Insurance and
Risk Finance
Facility

United Nations Development Programme

# Social Protection, Risk Finance and Insurance

POLICY NOTE

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## List of abbreviations

ARC . . . . . African Risk Capacity
ASP . . . . . Adaptive social protection
CAT-DDO . . . . . Catastrophe Deferred Drawdown Option
CBA . . . . . Cost-benefit analysis
CCA . . . . . Climate change adaptation
CDRFI . . . . . Climate and Disaster Risk Finance and Insurance
CSU . . . . . National Agency for Universal Health Coverage
DRF . . . . . Disaster risk financing
DRFI. . . . . Disaster risk financing and insurance
DRM. . . . . Disaster risk management
DRR . . . . . Disaster risk reduction
FRA . . . . . Financial Resilience in Agriculture
GIZ. . . . . Deutsche Gesellschaft für Internationale Zusammenarbeit
HEVA. . . . . Hazard, exposure and vulnerability assessment
IDF . . . . . Insurance Development Forum
IEG. . . . . Independent Evaluation Group (World Bank Group)
IEO. . . . . Independent Evaluation Office (United Nations Development Programme)
IFRCI-DREF . . . . International Federation of Red Cross and Red Crescent Societies' Disaster Response Emergency Fund
INFF. . . . . Integrated National Financing Framework
IRFF . . . . . Insurance and Risk Finance Facility
LNOB. . . . . Leave No One Behind
M&E . . . . . Monitoring and evaluation
MCII . . . . . Munich Climate Insurance Initiative
MSMEs . . . . . Micro-, small and medium-sized enterprises
NAP . . . . . National Adaptation Plan
NDC. . . . . Nationally Determined Contribution
NGO. . . . . Non-governmental organization
ODA. . . . . Official development assistance
OECD . . . . . Organisation for Economic Co-operation and Development
PCRAFI . . . . . Pacific Catastrophe Risk Assessment and Financing Initiative
PFB . . . . . Pooling Fund for Disasters
PFM . . . . . Public financial management
PKH . . . . . Family Hope Programme
PPP . . . . . Public-private partnership
SDG . . . . . Sustainable Development Goal
SMEs . . . . . Small and medium-sized enterprises
SOP . . . . . Standard operating procedure
SPCSN . . . . . Social Protection Civil Society Network
TWG. . . . . Technical Working Group
UHC. . . . . Universal Health Coverage
UN . . . . . United Nations
UNCDF . . . . . United Nations Capital Development Fund
UNDP . . . . . United Nations Development Programme
UNDRR . . . . . United Nations Office for Disaster Risk Reduction
UNFCCC. . . . . United Nations Framework Convention on Climate Change
UNGA . . . . . United Nations General Assembly
UNSTATS . . . . . United Nations Office of Statistics
UNU-EHS . . . . . United Nations University – Institute for Environment and Human Security
WIM ExCom . . . . Executive Committee of the Warsaw International Mechanism for Loss and Damage
WFP . . . . . World Food Programme

# Executive summary

Climate change is increasing the frequency and severity of extreme weather events around the world, and unless social protection systems can adapt to this new challenge, the most vulnerable will suffer the most. Against this background, this Policy Note focuses on integrating Climate and Disaster Risk Finance and Insurance (CDRFI) into social protection systems in developing countries. It explores how the social protection system can be enhanced to enable the effective delivery of CDRFI payouts in response to disasters. It describes the design and implementation of CDRFI payout mechanisms that can enable social protection programmes to scale up in a timely and effective way in response to extreme hazardous events. This is of special relevance for government authorities in charge of social protection seeking to adapt social protection systems to the mounting challenges of natural hazards and climate risks, including ministries in charge of public financial management in their quest for fiscal balance and sustainability. The report also provides guidance for international humanitarian organizations aiming to integrate their emergency assistance into government-run systems.

A short introductory chapter presents basic notions of social protection and the challenges it faces in coping with extreme hazard events and the ensuing rapidly fluctuating financial needs. A subsequent introduction to CDRFI highlights how CDRFI uses financial tools like contingency loans, disaster risk insurance and catastrophe bonds to address climate-related risks, integrating them with social protection to enhance the shock resilience of poor and vulnerable individuals and groups.

The second chapter describes challenges and emerging trends in social protection. Social protection systems face scalability and funding challenges during crises, especially in low-income countries. Against this background, the adaptive social protection (ASP) approach has been adopted in many low- and middle-income countries, integrating social protection with climate change adaptation and disaster risk management.

The four-pillar approach is introduced in the third and most comprehensive chapter. The four pillars are defined and explored as (1) financing, (2) institutional arrangements and partnerships, (3) programmes and delivery systems, and (4) data and information. Concepts and notions such as risk retention and transfer, scalability, triggers and targeting are defined and illustrated with reference to three case study countries (Dominican Republic, Indonesia and Senegal) and one regional risk pool (African Risk Capacity). Two cross-cutting aspects, (a) gender-sensitivity and inclusion and (b) monitoring and evaluation, are discussed to complement the thematic scope of the four-pillar approach.

Drawing on the observations and assessments presented in the first four chapters, the authors propose **six entry points** for integration of CDRFI payouts into social protection:

1. Mobilizing key stakeholders in social protection and CDRFI
2. Identifying social protection programmes that offer appropriate channels for integration of CDRFI
3. Adapting (retrofitting) existing programmes for scalable social protection
4. Strengthening country-level monitoring and evaluation systems to facilitate use of CDRFI payouts for developmental purposes
5. Addressing trigger, targeting and payout-related data and information gaps in social protection and CDRFI
6. Initiating measures to address cross-cutting aspects of gender-sensitivity and inclusion.

Integrating CDRFI into social protection can strengthen resilience and address several root causes of poverty and vulnerability (e.g. lack of access to education and healthcare, discrimination and marginalization), but measures are needed to address weaknesses in existing social protection systems and to ensure the efficient and effective utilization of CDRFI payouts for emergency responses and developmental impacts. Based on these conclusions, six **recommendations** are made, with emphasis on the potential roles and responsibilities of ministries in charge of social protection and government bodies in charge of public sector budget planning and expenditure:

1. Take stock of existing social protection systems, gaps and available CDRFI options to identify country-specific entry points based on the four-pillar approach for integration of CDRFI payouts into social protection, drawing on local and international good practice
2. Define and implement legal and regulatory reforms, policies, strategies, action plans and governance structures for integrating CDRFI payouts into social protection based on existing systems and priorities
3. Take action to make national capacities for social protection scalable and shock-responsive through adapting (retrofitting) selected social protection delivery chains so they can absorb CDRFI payouts
4. Strengthen data and information systems for integration of CDRFI payouts into social protection, with a focus on trigger, targeting and payout mechanisms
5. Promote research and development relating to the performance of CDRFI instruments and their contributions to shock-responsive and adaptive social protection in collaboration with national statistics offices, providers of risk analytics and modelling services, local academia, think tanks and international partners
6. Facilitate multi-stakeholder platforms involving state and non-state actors to consider obstacles to the integration of CDRFI payouts into social protection, as well as opportunities to address specific root causes of poverty and vulnerability through CDRFI-supported social protection.

## This Policy Note gives rise to three **key takeaways**

- **Maximizing impact:** When timely and well-utilized, CDRFI payouts in social protection can significantly strengthen resilience and accelerate progress towards achieving the SDGs. Systematic tracking through robust monitoring and evaluation ensures their effectiveness.
- **Driving transformation:** CDRFI-integrated social protection can break cycles of poverty and vulnerability when designed for long-term impact. Enhancing delivery systems enables rapid scalability, precise targeting and efficient payouts.
- **Ensuring readiness:** Smooth, timely CDRFI payouts require strong contingency plans and risk mitigation strategies. Strengthening institutional coordination, legal frameworks and financial management ensures funds swiftly reach those in need.

# 1.

# A short introduction to social protection and CDRFI

The term **social protection** is applied to a wide range of policies and programmes aiming to reduce the consequences of poverty and exclusion.[1] Social protection benefits can be provided in-cash or in-kind, in a targeted, categorical or universal manner, and with or without contributions from the beneficiaries.

Social protection comprises three main areas of intervention:[2]

- **Social assistance** (social safety nets): Non-contributory social pensions, family allowances, birth and death grants, disability benefits, conditional and unconditional cash transfers, food stamps and vouchers, supplementary food rations, emergency food distribution, cash and food for work, school feeding, housing allowances, scholarship fee waivers and health subsidies.
- **Social insurance**: Old-age pensions, disability pensions, survivorship pensions, occupational injuries insurance, sickness and injury leave, and maternity and paternity assistance.
- **Labour market interventions**: Labour market training (vocational, life skills), labour intermediation schemes, wage subsidies, employment measures for people with disabilities, cash, in-kind grants and loans to support entrepreneurship and unemployment insurance (contributory and non-contributory).

Social protection is crucial for the achievement of the Sustainable Development Goals (SDGs). The 2030 Agenda foresees "a world with equitable and universal access to quality education at all levels, to healthcare and social protection, where physical, mental and social well-being are assured" as well as "a just, equitable, tolerant, open and socially inclusive world in which the needs of the most vulnerable are met" (A/RES/70/1). Social protection contributes to many of the SDGs, in particular SDG 1 (end poverty in all its forms everywhere), SDG 2 (end hunger, achieve food security and improved nutrition and promote sustainable agriculture) and SDG 3 (ensure healthy lives and promote well-being for all at all ages). Shock-responsive social protection can also help strengthen resilience and adaptive capacity to climate-related hazards and natural disasters (SDG 13, target 13.1).

Social protection systems face a wide variety of contextual challenges. Current trends in global climate suggest that **extreme hazardous natural and climate change-related events** are becoming substantially more frequent across the world. Such events are likely to result in increased human suffering, intensifying hunger and poverty while holding back development (cf. UNDRR, 2020). Existing policies and programmes to reduce existing poverty and to prevent future poverty will be severely challenged, especially in low- and middle-income countries. So, innovative approaches to **poverty alleviation** and **shock resilience** are required. This Policy Note puts forward a comprehensive and holistic[3] approach towards meeting these challenges.

**Social protection** systems strive to establish strong **safety nets** that are designed to provide for the basic needs of poor and vulnerable groups. However, when confronted with adverse conditions such as natural hazards and climate-related disasters, social conflicts and other types of shock, social protection systems may fail to meet expectations – due, among other things, to **rapidly fluctuating financial needs**. Often, social protection programmes are not designed,

structured and funded for scalability in response to disaster scenarios and humanitarian crises.

