

Enhancement of Nationally Determined Contributions in the Context of Climate and Disaster Risk Financing

Context

Hoping that the catastrophe track for the worst-case climate scenario projected by the Intergovernmental Panel on Climate Change (IPCC) can still be avoided, climate resilience building and emissions reduction are more important than ever as nations look to enhance the capabilities of the most vulnerable people and nations to fight against climate change.

Vulnerable nations need investment to cover mitigation and adaptation programs from the Nationally Determined Contributions (NDCs) laid out under the Paris Agreement. However, it is important to realize that the investment context depends on the economics of operating in a system and this is influenced by the political economy and with it, valuation methodologies, benchmarks, access to finance, both public (export credits, subsidies or cross-subsidies) and private.

This global disruption and its impact on vulnerable countries has shown the need to balance long-term benefits with short-term costs. It's important now to make educated guesses about low-probability and high consequence events. V20 countries have been seeing a preview of what the rest of the world may have to face with lots of unknowns and 'unknowables'. What is clear is that V20 exposure grows exponentially due to vulnerabilities. Investments made today should not exacerbate the climate crisis or social inequalities. There is an opportunity to redirect resources in support of economic fundamentals. Resilience is being able to sustain critical functionality in a more disruptive future where the volatility and frequency and the impact of external events is much more severe than it has been.

NDCs under the Paris Agreement

Through the Paris Agreement, Parties agreed to transform their development trajectories towards limiting global warming to 1.5 degrees Celsius above pre-industrial levels and to increase their long-term ability to adapt to the adverse impacts of climate change, while making financial flows consistent with climate-proof and -resilient development.

At the heart of collectively achieving these objectives lie the Parties' NDCs. NDCs are intended for Parties to set out ambitious, national mitigation and adaptation targets, strategies for achieving those, and potential support needs. Currently, however, multiple countries do not, or only insufficiently account for resilience measures in their NDCs. That said, cost-effective achievement of both objectives is interlinked. It is instrumental for countries to enhance their account of resilience measures, including climate and disaster risk financing instruments and investment tools. As mitigation and

adaptation require multi- and cross-sectoral approaches, NDCs thus need to be anchored in a country's development planning. Mitigating GHG emissions and climate-proofing development affects all economic sectors, including critical infrastructure assets such as urban services, logistics and transport, water and energy.

NDCs as National Investment Strategies

As such, long-term investment strategies of countries can be anchored in their NDCs. This includes quantitative sectoral investment targets for mitigation and resilience efforts. Yet, to cost-effectively invest in resilience, it is of utmost importance to understand the losses associated with the materialization of climate-related risks and the gains from avoiding or reducing climate risk exposure. Currently, however, the risks, the associated financial losses and even more so, the costs of measures avoiding those losses are unknown to vulnerable countries. The models and risk data remain siloed in the insurance-buying process. This lack of information coupled with a lack of tailored affordable financing substantiates a market failure, which has led to underinvestment in resilience. This includes misguided investments, for example in infrastructure that lock in exposure to current and future climate risks, thus causing the investment not to deliver an economic return in line with the expectations from the project outset. The NDC can address market failures, de-risk investments, and build capacity in national and local markets to the point where cost-effective tools and management can be addressed by the private sector or public-private partnership models.

CDRFI in NDCs: Addressing a Market Failure through Shifting the Economics of Operating in a System

The introduction of climate and disaster financing instruments, including insurance (CDRFI) builds on detecting and pricing risk. Therefore, considering CDRFI as part of national adaptation planning processes can help to address the above-mentioned market failure and incentivize a cost-effective investment mix in adaptation measures (soft engineering and hard engineering), risk retention and risk financing instruments, such as risk transfer, contingent credit lines and cat-bonds, and risk management. The recognition stemming from pricing risk can drastically shift the economics of operating in a system by adding value to investment in and tools for disaster risk reduction, climate risk management and sustainable development. Currently, only few NDCs from V20 countries make reference to a comprehensive risk financing strategy. Moreover, no NDC gives an integrated account of how planned adaptation measures and risk financing instruments interlink. Furthermore, only few NDCs specify the anticipated costs of their planned adaptation measures and no NDC quantifies the anticipated costs of introducing the envisioned risk financing instruments. Accordingly, there is no clarity of whether the planned combination of measures integrate cost-effectiveness to maximize resilience. Three barriers hinder progress in this area:

1. There is no **recognized and standardized methodology and tool to establish a resilience baseline** against which to plan and cost adequate adaptation and risk financing measures. The necessary information, data and knowledge to detect and price risk lies mainly with the insurance industry,

- but should be available and useable by vulnerable country governments and their relevant planning bodies.
2. There is no **standardized methodology and tool** available to vulnerable country governments and their relevant planning bodies **to develop an integrated investment portfolio of adaptation and CDRFI options**.
 3. There is a **lack of guidance on the instruments which build a comprehensive risk financing strategy** and **on how to develop a comprehensive risk financing strategy**, which combines such instruments.

