item	Not specified	Settlements, Tourism, Infrastructure	Social Protection
Myanmar	2	03/08/2021	19/09/2017	4		0	Insurance, Risk Pools, Cont. Fund	Financing, Loss and Damage, Adaptation	Action Item	Not specified	Agriculture	Social Protection
Namibia	3	17/01/2024	21/09/2016	0	8	0						

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Nauru	2	14/10/2021	07/04/2016	0		0						
Nepal	2	08/12/2020	05/10/2016	0		0						
New Zealand	3	03/11/2021	05/10/2016	0	0	0						
Nicaragua	2	24/12/2020	03/09/2018	0		0						
Niger	2	13/12/2021	21/09/2016	2		2	Insurance	Adaptation	Action Item	Not specified	Agriculture	
Nigeria	4	30/07/2021	16/05/2017	0	0	3						
Niue	1	28/10/2016	28/10/2016	0								
North Macedonia	2	16/04/2021	09/01/2018	0		0						
Norway	3	03/11/2022	20/06/2016	0	0	0						
Oman	3	29/11/2023	22/05/2019	1	0	0	Insurance, Any other	Financing	Descr.	Trop. Storms	Infrastructure	
Pakistan	2	21/10/2021	10/11/2016	1		1	Insurance	Adaptation	Action Item	Not specified	No specific sector	Social Protection
Palau	1	22/04/2016	22/04/2016	0								
Panama	2	18/12/2020	18/04/2016	0		0						
Papua New Guinea	3	16/12/2020	24/03/2016	2	0	0	Insurance	Adaptation	Action Item	Not specified, Floods	Agriculture	Data issues
Paraguay	2	16/07/2021	14/10/2016	0		0						
Peru	2	18/12/2020	25/07/2016	0		0						
Philippines	1	15/04/2021	15/04/2021	0								
Qatar	2	24/08/2021	23/06/2017	0		0						
Republic of Korea	3	23/12/2021	03/11/2016	0	0	0						
Republic of Moldova	2	04/03/2020	20/06/2017	9		2	Insurance, Risk Pools, Cont. Fund	Adaptation	Action Item, Descr.	Not specified	Agriculture, Businesses, Infrastructure	Social Protection
Russian Federation	1	25/11/2020	25/11/2020	0								

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
Rwanda	2	20/05/2020	06/10/2016	4		0	Insurance	Adaptation	Action Item	Not specified	Agriculture, Livestock	
Saint Kitts and Nevis	2	25/10/2021	22/04/2016	1		0	Risk Transfer, Any other	Adaptation	Action Item	Not specified	No specific sector	
Saint Lucia	2	27/01/2021	22/04/2016	2		1	Risk Pools, Cont. Fund	Loss and Damage	Action Item, Descr.	Not specified	No specific sector	
Saint Vincent and the Grenadines	1	29/06/2016	29/06/2016	1			Insurance	Adaptation	Action Item, Descr.	Heat wave, Drought, Floods, Trop. Storms	Tourism	
Samoa	2	30/07/2021	22/04/2016	0		0						
San Marino	1	26/09/2018	26/09/2018	0								
São Tomé and Príncipe	2	30/07/2021	02/11/2016	0		0						
Saudi Arabia	2	23/10/2021	03/11/2016	0		0						
Senegal	1	29/12/2020	29/12/2020	4			Insurance	Adaptation	Action Item	Not specified	Agriculture, Livestock	Social Protection
Serbia	2	25/08/2022	25/07/2017	0		0						
Seychelles	2	30/07/2021	29/04/2016	3		2	Insurance, Any other	General, Adaptation	Action Item	Not specified	Infrastructure	
Sierra Leone	2	31/07/2021	01/11/2016	3		1	Insurance	General, Adaptation	Action Item	Not specified, Drought, Rainfall	Agriculture	Social Protection
Singapore	3	04/11/2022	21/09/2016	0	0	0						
Solomon Islands	2	19/07/2021	21/09/2016	0		0						
Somalia	2	31/07/2021	22/04/2016	1		0	Insurance	Adaptation	Action Item	Drought	Agriculture, Livestock	
South Africa	2	27/09/2021	01/11/2016	0		0						