In recent years, some significant experience has been gathered regarding the integration of **Climate and Disaster Risk Financing and Insurance (CDRFI)** into social protection, with a view to filling financial gaps when extreme hazardous shocks occur. **Payouts** from, for example, disaster risk insurance, sovereign contingency loans and catastrophe bonds can help governments scale up social protection budgets in disaster situations. However, the benefits provided through such payouts may fail to meet emergency needs in terms of quality, quantity and timeliness. Public financial management (PFM) systems – particularly in low- and middle-income countries – may struggle to absorb supplementary funds from CDRFI instruments and to translate them rapidly and effectively into tangible benefits for the targeted groups.[4]

The 2030 Agenda explicitly recognizes the need for social protection that is shock-responsive and adaptive to **natural hazards and climate-related risk** (e.g. in target 1.5 of SDG 1). The nexus between social protection, on the one hand, and climate and disaster-related risk, on the other, is the object of many other international agreements, such as the **Addis Ababa Action Agenda**, adopted in July 2015, and the **Paris Agreement**, which was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. The Paris Agreement underlines the commitment of the signatory countries to build resilience to adapt to the impacts of climate change.[5]

In many countries, policies and programmes for **adaptive social protection (ASP)** have been introduced in response to widespread demand for the use of social protection as a tool to reinforce the resilience of poor and vulnerable households to **covariate shocks** (Bowen et al., 2020). The ASP approach has its origins in the emergence of public policies and research initiatives that focus on climate change and its economic, social and environmental impacts.[6] ASP aims to integrate social protection systems with climate change adaptation (CCA) and disaster risk management (DRM) to strengthen community resilience. ASP is open to a wide variety of financing instruments that require rapid mobilization when disaster scenarios and humanitarian crises take place.[7]

Like ASP, **Climate and Disaster Risk Finance and Insurance** (CDRFI) encompasses financial instruments and strategies that aim to improve the financial preparedness and resilience of individuals and communities, including government, the private sector and civil society organizations, against climate and natural hazards. A relatively new discipline that has been pioneered by UNDP and several international partners, CDRFI considers **macro-to-micro insurance mechanisms**, that is, government public resource allocations to buy insurance or to provide insurance premium subsidies so that the most vulnerable households have access to support after extreme hazardous events take place. Within this realm, CDRFI looks at various levels and types of protection (UNCDF, UNU-EHS and UNDP, 2023):

- **Macroinsurance** refers to sovereign and government-level insurance, as well as regional (multicounty) risk pool set-ups that provide insurance payouts to client state entities.
- **Mesoinsurance** comprises insurance policies and mechanisms that reinforce the shock resilience of small and medium-sized enterprises (SMEs) and farmers' associations and farm cooperatives that purchase insurance policies to protect their members' livelihoods.
- **Microinsurance** offers affordable protection against specific risks to low-income individuals, with low premium payments proportionate to the likelihood of the risk occurring, as well as its potential cost. Microinsurance is mainly aimed at those who have limited access to traditional insurance services or to other resources that can help them manage risks effectively.

During and after natural hazards and climate-related disasters, poor and vulnerable groups are likely to be disproportionately affected by the operational

shortcomings of existing social protection systems. Using social protection systems to deliver payouts from CDRFI instruments ("piggybacking") should take into account weaknesses in existing social protection systems and their financing.

At the operative level, the delivery of social protection benefits to poor and vulnerable groups even under ordinary circumstances can be slow and impaired by weak social registries and **targeting errors**. When CDRFI payouts are triggered in emergency situations, such errors can significantly hamper the effectiveness and impact of the supplementary financial resources. Effective delivery of emergency assistance may depend significantly on political will and public pressure, as demonstrated in many countries during the COVID-19 pandemic.

The following section takes stock of current and emerging trends in social protection and considers how CDRFI can be effectively integrated into social protection with a view to accelerating and enhancing the achievement of the SDGs.

Some basic information relating to CDRFI payout mechanisms for social protection and their pro-poor outcomes is presented in Annex 1.

# 2.

# Current and emerging issues in social protection

Social protection systems are expected to meet many challenges: to provide relief from deprivation; to prevent deprivation and deal directly with poverty alleviation; to enhance real incomes and capabilities; and to address concerns of social justice and exclusion. Social protection that addresses structural factors, the root causes of poverty and vulnerability (e.g. lack of access to education and healthcare, discrimination and marginalization), is expected to have transformative impacts. Ideally, integration of CDRFI into social protection should relate to all these expectations.

Shock-responsive and adaptive social protection has the potential to make a significant contribution to the achievement of the SDGs, but daunting challenges remain. **Social safety nets** should be designed not only to reduce existing poverty, but also to prevent the creation of new poverty in the future, for example through measures to enhance human capital with a focus on sustainable livelihoods. By doing this, structural factors that give rise to poverty may be addressed and social protection can realize its full transformative potential. At the same time, operational factors must be considered to ensure CDRFI is efficiently and effectively integrated into social protection. Payouts to finance emergency food assistance, for instance, should take into account the availability of local food reserves as well as local food-related traditions (including taboos). Integration of CDRFI into social protection can address these and other challenges, for example, in the design of contingency plans that define not only the nature and volume of expected payouts, but also the modalities of their planned use and their expected medium- and long-term developmental impacts.

While the advantages of well-established social protection systems in responding to covariate shocks are widely recognized, the experience of the **COVID-19 pandemic** has underlined the need to build strong, more inclusive and sustainable social protection systems in the medium and longer term, to establish extra-budgetary funds to mobilize financial resources from both public and private sectors, to develop **standard operating procedures (SOPs)** for future collaborative shock-responsive efforts, and to facilitate the inclusion of those who are hardest to reach, for example by complementing digital delivery modalities with non-digital ones (cf. Hammad et al., 2021).

Regarding **emerging issues**, Kundo et al. (2021, pp. 965 ff.) cite numerous political, institutional and governance challenges to mainstreaming climate adaptation into social protection, including the absence of strong political will, weak human capacities, targeting errors and corruption. They recommend an appropriate mix of protective, preventive, promotive and transformative measures, as well as strengthening social protection in fragile environments to cope with internal displacement and transborder migration. Kundo et al.'s observations and conclusions underline the diversity of the factors that may affect the outcomes of integrating CDRFI into social protection and the complexity of the interactions between these diverse factors.

Against this background, and in light of the information provided in the following chapters, **six main reasons for integrating CDRFI into social protection** can be identified:

1. To fill financial gaps when shocks occur (fiscal stability)

2. To facilitate shock-responsive vertical and horizontal expansion of social protection programmes
3. To protect poor and vulnerable individuals and groups from disaster risk
4. To strengthen social protection to address the underlying causes of poverty and vulnerability
5. To prevent negative coping strategies induced by risks to weather-dependent livelihoods
6. To establish an optimal mix of risk finance and insurance options for social protection.

For this Policy Note, the **key question** is: How can integrating CDRFI into social protection systems address these issues?

# 3.

# Integrating CDRFI into social protection: A four-pillar approach

This Policy Note applies a methodological approach that is already well established in social protection policymaking and planning: the four-pillar approach. This approach describes social protection in terms of four pillars (often referred to as building blocks):[8]

- Pillar 1: Financing
- Pillar 2: Institutional arrangements and partnerships
- Pillar 3: Programmes and delivery systems
- Pillar 4: Data and information.

These four thematic pillars are not isolated categories. They can be linked to each other in many ways and incorporate many cross-cutting issues. Changes in one pillar can induce intended as well as unintended changes in others, both directly and indirectly.

Across the following four subsections, this Policy Note explores each of the four pillars to examine the related concepts, issues, policy options and potential benefits of integrating CDRFI into social protection. Case studies in each subsection will provide the lessons of practical experience at national and regional levels.

## 3.1 Financing

Natural hazards and climate-related shocks are increasing in frequency and severity, and the economic, social and political consequences of such shocks are a growing challenge. Public sector policymakers are increasingly aware of the limits of traditional PFM systems and the need to adopt new and innovative financial instruments to achieve their objectives.

Social protection programmes are typically financed on a routine basis through annual State budget lines, including contingency budgets. They generally receive little or no financial inputs from third parties, which could include shock-responsive government reserve funds, humanitarian organizations or risk insurance payouts.

The demand for new and innovative risk financing instruments in the public sector depends in part on the nature of the demand in terms of **risk retention** and **risk transfer**:

a. **Risk retention** means that "a country, community or organization explicitly or implicitly chooses to absorb the impacts of an extreme hazardous event if it occurs. Risk retention involves accepting risk; i.e. even if the risk is mitigated, if it is not avoided or transferred, it is retained" (WIM ExCom, 2019). Risk retention can involve diverting federal budgets, depleting reserve funds, selling assets and incurring debt.

b. **Risk transfer** refers to "the process of formally or informally shifting the financial consequences of particular risks from one party to another" (UNDRR, 2017b). Insurance is a form of risk transfer, in which an insurer provides coverage from a risk in exchange for ongoing premiums paid by the entity insured.

Social protection systems in most countries today are financed through traditional PFM instruments based on risk retention, that is, through annual sector budgets for planned current and capital expenditure, including contingency budget lines for unplanned expenditure. CDRFI offers several

alternatives to traditional PFM instruments that are based at least in part on risk transfer. Elements of risk retention in CDRFI instruments include the payment of subscription fees, for example, as well as the repayment of contingency loans. Striking a proper balance between risk retention and risk transfer can be crucial for the stability of a government's fiscal space when disasters occur.

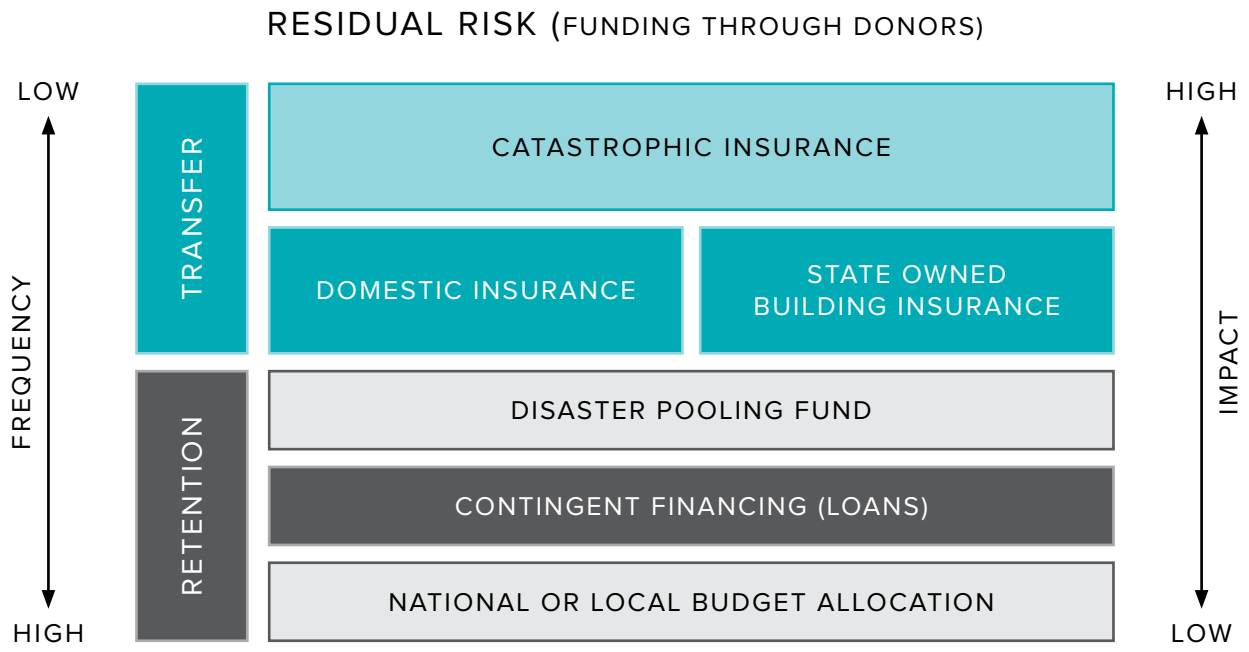
**Risk-layering models** can provide a useful overview of a country's existing or planned CDRFI instruments and how they relate to (a) risk retention and risk transfer, (b) different frequencies of hazards, and (c) different levels of loss. An example of a sovereign-level risk-layering model, published by the Government of Indonesia in 2018, is presented in figure 1.

Figure 1 illustrates how Indonesia in 2018 envisaged its strategic options for **disaster risk financing** before, during and after disasters. For disasters of high frequency but low expected loss, the Government foresaw using instruments of risk retention: budget allocations and reallocations, the Pooling Fund (a government reserve fund) and contingency credit. For disasters of low frequency but high expected loss, risk transfer instruments would be applied, including household insurance, public assets insurance and catastrophic insurance. Residual risk not covered by the Government's own financing instruments would be mitigated through international assistance, that is, humanitarian aid. In other words, third parties would only step in as a "last resort".

Subsequent to the adoption of its risk-layering model, the Government of Indonesia set up its state asset insurance programme, which currently provides risk insurance coverage for many thousands of public buildings. The Government also initiated the establishment of its Disaster Pooling Fund (PFB) with a **stakeholder engagement planning** exercise. The resulting stakeholder engagement programme stipulated that the public service agency managing the PFB would be mandated, among other things, to procure goods and services appropriate to its needs, including buying insurance and reinsurance protection for the PFB as part of the Government's broader risk financing strategy, as well as receiving payouts directly from the insurance companies. The PFB would also support disaster-responsive and adaptive social protection policies based on operation manuals for ASP implementation (Indonesia, Ministry of Finance, 2020).

Figure 1

## A sovereign-level risk-layering model




Source: Indonesia, Fiscal Policy Agency, Ministry of Finance (2018).

In its risk-layering model, the Government of Indonesia defined the overall architecture of public actions required to integrate CDRFI solutions into social protection and other sectors. The model takes diverse CDRFI solutions into account and presents them as a risk financing instrument mix. Such models can also be applied to other stakeholder groups – for instance, private households and farmers – and to different levels of governance and administration.

Annex 2 provides more detailed information on CDRFI instruments that may be considered in risk-layering exercises and risk financing instrument mixes.

Note that the realization of all risk retention and risk transfer options foreseen in a risk-layering model does not necessarily imply that all relevant climate and disaster risks can be effectively mitigated. Basis risk and residual risk should be expected. **Basis risk** is the difference between an index-based (parametric) insurance measurement and the affected entity's loss experience. The former is based on triggers such as official declarations of disaster emergency and independent measurements of wind speeds, rainfall and earthquake intensity. **Residual risk** is the climate and disaster risk that remains even when effective risk reduction measures have been successfully put in place. Residual risk can be acceptable, i.e. tolerable, at least in part. The presence of unacceptable residual risk, however, implies a persisting need to further develop and maintain effective adaptive, absorptive and anticipatory capacities for social protection in all five phases of the disaster risk cycle: prevention, mitigation, preparedness, response and recovery.

Box 1

## Social protection, CRDFI and public financial management

Integration of CDRFI into social protection systems should comply with international standards for good **PFM**, albeit with due consideration of the specific needs and constraints of the countries concerned.

It is recommended that up to 3 percent of total public sector expenditure should be reserved for **contingency budget lines**, that is, funds for unexpected expenditures such as emergency relief. Real needs may exceed this limit, depending on the country context. But a disaster situation may require a rapid response, and when disaster strikes, contingency lines may be depleted (typically at the end of a budget period). This means that a government trying to respect the 3 percent upper limit may need to reallocate funds from other budget lines (e.g. from infrastructure investments), to mobilize reserve funds (if they exist), to seek loans and/or to solicit humanitarian aid from international partners.

Another PFM standard rule is that **earmarking** of public revenues for specific expenditures should be avoided. Instead, all use of public financial resources should be subject to ex ante legislative approval. This PFM standard can constrain or even prevent earmarking of CDRFI payouts for social protection purposes.

Governments must decide which CDRFI instruments are best suited to meet their needs. For example, they may give priority to climate risk insurance schemes that provide payouts with no or few **conditionalities** relating to their use, in which case insurance payouts are treated like any other unplanned government revenue and can be used for any purpose deemed appropriate. Alternatively, governments can commit themselves to earmarking insurance payouts for **development purposes**. These can include both short-term emergency response and recovery and longer-term resilience development for prevention and preparedness. The need for related legal or regulatory reforms must be treated on a case-by-case basis.

PFM standards also relate to transparency and accountability, in that they consider **financial oversight and control** through effective internal and external audit of public sector revenues and expenditures. For instance, the country's supreme audit institution should be able to conduct financial and performance audits of CDRFI schemes, and the use of payouts obtained through them. The same institutions should also be able to assess the extent to which formal agreements (e.g. risk insurance contingency plans) with CDRFI partners comply with the government's own policies, strategies and programmes and effectively support the development of the country's local and national emergency relief systems.

In principle, every government should have operational **financial monitoring capacities** in place, based on well-defined **audit trails**, to track and access the flow of all public sector resources allocated to fund social protection programmes and other public actions, in routine as well as emergency response situations. If such capacities are weak or lacking, as is often the case in low- and middle-income countries, a government can solicit support from its partners (including risk insurance providers) and thereby strive to ensure adequate transparency and accountability with their support. External support should not, however, serve as a substitute for a government's own public sector management capacities.[9]

Users of risk-layering models should keep in mind that different stakeholders have at their disposal different risk finance and insurance options in diverse change domains. Furthermore, understanding and perceptions of existing options and change domains depend on financial literacy, cultural background and other factors. Solutions based, for instance, on Islamic banking may be more acceptable for some groups than for others. This has implications for conclusions and recommendations based on risk-layering models.[10]

The following case study (Box 2) illustrates how CDRFI payouts into social protection programmes can be programmed in the practice of regional risk pools.

Box 2

## **Case study:** The African Risk Capacity, a regional risk pool

The African Risk Capacity (ARC) is a regional risk pool that was launched in 2012. Its purpose is to help African governments improve capacity for planning, preparation and response to counter extreme weather events and natural disasters. ARC supports its member countries to tailor insurance schemes to meet their specific needs and capacities. In some cases, social protection programmes serve as delivery channels for **insurance payouts**. Payouts enable vertical and horizontal expansion of these programmes when extreme hazardous events and disasters take place.

ARC contingency plans are translated into operational plans and, when a payout is imminent, final implementation plans. **Payout procedures** are agreed in advance. In Zimbabwe, for example, ARC payouts were first transferred to the Central Treasury (a unit of the finance ministry). The Central Treasury then provided the funds to the Ministry of Public Service, Labour and Social Welfare, in its role as host ministry. Further downstream, the host ministry distributed funds to district-level banks and mobile service providers for ultimate payout to the eligible beneficiaries.

The **timing and utilization** of ARC payouts is pre-defined in detail. For example, ARC issued a payout amounting to US$5.3 million to the Government of Zambia to aid in the country's recovery from the extreme drought event during the 2021/2022 agriculture season. ARC established a drought response operations plan for cash transfers, food assistance and other interventions in March 2021. That plan contained the following time constraints:

After payout, Government-led drought response interventions should reach the first beneficiarywithin **120 days**
After approval of the Treasury Board and Ministry of Finance, funds should be transferred from the disaster management trust fund to the affected districts within **24 hours**
After transfer of funds to the affected districts, required goods and services should be procured within **7 days**
Drought response interventions should be completed within **6 months**.

Common obstacles to the realization of time schedules like this will be reviewed in section 3.3 below.[11]

Every ARC insurance payout is audited through a **process evaluation**, which is a financial reconciliation exercise that also considers local perceptions. In some cases, a cost-benefit analysis (CBA) is conducted by external experts during the preparation of new insurance schemes.

Payout process evaluations conducted by ARC in Côte d'Ivoire and Zimbabwe in 2021 underlined the positive role of **mobile service providers** in payout operations. Cooperation with several providers can help boost the coverage rate.

## 3.2 Institutional arrangements and partnerships

Institutions are the rules and structures that govern change processes.[12] Change processes can give rise to benefits and/or disadvantages for specific stakeholder groups. It is important to understand how different stakeholder groups may be affected by the integration of CDRFI into social protection.

Institutional analysis can be valuable in preparing the integration of CDRFI into social protection. **Stakeholder mapping** is a tool that is commonly used as a starting point in institutional analysis, whether undertaken by government agencies alone or in collaboration with civil society, research centres and other stakeholder groups. The term "stakeholder" refers here to individuals and groups that stand to gain or lose through the integration of CDRFI into social protection. Concerned stakeholders include public sector institutions, regulatory bodies, political parties, insurance providers, banks, international partners and, finally, the potential beneficiaries of social protection programmes that receive financial support through CDRFI payouts in emergency situations.

Figure 2 is a generic stakeholder map for the realm of integrating CDRFI into social protection. It distinguishes between a wide variety of stakeholders. As a simple visualization, it lends itself well to group and multi-stakeholder consultations, and it can serve as a reference for more detailed stakeholder analyses.

Figure 2

## Generic stakeholder map: **Integration of CDRFI into social protection**


*Potential Veto players

Stakeholder maps can be used for a variety of purposes. One useful application might be the identification of institutions and partnerships that can contribute to and/or benefit from integration of CDRFI into social protection, as well as other institutions and partnerships that can inhibit this integration process. Interventions could be introduced to address the constraints faced by the latter group. These could include, for example, revising SOPs to enable social protection programmes to absorb payouts from CDRFI instruments in a timely and effective manner, improving social registries and targeting mechanisms, and training professional case workers at the grass-roots level to identify and assess the effectiveness and impact of CDRFI-supported social protection for disaster response purposes.

Key stakeholders in CDRFI integration processes can be mobilized in a range of ways. Some common means to engage key stakeholders include thematic conferences, workshops, social media, bulletins, newspaper articles and policy dialogue networks. For example, in December 2021, a two-day workshop organized by Nepal's Social Protection Civil Society Network focused on shock-responsive social protection with inputs from diverse organizations (SPCSN, 2021). One important outcome was the recognition of the need to develop tools to identify social protection schemes that can be rendered shock-responsive.

Horizontal and vertical coordination between stakeholders is one prerequisite for effective integration of CDRFI into social protection.

**Horizontal coordination** aims to ensure coherence between institutions, policies, strategies and programmes across different sectors. For instance, CDRFI payouts provided through social protection delivery systems (i.e. operating environments for implementing social protection benefits and services) may overlap with similar emergency responses in the disaster risk management and climate change adaptation sectors, resulting in a duplication of efforts and disproportionate administrative costs. Financial sector policy aiming to reduce subsidies to insurance premiums in agriculture may undermine agricultural sector policies to expand climate risk insurance coverage among smallholders.

**Vertical coordination** relates to different levels of policymaking and decision-making within key sectors. At the **macro level**, important legal and regulatory gaps may exist relating to the provision of budgetary resources for CDRFI instruments in given sectors (e.g. sovereign climate risk insurance in agriculture). At the **meso level**, infrastructure required for the provision of emergency relief to affected regions (e.g. roads, bridges, food storage facilities, etc.) may be lacking or dysfunctional. At the **micro level**, local authorities may be unable to recruit suitably qualified personnel to manage emergency responses based on prearranged financing in a timely and effective manner.

In both horizontal and vertical coordination, it is important to note that legal and regulatory reforms often take many years to plan and implement, while many policies and strategies are defined for medium-term time frames (four to six years) and may be quite difficult to adjust in the interim.

**Multilevel capacity development and coordination** are important prerequisites for efficient and effective integration of CDRFI into social protection, among other things for the purposes of payout process planning and implementation. Human, technical and financial capacities (training, installation of new equipment, grants, etc.) may need to be reinforced to synchronize sovereign insurance payouts with a government's own financial contributions (beyond premium payments) to disaster response. Governments may assume responsibility for administrative costs (registration, targeting, cash transfer fees, etc.), for instance when central governments purchase and implement specialized software for risk scenario modelling, and when local authorities are charged with registration, oversight of targeting and benefit distribution and providing support for monitoring and evaluation (M&E). Using the existing social protection system to deliver insurance payouts and manage their utilization in the

aftermath of shocks requires due consideration and, if necessary, adaptation of social protection delivery chains. Furthermore, lessons learned from payout process assessments may point to shortcomings in existing administrative rules (e.g. SOPs) and their application, or indicate a need to clarify roles and responsibilities in payout and related processes. New rules, procedures and coordination tools may require testing before they are rolled out to full scale. Lessons learned should be systematically integrated into future payout process planning, for instance by reserving an agreed percentage of the payout sum for capacity development and coordination activities.

Annex 4 provides a non-exhaustive overview of **key terms** for legal and regulatory frameworks that might affect the nature and time frame of change processes in social protection, as well as the efficiency and effectiveness of integrating CDRFI into social protection. Assessments of institutional arrangements and partnerships in this context should also consider:

- Thematically related policies and strategies at national and subnational levels
- The balance of power between national and subnational governments
- The legal and regulatory foundations of social protection delivery systems including social registries, targeting systems and transfer/payout mechanisms
- Transparency, accountability and participation in the exercise of power at each level.