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
South Sudan	2	21/09/2021	23/02/2021	1		0	Insurance	Adaptation	Action Item	Drought	Agriculture, Livestock	
Sri Lanka	2	24/09/2021	06/11/2016	5		1	Insurance, Risk Transfer, Cont. Fund	Loss and Damage, Adaptation	Action Item, Descr.	Not specified, Floods	Agriculture, Fishery, Tourism	Data issues, Social Protection
Sudan	3	22/09/2022	02/08/2017	1	1	0	Insurance	Adaptation	Action Item	Not specified	Agriculture	
Suriname	2	09/12/2019	13/02/2019	0		0						
Switzerland	4	17/12/2021	06/10/2017	0	0	0						
Syrian Arab Republic	1	13/03/2019	13/03/2019	0								
Tajikistan	2	12/10/2021	22/03/2017	1		0	Insurance	Adaptation	Not Specified	Not specified	No specific sector	
Thailand	3	02/11/2022	21/09/2016	0	0	0						
Timor-Leste	2	08/11/2022	16/08/2017	3		1	Insurance, Risk Pools, Cont. Fund, Any other	Financing, Adaptation	Action Item	Not specified	No specific sector	Social Protection
Togo	2	12/10/2021	28/06/2018	1		0	Insurance	Adaptation	Action Item	Not specified	Agriculture	Social Protection
Tonga	2	09/12/2020	21/09/2016	0		0						
Trinidad and Tobago	1	22/02/2018	22/02/2018	0								
Tunisia	2	10/10/2021	10/02/2017	0		1						
Türkiye	2	13/04/2023	11/10/2021	2		0	Insurance, Risk Pools	Adaptation	Action Item	Not specified	Agriculture	
Turkmenistan	2	30/01/2023	21/10/2016	0		0						
Tuvalu	2	16/11/2022	22/04/2016	0		0						
Uganda	3	12/09/2022	21/09/2016	0	0	0						
Ukraine	2	31/07/2021	19/09/2016	0		0						

Country	NDC Version	Date - Latest	Date - First	#CDRFI Segments - Latest	#CDRFI Segments – In Between	#CDRFI Segments - First	CDRFI Instrument (in latest)	Text Section (in latest)	Text Character (in latest)	Hazard (in latest)	Sector (in latest)	Other (in latest)
United Arab Emirates	3	11/07/2023	21/09/2016	7	1	0	Insurance, Any other	General, Financing, Adaptation, Mitigation	Action Item, Descr.	Not specified, Heat wave, SLR	Energy, Businesses, Infrastructure, Health	
United Kingdom	2	22/09/2022		0	0							
United Republic of Tanzania	2	30/07/2021	18/05/2018	4		2	Insurance	Financing, Adaptation	Action Item, Descr.	Not specified	Agriculture, Livestock, Fishery, Businesses	
United States	2	22/04/2021	03/09/2016	0		0						
Uruguay	2	30/11/2022	10/11/2017	5		3	Insurance, Risk Transfer	Loss and Damage, Adaptation	Action Item, Descr.	Not specified	Agriculture, Livestock, Businesses	Data issues
Uzbekistan	2	30/10/2021	09/11/2018	0		0						
Vanuatu	3	08/11/2022	21/09/2016	11	7	0	Insurance, Any other	Loss and Damage, Adaptation	Action Item	Not specified	Agriculture, Livestock, Settlements, Businesses, Infrastructure	Social Protection
Venezuela, B. R.	2	09/11/2021	27/02/2018	1		2	Cont. Fund	Adaptation	Action Item	Floods, Rainfall	No specific sector	Social Protection
Viet Nam	3	08/11/2022	03/11/2016	6	2	3	Insurance	General, Adaptation	Action Item, Descr.	Not specified	Agriculture, Fishery, Businesses	Social Protection
West Bank and Gaza	2	10/10/2021	21/08/2017	0		0						
Zambia	4	30/07/2021	09/12/2016	1	1	1	Insurance	Adaptation	Action Item	Not specified	No specific sector	
Zimbabwe	2	24/09/2021	07/08/2017	2		2	Insurance, Any other	Adaptation	Action Item	Not specified, Drought	Agriculture, Businesses	
Holy See	1	31/05/2023	31/05/2023	0								

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