Annex 4 also makes clear the wide thematic spectrum of legal and regulatory frameworks that can affect the integration of CDRFI into social protection. The challenge is not only to identify the relevant documents, but also to compare and assess their content with the help of legal experts, and to propose feasible measures to improve coherence across all relevant sectors. This can be a very costly and time-consuming endeavour. Fortunately, applications using **artificial intelligence** (AI) are being developed in the justice sector to enable more efficient and effective legal processes. In Brazil, for instance, UNDP has piloted best practice in the National Council of Justice's Artificial Intelligence System to address backlogs and to identify trends in judicial processes that disproportionately impact vulnerable communities (UNDP, 2022a, p. 29; UNDP/IEO, 2023a, p. 64). The ongoing work of the United Nations Framework Convention on Climate Change (UNFCCC) initiative on AI for Climate Action addresses AI opportunities to improve early warning systems for natural disasters, optimizing agri-food production and improving the efficiency of energy systems (cf. UNFCCC, 2024, p. 1).

Efficient and effective integration of CDRFI into social protection may depend on **operational factors** related, for instance, to the availability of adequate technical, human and financial resources, procurement procedures, registration, mechanisms for targeting and benefit transfer (including payouts) and access to target groups. For example, existing operational set-ups for the delivery of social protection benefits may be slow and prone to mismanagement and therefore less shock-responsive than other transmission channels, such as mobile money systems. Continency planning can help policymakers and practitioners optimize the choice of transmission channels.

The success of integrating CDRFI into social protection depends, inter alia, on the perceptions of the intended beneficiary groups. Dissatisfaction among beneficiary groups can have serious negative implications for programme and delivery system managers, associated policymakers and the image of the government in general. Such perceptions are inherently influenced by the beneficiaries' direct interactions with programmes, particularly through targeting mechanisms and delivery systems. (See section 3.4 for more information regarding targeting mechanisms.)

Box 3

## **Case study:** Indonesia

Indonesia is exposed to a wide range of natural hazards and climate change effects. The country's location on the Pacific Ring of Fire means it experiences frequent geophysical hazards, such as earthquakes, tsunamis and volcanic activity. Indonesia is also subject to many climate and hydrometeorological hazards, such as storms and cyclones, floods, droughts, landslides, mudslides and wildfires. The effects of climate change will likely increase the frequency and intensity of those extreme weather events. Over the past decade, natural hazards and climate change have also increasingly led to severe secondary shocks. These include food insecurity, water scarcity, health impacts and poverty and livelihood deprivation, particularly in the agricultural sector.

Indonesia's **ASP Roadmap** development is an example of good multi-institutional process governance. ASP was an integral element of Indonesia's National Medium-Term Development Plan 2020–2024. The ASP Roadmap process was launched in late 2019 with the preparation of a Concept Note, which was submitted to the Ministry of National Development Planning (Bappenas) in the role of lead ministry. The Government set up an **ASP Technical Working Group (TWG**), composed of high-level representatives and specialized advisors of the main relevant ministries and agencies. A **Coordination Forum** and other technical groups were entrusted with ad hoc consultative functions. Bappenas recruited a consortium of national and international experts, with support from the German Federal Government.

Applying the four-pillar approach, stakeholder mapping and stocktaking exercises informed the **baseline analysis** of existing conditions for an ASP system in Indonesia. This analysis included a **hazard, exposure and vulnerability assessment (HEVA)** drawn from existing data and information that revealed the diversity of climate and disaster risks affecting different parts of the country. A subsequent **gap analysis** compared the current situation to the desired future state and identified gaps that might be addressed through the envisaged ASP system. Specific options to close the identified gaps were presented to the TWG. The **prioritized options**, including those relating to prearranged financing for social protection programmes, were then translated into the **strategic and specific objectives** of the ASP Roadmap and **specific actions** were defined in the **ASP Implementation Framework**. In late 2021, the ASP Roadmap and its Implementation Plan were submitted for final review and validated.

Since completion of its ASP Roadmap and Implementation Plan, the Government of Indonesia has continued preparations for a comprehensive social protection system reform that will incorporate the main outcomes of the ASP Roadmap development process and an updated disaster risk financing strategy. As part of its Disaster Risk Finance and Insurance Strategy, the Government has created a **Disaster Pooling Fund (PFB)**, which aims to protect the state budget from financial pressure caused by disasters. The PFB focuses on proactive measures before disasters, including fund accumulation and insurance. The Government plans to integrate into the PFB disaster financing and insurance programmes that are managed by different ministries. These programmes include state asset insurance, agriculture and aquaculture insurance and other social protection-related programmes.

Already, some important progress has been made in **retrofitting** the country's largest **conditional cash transfer programme**, the Program Keluarga Harapan (PKH) or Family Hope Programme, to reduce poverty and increase the quality of life of the poorest families. PKH was part of the Government's safety net programme within the COVID-19 response fund, and PKH's flexibility in enhancing shock responsiveness was demonstrated during the pandemic, when it showed its capacity to quickly add new beneficiaries to the programme database to receive programme benefits for a short period. The PKH database is hosted and managed by the Ministry of Social Affairs. Its programmes are equipped at a subdistrict level with **facilitators** that support programme implementation, including registering new beneficiaries through the digital application 6NG in the national integrated social welfare database. This organizational structure and use of technology enables PKH to extend social assistance coverage more quickly and on a temporary and geographically focused basis when climate-related and natural disasters occur.

**Structural factors** that might affect the outcomes and impacts of integration of CDRFI into social protection warrant the attention of policymakers and researchers. As observed by Sabates-Wheeler and Devereux (2004, p. 7), "structural factors cannot be disentangled from determinants of risk and vulnerability. Social, political and economic structures are typically the defining characteristics of livelihood risk, with the possible exception of some natural disasters". In other words, important structural factors, that is, economic, social and political risks, are embedded, in part, in existing institutional arrangements and partnerships – some formal, others informal – and these factors represent obstacles to overcoming poverty, vulnerability and inequalities in a sustainable way. Some examples are: legal barriers to women in their right to inherit, own and exercise control over land and other forms of property; policies and administrative practices that inhibit access of poor and vulnerable groups to adequate, safe and affordable housing; and discriminatory norms, beliefs and attitudes based on age, sex, disability, race, ethnicity, origin, religion and economic or other status.[13]

In the process of integrating CDRFI into social protection, short-term operational factors and longer-term structural factors that affect policy outcomes require well-balanced priority-setting. In doing this, as the need for quick and effective responses to extreme hazardous events is increasingly reflected in the realm of social protection, new and innovative CDRFI options can emerge and evolve, each in its own way, to break cycles of poverty and vulnerability in a truly transformative manner.

## 3.3 Programmes and delivery systems

Social protection **systems** typically comprise policies and programmes for social assistance, social insurance and labour market interventions. Social protection **programmes** (instruments, schemes) are sets of activities and expected results that are designed to achieve specific policy objectives. Social protection **delivery systems** are operating environments for implementing social protection benefits and services, while social protection **delivery chains** refer to the main actors, enabling factors and system elements contributing to the effective and efficient delivery of benefits and services (cf. Lindert et al., 2020).

The number of social protection programmes in a country can be quite significant. In Cambodia,

for instance, the Organisation for Economic Co-operation and Development (OECD) counted 26 sector programmes (OECD, 2017, pp. 92 ff.), and in Indonesia, 42 sector programmes (OECD, 2019, pp. 84 ff.). Not all these programmes, however, focus on transferring income or assets to the poor, protecting the vulnerable or enhancing the rights of marginalized groups. Some target primarily civil servants, who in most cases are neither poor, vulnerable nor marginalized, while others subsidize access to commodities (e.g. electricity, gas, fertilizer) in a largely untargeted manner. Hence, not all government programmes attributed to the social protection sector may be appropriate channels for integration of CDRFI into social protection for targeted disaster response.

Financing of social protection programmes is traditionally ensured through government budget lines, including contingency budget lines and sovereign reserve funds. In part, social protection is provided through contributory programmes, with contributions paid by employees and their employers. Social protection for the poorest and most vulnerable groups, however, is typically non-contributory. In low- and middle-income countries, donor funding can also play a significant role.[14] As mentioned above, when challenged by natural and climate-related disasters, social conflicts and other types of shock, rapidly changing financial needs among other issues can cause social protection systems to perform below expectations. Often, social protection programmes are not designed, structured and funded for scalability in response to disaster scenarios. CDRFI can help to fill financial gaps when shocks happen. Nevertheless, CDRFI payouts may fail to meet needs in terms of volume and timeliness because of the limited capacity of existing financing systems to absorb supplementary funds and to translate them rapidly and effectively into tangible benefits for targeted groups.

Experience gathered by ARC illustrates how **weaknesses** in existing systems and programmes can hamper the efficiency and effectiveness of CDRFI solutions, in this case, climate risk insurance payouts for disaster response:

- Côte d'Ivoire (evaluation of the 2020 payment process): Beneficiaries of drought response received payments one year after the drought event, and four months after registration. The main obstacle was weak coordination between the concerned ministries and the telecom operator (Orange) in charge of cash transfers. Contributing factors were: (a) the COVID-19 pandemic, which led to restrictions on in-person meetings and community gatherings and delays in the registration of beneficiaries; (b) the sudden death of the country's Prime Minister, which hampered collaboration between ministries; and (c) limited access to Orange Money distribution points. Additional agents were mobilized to facilitate registration of beneficiaries (ARC, 2021a).
- Zimbabwe (evaluation of the 2020 payment process): Funds transfer to the implementing partners was significantly held up because of a delay in opening a programme account into which the finance ministry could receive funds. Even after funds were disbursed, they were not used for more than two months. Sanctions imposed by the United States under the Office of Foreign Assets Control placed restrictions on payments to the Government, which was a contributing factor in the delay. Due to the COVID-19 pandemic, there was a lack of government staff to oversee and implement emergency response measures. Beneficiary selection and registration was done at field level, often on paper. These data then had to be verified at national level, and then the information had to be rechecked and reverified using records held by the telephone company. This was more time-consuming than expected. The need for clearer process oversight and follow-up was recognized in the review (ARC, 2021b).
- Madagascar (evaluation of the 2020 payment process): Field distribution began almost a full year behind schedule. Multiple verification and update cycles in the field caused significant delays. Another factor that contributed to delays

was the COVID-19 pandemic and its impact on staff availability and communication. Based on this experience, recommendations included establishment of a central monitoring and reporting unit, a review of targeting criteria and greater decision-making power at the local level (ARC, 2021c).

- Mauritania (evaluation of the 2021–2022 payment process): Delays were caused by discrepancies between ARC's rainfall forecasts and field data, limited transport capacities and administrative complications related to planning and budgeting. Data issues alone caused about six months delay in policy triggering. Other contributing factors were the distance between supply areas and distribution zones, and adverse road conditions during the rainy season. Against this background, a new forecasting approach was adopted, and the government provided pre-financing of the ARC contribution to reduce potential delays. Measures to improve needs assessments, M&E systems and targeting methodologies, to reduce basis risk and to improve the adequacy of assistance to households were recommended (ARC, 2024a).
- Malawi (evaluation of the 2022 payment process): A sample survey of 6 of 16 districts covered by ARC was completed. The survey revealed one-month delays in distribution of food assistance in five districts and a two-month delay in one district. These delays were attributed to limited staff capacities and changes in the distribution time frame, among other issues. Actions proposed to improve the timeliness of emergency response included beginning targeting and registration two months before the intended distribution month and revising deadlines to make them more realistic and better tailored to the context of the lean season response (ARC, 2024b).

These examples underline the scope and diversity of factors that may negatively affect the integration of CDRFI payouts into social protection, ranging from global politics (for example, trade sanctions) to parallel shocks (COVID-19) and adverse local weather conditions. Some recurring obstacles to efficiency and effectiveness include inadequate staff capacities, weak coordination with and between ministries and other agencies, time-consuming administrative procedures, weak social registry systems and logistical challenges.[15]

**What can be done to alleviate these and other obstacles to the efficient and effective integration of CDRFI into social protection?** One possible response to this crucial question relates to the above-mentioned social protection **delivery chain**. Typically, delivery chains comprise nine phases. Table 1 describes a generic routine (non-scalable) social assistance programme along the nine phases of the delivery chain and outlines measures required to retrofit the related social protection delivery system, that is, to render it scalable and responsive to shocks.[16]

To assess the scalability of a given social protection delivery chain, scaling options need to be reviewed in all nine phases. Weak scaling options in one or more of the nine phases can hamper the overall scalability of the programme and delivery system, and so represent a systemic obstacle to the successful implementation of a CDRFI payout process.

The list of required retrofitting measures in the right-hand column of table 1 is by no means exhaustive. Additional retrofitting measures may be required, for instance, to establish a sufficiently well-founded understanding of existing hazards, degrees of exposure, vulnerabilities and shock response capacities in potentially affected regions. Given such information, programme planners should be able to define scenarios across all phases of the envisaged scalable programme on which to base their operational planning and performance management.

While the leading role of the State in the planning and implementation of processes to integrate CDRFI into social protection is clearly recognized, further research and deliberations may help to define the roles and responsibilities of other actors, including the private sector, non-governmental organizations (NGOs), religious institutions and international partners

in CDRFI-supported programmes. Communications and client interface could be organized in cooperation with other programmes to save costs and facilitate user access. Special training may also be required for staff to fulfil their roles and responsibilities in CDRFI-supported programmes.

Table 1

## Delivery chain for a generic social assistance programme and retrofitting measures

| NO. | PHASE | GENERAL PURPOSE | ROUTINE (NON-SCALABLE) PROGRAMME | RETROFITTING MEASURES FOR SCALABILITY |
|---|---|---|---|---|
| 1 | Outreach | Intended population understands programme and is willing to apply | Outreach at national level, in particular to poor and vulnerable groups | Extend outreach to potentially shock-affected groups and subregions |
| 2 | Intake and registration | Intended population applies efficiently and their information is recorded accurately | On-demand registration in designated centres and/or periodic surveys (e.g. every 4–5 years) | Extend number and capacities of registration centres in shock-affected subregions to meet demand |
| 3 | Assessment of needs and conditions | Applicants are accurately profiled and categorized | Application of proxy means tests and/ or rules-based categorization | Use social registries and shock-specific parameters, e.g. building damage |
| 4 | Eligibility and enrolment decisions | Eligible applicants are onboarded efficiently with minimal leakage to ineligible population | Alignment with resource constraints by selecting eligible applicants based on defined criteria (ranking etc.) | Take planned vertical and horizontal expansion into account, as well as accessibility of shock-affected groups |
| 5 | Determination of benefits and service packages | Benefits and service packages are accurately determined | Definition of standard transfer content, value, modality and frequency | Adjust transfer content etc. quickly to meet emergency needs within limits |
| 6 | Notification and onboarding | Beneficiaries are aware of their status and understand their rights and responsibilities | Inform eligible and ineligible applicants through existing communication channels and media | Engage shock-resilient communication channels and media adapted to needs of all applicants in affected regions |

| NO. | PHASE | GENERAL PURPOSE | ROUTINE (NON-SCALABLE) PROGRAMME | RETROFITTING MEASURES FOR SCALABILITY |
|---|---|---|---|---|
| 7 | Provision of benefits and/or services (cyclical) | Enrolled beneficiaries receive appropriate services and benefits according to service standards | Distribute the right benefits to the right people, at the right time and with the right frequency | Anticipate potential disruption of routine transfer modalities (payouts, transport, etc.) and define alternatives |
| 8 | Beneficiaries' compliance, updating and grievances (cyclical) | Information is kept up to date; free of error, fraud and corruption; responsive to clients' evolving needs; desired behaviour is encouraged | Continuous monitoring and feedback between phases; periodic evaluation of programme design and implementation; responses to queries and complaints from beneficiaries and other parties | Mitigate risk to programme compliance and grievance redress mechanisms during emergency response; address structural barriers to compliance and grievances (e.g. in local culture) |
| 9 | Exit decisions, notifications and case outcomes | Move beneficiaries out of programme based on agreed criteria | Define exit triggers, reassess eligibility and communicate with beneficiary | Apply agreed modalities of transition from emergency to routine assistance |

Source: Based on Lindert et al. (2020), Smith and Bowen (2020) and author's analysis.

Box 4

## **Case study:** Senegal

Senegal has major advantages in its strong economic growth and political stability, but it faces a variety of climate-related hazards that could threaten its prosperity. Agriculture, the main source of income for over 60 percent of the population, is exposed to droughts, floods, crop pests, sea level rise and bushfires. Existing models of rain-fed agriculture are threatened by irregular rainfall and increasingly frequent and violent weather events. A decrease in rainfall due to climate change is expected in the coming decades to lead to a significant shortening of the agricultural growing season. These factors are also affecting livelihoods based on animal husbandry. Fisheries, another important source of household income, are negatively affected by climate change, which is leading to shifting water temperatures, declining stocks and reduced biodiversity and productivity.

Senegal has more than 50 social protection programmes, of which the most important is the National Family Security Grants Programme, which provides regular cash transfers to around 300,000 poor households to help meet basic needs (Fava et al., 2023, p. 53). The National Agency for Universal Health Coverage (CSU) subsidizes health insurance for poor and vulnerable individuals who are registered in the Unique National Registry (Registre National Unique). The CSU is expected to scale up when confronted with extraordinary healthcare needs caused by extreme hazardous events, but increased funding to meet these needs is not automatic. Subsidized reimbursement of health costs incurred by care providers (hospitals, health clinics, etc.) is often delayed, even under routine conditions, leading some healthcare providers to refuse provision of further healthcare until arrears have been compensated. There is currently no dedicated sovereign reserve fund or insurance-based mechanism to render Senegal's social protection programmes and delivery systems scalable and shock-responsive when disasters happen.

The case of Senegal illustrates how improvements in the performance of public sector institutions may be required to ensure the effectiveness of integrating CDRFI into social protection. Fortunately, Senegal has already gathered important experience in the realm of parametric climate risk insurance through its cooperation with ARC. In the past it has received several payouts from ARC that have been channelled into social protection programmes.

As illustrated above, the delivery chain can be a useful tool to assess and categorize existing social protection programmes in relation to their potential scalability and shock-responsiveness. Other tools, such as **cost-benefit analysis** (CBA), **ex ante poverty impact assessment** (cf., for example, OECD, 2007) and **gap analyses** can be employed to assess options to ensure the economic, social and political viability of social protection programme retrofitting. These and other assessments should enable a better understanding of how integration of prearranged financing through CDRFI payouts into social protection programmes can contribute directly and indirectly to the achievement of the SDGs.[17]

In CDRFI payout process planning and implementation, formalized **grievance redress mechanisms**, including for instance complaint boxes, hotlines and related posters, should be planned for and made operational to collect information relating to the quantity, quality and timeliness of payouts, as well as the benefits delivered to targeted groups, including cash payouts and food assistance. Robust grievance mechanisms can ensure that integration of CDRFI into social protection can draw on lessons learned and move forward in a well-managed gradual, iterative and adaptive manner.

## 3.4 Data and information

Integrating CDRFI payouts into social protection effectively depends, among other things, on the quantity and quality of available data and information at different levels, especially for triggering and targeting in CDRFI payout processes. Governments need to access and assess data and information required for shock-responsive social protection in a timely and effective manner.

CDRFI instruments typically require **triggers** to activate payout mechanisms. For example, a sovereign risk insurance payout might be triggered when rainfall drops below a predetermined threshold, and a contingent loan payout might be triggered given modelled economic losses above a certain threshold. Parametric climate risk insurance is typically based on windspeed, rainfall

and temperature measurements using data and information that should be accurate, granular and independently verifiable. Triggers based on modelled losses may also rely on meteorological data and information, applying assumptions and algorithms that are ideally well-founded and transparent to instil trust among insurance policy clients. Hence, triggers require not only high-quality data and information, but also effective communication between insurance providers, insurance clients and eventual third parties (e.g. regulators).

Reliable and up-to-date data and information are essential for good **targeting**. All too often, data collected to calculate levels of poverty and vulnerability are outdated and/or incomplete. Such shortcomings can lead to significant exclusion and inclusion errors as well as delays in payout processes. Data should also be collected to track and confirm the receipt of benefits and to update social registry databases on a continuous basis, taking into account household size, composition and previous benefits. This can help to identify the causes of targeting errors and address them with mitigating measures. Human, technical and financial resources required for adequate targeting may be underestimated. But without robust data collection and analysis systems, accountability for exclusion and inclusion errors in CDRFI payout processes may be difficult or impossible to ensure. Existing and up-to-date social registries may help to link the vulnerability data and information in social registry and protection systems with the georeferenced triggers for CDRFI payouts.

Available data and information may be considered adequate if they fulfil commonly accepted criteria, such as completeness, relevance, currency, accessibility, accuracy and data protection (see Barca and Beazley, 2019, for more information).

To optimize climate risk payout mechanisms, it is important that data sets are updated regularly with a view to mitigating basis risk. In this regard it may be useful to establish formal partnerships with data producers and providers, such as national statistics offices and remote sensing set-ups.

Box 5

## Data for climate resilience and development: Links to social protection

In most developing countries, the lack of comprehensive and accurate climate risk data is widening the climate resilience gap and directly limiting insurance coverage. Without precise information on current and future climate risks, governments, insurers and other stakeholders face significant challenges in designing risk-informed climate risk management strategies, financial resilience programmes and social protection schemes.

To address this, UNDP has partnered with Jupiter Intelligence through the Jupiter Promise to provide cutting-edge climate risk data and analytics (UNDP, 2024). This partnership aims to inform critical public financial management decisions and strengthen climate adaptation strategies by delivering actionable insights on climate-related disasters such as extreme heat, precipitation, flooding and drought.

This collaboration has the potential to support the integration of climate risk data into social protection systems, enabling governments to design more effective, risk-informed CDRFI instruments to protect against climate shocks. By leveraging such data, countries can enhance the targeting and triggering of support measures, better safeguarding vulnerable populations against climate-related impacts.

The importance of **digitalization** for risk-responsive social protection systems is clearly underlined in a recent evaluation carried out by UNDP's Independent Evaluation Office (UNDP/IEO, 2023a, pp. 77 ff.). The evaluation's findings underline the importance of strong digital registries and data platforms, interoperable data systems and reliable digital cash transfers during extreme hazardous events.

Box 6

## Focus on targeting mechanisms

At the operational level, the most common social protection **targeting mechanisms** are means testing, proxy means testing, categorical targeting, geographical targeting, self-targeting and community-based targeting. Some hybrid poverty targeting systems make use of more than one methodological approach. Each targeting mechanism involves specific costs and benefits. The main cost categories are:

- **Design costs:** These are, for the most part, one-off costs incurred during preparation, development and testing of the targeting system.
- **Operational costs:** These include the direct costs of the benefits (cash transfers, food for work programme wages, food costs for school meals, etc.), as well as programme staffing, equipment, material, security, communication, etc.
- **External costs:** These can be tangible (e.g. transportation costs incurred by labourers to participate in a self-targeted public works programme) or intangible (e.g. stigmatization of individuals seen to be purchasing and/or consuming subsidized inferior goods).
- **Opportunity costs:** These are equivalent to the value of the next best alternative benefits foregone due to the targeting system. The opportunity costs of a poor person's decision to participate in a social protection programme are equivalent to the value of the net income that person would have earned had that person used the time dedicated to programme application conditions (e.g. getting a health check-up) alternatively for the best available income-generating activity.

Targeting research tends to consider only the direct programme costs, i.e. design and operational costs, although the existence and importance of external and opportunity costs are recognized (Bennett, 2017). Consequently, the perceptions and constraints of the intended beneficiaries of these programmes are often neglected.

The efficiency and effectiveness of CDRFI-based contributions to shock-responsive social protection programmes depends largely on the accuracy of targeting mechanisms, in particular in non-routine benefit delivery situations aimed at addressing the needs of shock-affected groups at risk of falling into poverty and/or vulnerability.

Data and information systems are good **entry points** for integrating CDRFI into social protection. CDRFI and social protection have many data and information needs in common, for instance, as related to meteorological and geophysical hazards, exposure and vulnerabilities, the location and characteristics of risk-prone individuals and groups, and the existing anticipatory, absorptive and adaptive capacities of risk-prone individuals and groups.

Creating intersectoral linkages by sharing data and information is not necessarily difficult. Data and information regarding hazards, exposure and vulnerability can be drawn from a wide variety

of sectors and used for analyses that relate not only to social protection, but also to disaster risk management, agriculture, housing and other sectors. **Social registries** developed by existing social protection programmes, for example, can guide the targeting of risk insurance payouts in the form of cash transfers via those same programmes, and/or fund resilience-building measures in other sectors, such as building back better in the construction sector and skills building for climate-friendly agriculture and food processing. Given compliance with existing protocols and data protection standards, sharing of data and information can contribute significantly to the efficiency and effectiveness of integrating CDRFI into social protection.

Baseline analyses and ex ante impact assessments relating to the integration of CDRFI into social protection place high demands on the quantity and quality of available data and information. Various approaches may be applied to achieve this, incorporating best practices and lessons learned from practical experience in many parts of the world. Some exemplary methodological approaches in this realm are **hazard, exposure and vulnerability assessment** (cf. Sett et al., 2022), **cost-benefit analysis** (cf. Heubaum et al., 2023; UNDP, 2023) and **climate and disaster risk analytics and modelling** (cf. UNU-EHS and MCII, 2022).

Box 7

## **Case study:** Dominican Republic

A Small Island Developing State, the Dominican Republic's geographic location makes it highly vulnerable to natural hazards such as floods, storms and hurricanes, which threaten lives and livelihoods. Rising temperatures and sea levels are also a growing concern. The country is aiming to make its economy more climate-resilient and to reduce its exposure to the impacts of climate change (World Bank, 2023, p. vi).

For the Dominican Republic's Government, ASP is central to its efforts to mitigate the impacts of climate and natural hazards on individuals and households, and the ASP system is already linked to the country's DRM systems.

The Dominican Republic's ASP system has strong data and information capacities. The social registry managed by the Sistema Único de Beneficiarios (SIUBEN) identifies, characterizes, registers and prioritizes families in poverty for targeted social policies. SIUBEN's Index of Vulnerability to Climate Shocks (Índice de Vulnerabilidad ante Choques Climáticos, IVACC) links climate risk data to vulnerability information, combining potential natural hazard exposure and socioeconomic fragility indicators. This means that IVACC can estimate how likely it is that a poor or vulnerable household will be affected by an extreme weather event and can then provide information about risk mitigation and resilience measures as well as social protection support in the aftermath of climate shocks. In this way, IVACC can help to improve the shock resilience of poor and vulnerable groups.

SIUBEN also administers the rapid assessment mechanism, the Emergency Assessment Tool (Ficha FIBE), which is used to collect data during emergencies from households hit by disaster. The assessment then triggers emergency cash transfers, which are provided through the SUPERATE programme (World Bank, 2023, p. 27).

# 4.

# Cross-cutting aspects

## 4.1 Gender-sensitivity and inclusion

Climate and disaster risks affect people differently and can have lasting effects on **gender** roles. Loss and damage of assets resulting from disasters may affect men more directly than women, particularly in contexts where women have little or no access to property or land ownership. When the health of family members is impaired in the wake of disasters, tradition or cultural custom may dictate that women and girls are expected to assume the additional burden of unpaid home-based healthcare, with adverse consequences for girls' school attendance rates. Negative disaster coping strategies can give rise to an increased incidence of early marriage, domestic violence and modern forms of slavery that affect predominantly woman and girls. Discrimination against persons with non-conventional gender roles may inhibit access to the benefits of social protection before, during and after disasters, exacerbating the pre-existing exclusion of such communities.

Against the background of these and other factors that determine the distribution of climate and disaster risk across sex and gender categories, UN Women (Moser, 2022) recommends **gender analysis** to identify key gender issues relevant to CDRFI programmes. This involves understanding how women, men, boys and girls are affected differently by climate change and disasters and access to finance and insurance due to differences in their respective roles, needs, priorities and status. Gender analysis is defined as "a methodology that describes existing gender relations in a particular environment through collecting and analysing sex-disaggregated data and other qualitative and quantitative information. It organizes and interprets, in a systematic way, information about gender relations to make clear the importance of understanding gender differences to achieve development objectives" (ibid., p. 3). It reveals the ways in which programmes and other interventions have different effects on different people and considers methods to ensure that the design and implementation of interventions consider gender issues.

The InsuResilience Global Partnership notes that fewer women are covered by social protection schemes than men and concludes that "there is no such thing as a gender-neutral approach to climate risk insurance" (Miles and Wiedmaier-Pfister, 2018). A similar conclusion might also apply in a general sense to integration of CDRFI into social protection.

Calls for gender-sensitive policies and programmes may be considered as a subset of calls for more inclusive policies and programmes in general. With the adoption of the 2030 Agenda in 2015, all UN member states pledged that "no one will be left behind" (A/RES/70/1). Since then, the imperative to "**leave no one behind**" (LNOB) has become a guiding principle at all levels of governance and in all sectors of policymaking across the globe. Despite broad recognition by policymakers and scholars of many sectors and disciplines (cf. Kharas et al., 2020), a clear and shared understanding of the implications of the LNOB principle at the implementation level has yet to emerge. The 2030 Agenda provides a few clues:

- The Agenda refers to the LNOB principle as a pledge, an endeavour and a particular focus
- It is linked with the aim to reach the "**furthest behind first**" (FBF)
- It is associated with universal health coverage,

disaggregated data and systematic follow-up of the Agenda's implementation (cf. A/RES/70/1, §4)
- Follow-up and review processes at all levels are expected to be "people-centred, gender-sensitive, respect human rights and have a particular focus on the poorest, most vulnerable and those furthest behind" (A/RES/70/1, §74).

Like gender-sensitivity, the LNOB principle can be integrated into scalable and shock-responsive social protection in a cross-cutting way. Many governments and international organizations have developed and applied their own approaches to the LNOB principle. Some of these approaches may be described as light, such as, for instance, when organizations commit themselves in principle to inclusive or non-discriminatory recruitment practices, but without independent external controls. Other approaches may be qualified as rigorous, such as, for example, when programmes conduct blind spot assessments on a regular basis. These are target group analyses that aim, through due diligence, to identify blind spots with regard to disadvantaged groups in existing programmatic approaches and systems and to propose levers to mitigate these blind spots. For example, a social protection delivery system may be inclusive in terms of gender and age but biased against persons with certain physical disabilities. The underlying assumption of the rigorous approach is that no programme or component thereof should be qualified as inclusive unless there is clear and verifiable evidence that it does not practice any form of exclusion or discrimination in the conduct of its operations.

The managers of existing social protection programmes and delivery systems may find it difficult to translate the concept of "blind spots" into actions with tangible results within their own areas of intervention. Indeed, gender-sensitivity and inclusion are highly context-dependent, and different programmes will require different approaches to find adequate solutions along the spectrum from light to rigorous. Good entry points are dedicated working groups, designation of thematic focal points, review of good practices and awareness-building workshops.

The risk of **systemic bias** leading to discrimination and exclusion is not only present in the targeting and payout phases of social protection delivery systems, that is, in the phases of close contact with intended beneficiaries. Systemic bias can have its roots in any phase of a delivery system, in programme design or at even higher levels. At the sector level, for example, there may be bias in the delivery of social protection services to urban or rural populations. **Urban bias** may exist, for instance, when urban populations enjoy a comparatively high density of registration and service delivery points, while access to such contact points may be comparatively costly and time-consuming for rural populations. **Rural bias** may exist, for example, when social protection programmes that deliver benefits (including subsidies) to mainly rural occupational groups, such as farmers, cattle ranchers and fishers, play a predominant role within the social protection sector budgeting system. While a certain bias in one direction or the other may be inevitable due to the nature of some social protection programmes, efforts should be made to limit overall systemic bias not only in social protection systems, but also in complementary CCA and DRM systems.

In CDRFI payout processes, gender and inclusion should be clearly reflected in all stages of process planning and implementation. This has important implications for M&E arrangements. For instance, data should be collected to enable disaggregation of operational and results-oriented indicators by gender and other factors (disability, remoteness, etc.) that affect inclusion. Ex post evaluations of payout processes should explicitly address gender and inclusion as cross-cutting aspects in their conclusions and recommendations.

## 4.2 Monitoring and evaluation

Efficient and effective M&E systems are essential for **transparency and accountability** in all four pillars of social protection and for the integration of CDRFI into social protection programmes and delivery systems. **Monitoring** ensures continuous observation and measurement of ongoing change processes and their conformity with planned operations and expected results. **Evaluation** assesses performance in terms of international standards (relevance, efficiency, effectiveness, impact and sustainability) and national policy objectives in a periodic and/or ad hoc manner. Together, monitoring and evaluation should be **mutually reinforcing**, with monitoring systems providing essential data and information for successful evaluation, and evaluation identifying entry points to improve the performance of monitoring systems.

Robust M&E systems can contribute to transparency and accountability as well as innovation and learning in CDRFI payout processes that are **gradual, iterative and adaptive**:

- Social protection programmes that benefit from payouts through contingent loans, disaster risk insurance, catastrophe bonds and other CDRFI instruments should dispose of adequate capacities to monitor the flow of CDRFI payouts through financial channels to the final beneficiaries and to assess the impacts of their use. Unfortunately, the M&E capacities of social protection programmes in many low- and middle-income countries are often inadequate to ensure transparency and accountability under routine conditions. In disaster situations, their functionality may be further compromised. So, governments that adopt CDRFI solutions to build social protection that is shock-responsive and adaptive should take such deficiencies into account and commit themselves to strengthening M&E capacities in existing social protection programmes and delivery systems.[18]
- Ex post evaluations can support innovation and learning in CDRFI schemes for social protection by indicating the extent to which CDRFI payout processes might be upscaled and extended to meet the needs of disaster response in the future, given diverse types of disaster and levels of severity and frequency.

International humanitarian organizations and CDRFI solution providers may provide **technical and financial support** to their national and regional partners in the development of locally owned and operated M&E capacities. This could encompass, for example, adapting SOPs for M&E in disaster situations, strengthening social registries and targeting systems to minimize inclusion and exclusion errors in the use of CDRFI payouts and ensuring interoperability between data and information systems that feed into M&E systems.

**Good timing** is essential for the evaluation of CDRFI payout processes and their outcomes. Evaluations recently carried out by ARC suggest, for example, that ex post evaluations should be conducted no more than six months after payout interventions have been terminated. This implies, among other things, that tendering processes for such evaluations may require initiation well before payout operations end – and for best results, alongside the planning of the intervention itself.

# 5.

# Entry points for integration of CDRFI payouts into social protection

Based on the information and assessments presented in the previous chapters, this chapter proposes **six main entry points** for promoting efficient and effective integration of CDRFI payouts into social protection programmes and delivery systems.

## 1. Mobilizing key stakeholders in social protection and CDRFI

Key stakeholders are individuals and groups who can mobilize important resources and exercise significant influence to facilitate the integration of CDRFI instruments into social protection programmes and delivery systems. These may include high-ranking representatives of ministries in charge of finance and budgeting, social affairs, environmental protection and disaster risk management. Other key stakeholders may be found in regulatory agencies, the financial and insurance service sectors and civil society. These key stakeholders may be sensitized and motivated to take action through targeted interventions such as conferences, seminars, training and messaging in social media, as well as distribution of publications, factsheets, flyers, etc., with a focus on the potential benefits that may be reaped through integration of CDRFI into social protection.

## 2. Identifying social protection programmes that offer appropriate channels for integration of CDRFI

Some countries have many social protection programmes, but not all programmes will offer appropriate channels for integrating CDRFI into social protection. Based on agreed selection criteria, a limited number of social protection programmes may be invited to participate in in-depth research (in collaboration with academia and think tanks) regarding the potential benefits of CDRFI solutions for shock-responsive and adaptive social protection. Research may be carried out, for example, to identify the strengths and weaknesses of existing social protection delivery systems in their responses to extreme hazardous events in the past (e.g. the COVID-19 pandemic), drawing on historical data and information, eyewitness reports and other evidence, with a view to estimating the extent to which CDRFI payouts might help to mitigate existing weaknesses in the future (cf. Beazley et al., 2024; Nesbitt-Ahmed et al., 2024; Poole and Plichta, 2024).

## 3. Adapting (retrofitting) existing programmes for scalable social protection

Delivery chains that describe how existing social protection programmes prepare and deliver benefits to targeted poor and vulnerable groups may provide orientation regarding measures needed to retrofit these existing programmes with specific resources, capacities, training, etc., and thereby to render them scalable, that is, able to absorb and make use of CDRFI payouts in a timely and effective manner when extreme hazardous events take place. Technical and financial assistance may be mobilized to conduct pilot applications of retrofitted delivery chains, to test their practical functionality and to identify potential gaps that might inhibit the timeliness and effectiveness of the CDRFI-supported emergency response.

### 4. Strengthening country-level monitoring and evaluation systems to facilitate use of CDRFI payouts for developmental purposes

Governments with a strong commitment to strengthening national emergency response systems and to absorbing and using CDRFI payouts for developmental purposes may invite international humanitarian organizations and CDRFI solution providers to participate in technical and financial cooperation. This could help to improve country-level capacities to monitor and evaluate CDRFI-supported social protection programmes and delivery systems.

### 5. Addressing trigger, targeting and payout-related data and information gaps in social protection and CDRFI

In many countries, there are enormous data and information gaps relating to potential CDRFI solutions in social protection, some of which affect other sectors as well, such as agriculture, environment, education and health. For instance, there are common gaps related to:

- Meteorological and geophysical hazards, exposure and vulnerabilities
- Location and characteristics of risk-prone individuals and groups
- Updating of social registries and other databases for effective and error-free targeting
- Provision of programmatic benefits to risk-prone individuals and groups
- Timeliness in payout processes and utilization of benefits by their recipients
- Existing anticipatory, absorptive and adaptive capacities and their need for technical, financial, human and organizational reinforcement.

Cooperation in the design, development and maintenance of improved data and information systems could serve as a good entry point for countries in an early stage of integrating CDRFI into social protection. There are important immediate benefits to be reaped in terms of the efficiency and effectiveness of triggers, targeting and CDRFI payout-related processes, while in the longer term, other potential gains are achievable, such as building trust through horizontal and vertical cooperation between social protection actors, opening the door to closer cooperation between social protection and other sectors and addressing cross-cutting aspects.

### 6. Initiating measures to address cross-cutting aspects of gender-sensitivity and inclusion

Building on the hypothesis that "there is no such thing as a gender-neutral approach to climate risk insurance" (Miles and Wiedmaier-Pfister, 2018), the cross-cutting aspects of gender-sensitivity and inclusion can be addressed by setting up dedicated working groups, designating thematic focal points, conducting gender analyses, reviewing good practices in comparable contexts and carrying out awareness-building workshops and seminars for staff of concerned institutions and agencies in charge of social protection systems and their financing.

# 6.

# Main conclusions

The integration of CDRFI into social protection is a **gradual, iterative and adaptive process**. Guidance is required to promote CDRFI integration processes based on the following three principles:

- To build on **existing systems and processes** while drawing on local knowledge and experience
- To encourage **multi-stakeholder dialogue** through awareness-building and active participation in planning and implementation
- To enable a **shared understanding** of the purpose and nature of each phase of the change process.

Several important conclusions may also be drawn in reference to key change domains. These are presented in table 2.

Table 2

## Key change domains and main conclusions

| KEY CHANGE DOMAINS | MAIN CONCLUSIONS |
|---|---|
| The contribution of CDRFI-supported social protection to strengthening the shock resilience of poor and vulnerable populations and to the achievement of the SDGs | CDRFI payouts into social protection can have significant positive impacts if they are used in a timely and effective manner. Evidence of direct and indirect contributions to resilience development and the SDGs may be obtained through monitoring and evaluation. |
| How CDRFI-supported social protection can effectively address specific root causes of poverty and vulnerability | CDRFI payouts into social protection with a transformative character can help break cycles of poverty and vulnerability. |
| The timeliness of emergency response and the smooth flow of CDRFI payouts to affected communities and individuals | The flow of CDRFI payouts can be timely and effective if appropriate contingency plans are in place and if risks induced by external factors (political will, weather, etc.) are not significant. |

The above conclusions are preliminary in nature and should be considered alongside some important caveats. Prearranged CDRFI payouts can help existing social protection programmes scale up vertically and horizontally in the face of extreme hazardous events, but in many observed cases the conditions for quick and smooth payout processes are less than ideal. Integration of CDRFI payouts into social protection should, therefore, take into account weaknesses in existing social protection systems and delivery systems, as well as these systems' current financing schemes and M&E systems. The ultimate outcomes and impacts of integrating CDRFI solutions into social protection will depend on how well CDRFI

and social protection interact (a) to strengthen the shock resilience of poor and vulnerable populations and (b) to address some of the root causes of poverty and vulnerability. Furthermore, substantial in-depth empirical research based on impact evaluations in diverse institutional environments is required to verify the conclusions presented above, both in the realm of adaptive financial protection and its financing, as well as in relation to the resilience-building outcomes of different risk insurance payout mechanisms.

# 7.

# Recommendations

The main recommendations of this Policy Note, with particular relevance for social protection ministries and government bodies in charge of budgeting and expenditure, are as follows:

1. Take stock of existing social protection systems, gaps and available CDRFI options to identify country-specific entry points based on the four-pillar approach for integration of CDRFI payouts into social protection, drawing on local and international good practice
2. Define and implement legal and regulatory reforms, policies, strategies, action plans and governance structures for integrating CDRFI payouts into social protection based on existing systems and priorities
3. Take action to make national capacities for social protection scalable and shock-responsive through adapting (retrofitting) selected social protection delivery chains so they can absorb CDRFI payouts
4. Strengthen data and information systems for integration of CDRFI payouts into social protection, with a focus on trigger, targeting and payout mechanisms
5. Promote research and development relating to the performance of CDRFI instruments and their contributions to shock-responsive and adaptive social protection in collaboration with national statistics offices, providers of risk analytics and modelling services, local academia, think tanks and international partners
6. Facilitate multi-stakeholder platforms involving state and non-state actors to consider obstacles to the integration of CDRFI payouts into social protection, as well as opportunities to address some of the root causes of poverty, vulnerability and marginalization through CDRFI-supported social protection.

Finally, this Policy Note suggests three **key takeaways**:

- **Maximizing impact**: When timely and well-deployed, CDRFI payouts in social protection can significantly strengthen resilience and accelerate progress towards achieving the SDGs. Systematic tracking through robust monitoring and evaluation ensures their effectiveness.
- **Driving transformation**: CDRFI-integrated social protection can break cycles of poverty and vulnerability when designed for long-term impact. Enhancing delivery systems enables rapid scalability, precise targeting and efficient payouts.
- **Ensuring readiness**: Smooth, timely CDRFI payouts require strong contingency plans and risk mitigation strategies. Strengthening institutional coordination, legal frameworks and financial management ensures funds swiftly reach those in need.

## Endnotes

1 In this report, social protection is understood as “a set of nationally owned policies and instruments, organized around systems that provide income or in-kind support and facilitate access to goods and services to all households and individuals at least at minimally accepted levels, to (i) protect them from multiple deprivations and social and economic exclusion, as a matter of human rights and particularly during shocks or periods of insufficient income, incapacity or inability to work and (ii) empower them by increasing productive capacities and enhancing capabilities” (UNDP, 2022b, p. 2).

2 Based on Abdoul-Azize and El Gamil (2020), who also refer to private transfers from non-governmental organizations, charity, zakat, etc. as a further category of social protection, but without further consideration. Wyatt and Barca (2021) refer to social services as a separate pillar, although it is often considered as a part of social assistance.

3 The term ”holistic” is used here to indicate that a given social protection system must be considered in its entirety to properly assess the appropriateness of integrating specific CDRFI instruments into it.

4 See Box 1 for more information regarding the nexus between social protection, CDRFI and PFM.

5 For more information relating to the UN’s support to the SDGs and social protection, see UNDP/IEO (2023b) and Global Accelerator on Jobs and Social Protection for Just Transitions (2024).

6 For a more comprehensive overview of policy and research issues in the nexus between social protection and climate change adaptation (up to 2018), see Janna D. Tenzing (2020).

7 The term “financing“ is used in this report in a general sense to describe the mobilization of financial resources by governments, households, enterprises and other economic entities. The term “funding“ refers to the allocation of financial resources, through budgetary and other processes, for specific pre-defined purposes. In citations from secondary sources of information, however, this distinction is not imposed. The term “payout” refers here to cash transfers provided by CDRFI instruments (contingency loans, disaster risk insurance, cat bonds, etc.) to their clients, while “payment” is the preferred term for social protection benefits in the form of cash transfers.

8 This approach has been applied, for example, in Indonesia, Bappenas (2021), Coudouel et al. (2023), IEG (2023) and Sett et al. (2022). The order of the pillars/building blocks is variable. In some publications, the programmes-related pillar is simply “programmes” (e.g. Bowen et al., 2022), or the term “delivery systems” is replaced by “delivery mechanisms”. The term “pillar” is given preference here to avoid confusion with “building blocks” as defined in related areas of SDG financing, e.g. in Integrated National Financing Frameworks (INFFs).

9 For more information regarding PFM standards, see Allen et al. (2013).

10 The term “stakeholder” relates in general to an individual or group who is likely to gain or lose as the consequence of specific interventions. The term “actor” refers to an individual or group who can significantly influence the operations and results of specific interventions.

11 Lessons learned and evaluations of ARC interventions in its member states are available on its website. For more information regarding payout mechanisms in regional risk pools, see WFP (2023).

12 Institutions may also be defined as sets of rules and constraints that guide economic, social and political interaction. Partnerships are defined here as formal or informal agreements between individuals or groups to pursue common goals through joint interaction.

13 See SDG target 1.4, SDG target 11.1 and SDG target 10.2, respectively.

14 According to OECD statistics, Least Developed Countries and other low-income countries received 27.6 percent of total official development assistance (ODA) in 2023, while lower and upper middle-income countries received 37.6 percent of the total (Our World in Data, 2025).

15 For more information regarding the critical role of social registries, see Patella et al. (2025).

16 Retrofitting is defined as the “reinforcement and upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards” (UNDRR, 2017a).

17 The OECD’s approach to ex ante Poverty Impact Assessment (PIA) takes six “transmission channels” into account: assets, transfers and taxes, access to goods and services, prices, employment and authority (OECD, 2007, pp. 308 ff.).

18 This conclusion is closely related to the notion of retrofitting and to the formulation of Phase 8 in the delivery chain of table 1 in section 3.3.

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# Technical annexes

# Annex I:
# Payout mechanisms in climate risk insurance to ensure pro-poor outcomes

Insurance payout mechanisms play a pivotal role in the design of climate risk insurance policies and in the interface between insurers and insured entities. Climate risk insurance applies various payout mechanisms that differ in terms of their general approach, level and conditionality.

There are two general approaches to climate risk insurance payout:

- **Direct payouts**: The climate risk-transferring individual or group receives the payout directly from the climate risk-taking entity (e.g. the insurance company).
- **Indirect payouts**: The climate risk-taking entity transfers the payout first to an intermediary agency (e.g. a government body), which then distributes the insurance benefit directly or indirectly to the intended final recipients.

Payouts can be made at three different levels:

- **Macro level**: Policyholders are governments or other national agencies.
- **Meso level**: Policyholders are associations, cooperatives or other group entities that function as aggregators and distribute climate risk insurance benefits to their members.
- **Micro level**: Policyholders are individuals, households or enterprises.

Regarding insurance conditionalities, two main distinctions are made:

- **Indemnity-based insurance** is linked to the actual losses incurred by the insured entity. Payout requires the insurer's approval of the individual insured entity's claim for indemnification, i.e. compensation for loss.
- **Parametric insurance** is "a type of insurance in which a payout is automatically triggered when certain predefined parameters (e.g. duration of a dry period, amount of precipitation, wind speed) are reached or exceeded. This type of insurance can also be referred to as 'index-based insurance' as the triggers are thought of as indexes" (UNCDF, UNU-EHS and UNDP 2023, p. 2).

The approach, level and conditionality of climate risk insurance can influence the **timeliness** and **reliability** of payouts in many ways:

- Direct and index-based payouts may tend to be more timely than indirect and indemnity-based ones, given short delivery channels and the clarity of triggers.
- The reliability of payouts depends, among other things, on the performance of different actors participating directly or indirectly in the delivery transmission channel. If actors at the meso or macro levels are prone to mismanagement or elite capture, then payouts to final beneficiaries at this level may be considered unreliable.

Timely and reliable payouts are crucial for policyholders who face important liquidity gaps. Delays and uncertainty in payout delivery may cause these and other policyholders to adopt negative short-term coping strategies that jeopardize their shock resilience in the longer term.

Understanding the theory and practice of different payout mechanisms can enrich our insight into how climate risk insurance can contribute to **reducing poverty and inequality**, as envisioned in the SDGs. Schaefer and Waters (2016) look at 18 selected climate risk insurance schemes to analyse whether and in what ways insurance schemes contributed to increasing the resilience of the poor and vulnerable. The selected schemes exemplify many of the climate insurance payout mechanisms described above. The authors' analyses suggest that climate risk insurance, if embedded into a wider risk management approach, can effectively support resilience-building

processes. The authors fail, however, to provide empirical evidence of the **pro-poor outcomes** of the selected schemes. They recommend the establishment of an effective M&E framework that measures outputs, outcomes and impacts to ensure that climate risk insurance schemes reach and benefit poor and vulnerable people.

Unfortunately, in recent decades, little research effort has been dedicated to assessing climate risk insurance from a pro-poor perspective. A bibliometric analysis was conducted by Lin et al. (2023), who looked at the evolution of research on climate risk insurance between 1975 and 2022. A total of 1,082 relevant publications were examined. The authors revealed, among other things, that a boom phase between 2015 and 2022 saw more research on the affordability of climate risk insurance given income inequality. However, neither poverty nor equality figure prominently among the keywords that occur most frequently in relation to climate risk insurance research.

Given the extreme paucity of empirical evidence linking climate risk insurance to pro-poor and pro-equality outcomes, it can be instructive to consider how similar disciplines have approached this issue. Watson et al. (2021), for instance, observe that "the last 20 years have seen a substantial growth in research on the extent to which health sector reforms are pro-poor or pro-rich. What has been missing is knowledge synthesis work to derive operational lessons from the empirical research." The authors analyse publications covering 20 developing countries. They find that certain design elements of health insurance can increase the likelihood of tackling inequality in the health sectors of developing countries. Some of the main conclusions of this study, which could provide orientation for similar research in the field of climate risk insurance, are as follows:

- "Universal eligibility for insurance with a substantial premium subsidy can reduce or eliminate the financial barrier to access and so reaches the highest total and group-specific enrolment rates, benefiting the poor" (Watson et al., 2021, p. 4).
- "If a universal approach is not possible, indirect targeting mechanisms based on geographic or socioeconomic characteristics, combined with large subsidies, tend to lead to greater enrolment of the poor than direct mechanisms based on some form of means testing" (ibid., p. 4).
- "Even if the poor are well identified, a scheme will achieve pro-poor enrolment only if it effectively reduces administrative obstacles to enrolment for the poor" (ibid., p. 4).
- "Voluntary schemes can overcome obstacles to enrolment if responsibility for enrolling the poor is assigned to appropriate bodies and they are sufficiently incentivized" (ibid., p. 4).
- "Voluntary schemes can increase enrolment of the poor by tailoring enrolment processes to the specific needs of their potential members" (ibid., p. 6).
- "Schemes that cover large rural populations have more impact on utilization by the poor if providers are required to actively seek patients in rural areas and provide transport to distant facilities" (ibid., p. 6).

Other aspects that might be considered in the design of research to assess the poverty and distributional effects of climate risk insurance include:

- Assets-related data and information and loss and damage estimates by income level and household category
- The distribution of the benefits of disaster risk management interventions
- The current and potential role of poverty and inequality-related aspects in climate risk models
- Perceptions of climate risk insurance payout mechanisms among poor and vulnerable groups
- Climate change-related literacy, visibility and attitudes in low-income and marginalized groups.

# Annex 2:
# Overview of CDRFI instruments and their relevance for social protection

| CDRFI INSTRUMENTS | RELEVANT TYPES OF DISASTER | EXPLANATORY NOTES / RELEVANCE |
|---|---|---|
| Sectoral contingency funds | Low-impact events, in particular frequent ones in specific locations such as annual floods, landslides and droughts | Ministries and agencies use own contingency allocations (annual budget lines) for vertical and horizontal expansion of social protection programmes and delivery systems in designated disaster zones |
| Pooled reserve funds | Low to medium-impact events, in particular frequent ones such as annual floods, landslides, droughts and cyclones | Central and subnational government bodies and their international partners allocate resources to reserve funds for vertical and horizontal expansion of social protection programmes and delivery systems in designated disaster zones |
| Contingency loans | Medium-impact events of limited frequency such as widespread floods, droughts and cyclones that exhaust the resources of sectoral and pooled contingency and reserve funds | Government contracts a loan with agreed payment triggers (pre-specified shock events) and payment thresholds for vertical and horizontal expansion of social protection programmes and delivery systems in designated disaster zones |
| Crop and animal insurance (indemnity-based) | Medium to high-impact events affecting agriculture in a specific location, such as severe floods, droughts and cyclones | Government subsidizes insurance premiums to facilitate access of poor and vulnerable crop and animal producers to indemnity-based climate and disaster risk insurance through market-based insurers |
| Climate and disaster risk insurance (index-based) | Medium to high-impact events affecting groups in a specific location, such as severe floods, droughts and cyclones | Government subsidizes insurance premiums to facilitate access of poor and vulnerable groups to index-based climate and disaster risk insurance through market-based insurers |
| Catastrophe bonds (cat bonds) | High-impact events that are not frequent, occurring less than once every 10 years, such as earthquakes, tsunamis and volcanic eruptions | Government subscribes to a catastrophe bond earmarked for the horizontal and vertical expansion of social protection programmes and delivery systems in the event of a major shock |

| CDRFI INSTRUMENTS | RELEVANT TYPES OF DISASTER | EXPLANATORY NOTES / RELEVANCE |
|---|---|---|
| Discretionary post-disaster response and relief assistance from development partners | High-impact events as in the case of earthquakes, tsunamis and volcanic eruptions | As a last resort, Government procures supplementary financial resources from its development partners when its own resources are exhausted and in alignment with existing social protection programmes and delivery systems |
| Sovereign and sub-sovereign insurance for disaster relief and recovery (indemnity- and index-based) | All medium- to high-impact disaster types | National and/or subnational governments acquire sovereign climate and disaster risk insurance programmes whereby payouts are used to assist affected populations through existing social protection programmes |
| Public assets insurance | All disaster types | Government funds insurance premiums covering public assets at national and subnational levels that are required, inter alia, for the operations of social protection programmes and delivery systems (hospitals, sanitation, shelters, registry centres, etc.) |
| Subsidies to market-based investment credit and loan guarantees for resilience development in households and businesses | All disaster types | Government subsidizes market-based financial partners (banks etc.) who provide credit and loan guarantees at attractive conditions to encourage private investors (households, SMEs) to invest in resilience development (e.g. solar energy, building back better and flood proofing) before and after disasters occur |

Source: Based on Calcutt et al. (2021), p. 32, and author's own non-exhaustive compilation.

# Annex 3:
# Examples of CDRFI instrument payouts

| NO. | INSTRUMENT | COUNTRY | YEAR | ISSUER | RECIPIENT | PAYOUT (USD) | UTILIZATION | SOURCE |
|---|---|---|---|---|---|---|---|---|
| 1 | CAT-DDO [1] | Guatemala | 2010 | World Bank Group | Government | 85,000,000 | Loan drawn down in June 2010 after Pacaya volcano eruption and tropical storm Agatha (May) | link |
| 2 | CAT-DDO | Philippines | 2011 | World Bank Group | Government | 500,000,000 | Loan drawn down in December 2011 after cyclone Washi (Dec.) | link |
| 3 | Cat bond | Mexico | 2015 | World Bank Treasury | FONDEN | 50,000,000 | Budget support after hurricane Patricia (October 2015) | link |
| 4 | Climate risk insurance | Vanuatu | 2015 | PCRAFI[2] | Government | 2,000,000 | Payout 7 days after tropical cyclone Pam landfall (March 2015) | link |
| 5 | Cat bond | Mexico | 2017 | World Bank Treasury | FONDEN | 150,000,000 | Budget support after Puebla earthquake (September 2017) | link |
| 6 | Climate risk insurance | Zambia | 2024 | ARC Limited | Government | 9,979,140 | Cash transfers to drought victims 2023/24 | link |
| 7 | Climate risk insurance | Zambia | 2024 | ARC Replica | WFP Zambia | 3,326,320 | Market monitoring and assessment after drought 2023/24 | link |

1 Catastrophe Deferred Drawdown Option
2 Pacific Catastrophe Risk Assessment and Financing Initiative

| NO. | INSTRUMENT | COUNTRY | YEAR | ISSUER | RECIPIENT | PAYOUT (USD) | UTILIZATION | SOURCE |
|---|---|---|---|---|---|---|---|---|
| 8 | Climate risk insurance | Zimbabwe | 2024 | ARC Limited | Government | 16,800,000 | Support recovery from prolonged dry spell and food insecurity | link |
| 9 | Climate risk insurance | Zimbabwe | 2024 | ARC Replica | WFP Zimbabwe | 6,100,000 | Provide essential food assistance | link |
| 10 | Climate risk insurance | Zimbabwe | 2024 | ARC Replica | Start Network Zimbabwe | 8,900,000 | Support government relief efforts and rebuild livelihoods | link |
| 11 | Climate risk insurance | Sudan | 2024 | IFRCI-DREF[3] | Sudanese Red Crescent | 1,089,500 | Triggered after floods for emergency relief (September 2024) | link |

3 International Federation of Red Cross and Red Crescent Societies' Disaster Response Emergency Fund, brokered by AON and funded by international donors

# Annex 4:
# Key terms in legal and regulatory frameworks for social protection

## The national constitution and similar frameworks at subnational level

Laws and regulations relating to:

- Social protection in general (incl. poor, people with disabilities, disaster victims, empowerment)
- Minimum service standards
- Reduction of poverty and vulnerability (in poor households, small business, poor communities)
- Roles and responsibilities of subnational administration
- Employment opportunities in the sector (for professionals, volunteers, others)
- Data for social protection (registries, databases, rights and obligations of the poor)
- Cash and non-cash assistance
- Social security and protection of workers (incl. accident insurance)
- National social security system (incl. insurance and subsidies for the poor)
- Insurance and subsidies to the poor in the health, education and labour sectors)
- Local governance
- Fisheries (incl. empowerment of fishery workers, investment financing)
- Persons with disabilities
- Migrant workers (incl. rights and obligations, protection)
- Pandemics (re. schools etc.)
- Food security
- Gender equality
- Students (with disabilities, from poor families, etc.)
- Elderly persons
- Modern slavery
- Victims of violence, exploitation and discrimination
- Urban and rural approaches to social protection (incl. remote areas)
- Informal sector
- Internal and external audit.

Source: Author's own non-exhaustive compilation.

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