CDRFI in V20 NDCs and National Adaptation Plans (NAP)

Only 19 V20 members make some reference to CDRFI instruments in their NDCs and 17 of those make reference to insurance, with most members highlighting micro level insurance in the context of agriculture and few highlighting macro level insurance. Only five members mention one other instrument in addition to conventional or commercial insurance mechanisms at the micro or macro level, including instruments such as social safety nets, alternative risk sharing mechanisms and global disaster relief facilities. Two V20 members do not mention insurance, but are the only ones who either refer to refining budgetary systems to mobilize resources towards disaster risk management or the creation of financial mechanisms to finance adaptation investments and recovery efforts. Lastly, only one V20 member gives an account of a broad set of CDRFI instruments, including emergency funds, sovereign insurance, contingent credit, and catastrophe bonds. Ten V20 member highlight CDRFI in their National Adaptation Plans (NAPs), including five V20 members which also reference CDRFI in their NDCs. Six of those make reference to more comprehensive approaches, while only one V20 member puts forward what most resembles a comprehensive risk financing strategy:

In its NAP, St Lucia gives a comprehensive account of ongoing and potential CDRFI applications. On the micro-level, these include the development of partnerships to involve the private sector in community resilience building through agricultural insurance; the development and expansion of social benefit, insurance (life, medical and livelihood protection), pension and compensation schemes for climate related impacts for fishers and their families; the reform of legislation to link property insurance, construction quality and climate risk level of the property location; and the development of agricultural/crop insurance for farmers. On the macro-level, St Lucia highlights the continuation of its membership of the Caribbean Catastrophe Risk Insurance Facility and its participation in (emerging) catastrophe bond insurance platforms that also improve planning responses to catastrophic events.

Three Barriers to Integrated Resilience Investment Portfolios in NDCs

1. Resilience Baseline (Scenarios) to plan Integrated Adaptation and CDRFI Interventions

The UN's IPCC has conducted sensitivity analyses for warming extending from a low of 1.5-degrees Celsius to a high of 4.5-degrees Celsius. In order to adequately plan, weigh and price adaptation investments, costs, benefits and risk financing options, countries need to understand their starting point. This means understanding their resilience baseline, against which to decide for investment and financing targets that support sufficient and cost-effective adaptation and risk management action. Such baseline (better: baseline scenario) should **aim to demonstrate how the future materialization of climate impacts under a 4.5 degree, a 2.0 degree and a 1.5 degree scenario will develop over time, given 'certain' conditions**. These certain conditions encompass current adaptation efforts and the dynamic development of those socio-economic conditions over time, which drive vulnerability, risk and adaptive capacity. **So far, no V20 member references a resilience baseline scenario in its NDC**. For this purpose, it is necessary to **equip countries with the necessary methodology and/or tools and capacities**, allowing them to independently make and **understand** these assessments and their results. Building on such assessment, countries can then move to identify and select resilience measures that help to deviate from the original baseline scenario to enhance resilience. In developing such standardized methodology, importance should be given to the methodology's capacity to (a) deliver localized baselines, (b) account for the interaction of slow- and sudden onset events, (c) estimate the expected adverse impacts on poverty alleviation, including livelihoods, settlements and human health, and (d) aggregate the associated impacts by sector, e.g. in the form of estimated economic costs.

Creating Resilience Baseline Scenarios for Vulnerable Countries:

Indicative Account of Data and Modelling Needs¹

In addition to facilitating development and access to a methodology and/or tools to establish (localized) resilience baseline scenarios, vulnerable countries urgently need the data to be processed by said methodology. Although there is an abundance of data available on the impacts of rapid-onset; in particular, on tropical cyclone occurrences) events. The challenge is on acquiring the data needed to set localized baselines. More specifically, such data needs include knowledge of 'certain' conditions, such as sea surface temperature changes; changes in sea level rise; changes in ocean/sea acidity; changes in marine resources (e.g., fish species, etc.) resulting from these changes; changes in services provided by the marine resources that support the livelihood of the coastal communities; changes in land characteristics as a result of changes in rainfall and flood events causing soil erosion and loss of nutrient in the soils, increasing temperatures resulting to increasing soil dryness; changes in land areas

¹ Though some countries are in an observation and data gathering phase, methodologies and data analysis can also be conducted using proxy indicators. For example, it may be possible to conduct economic analysis using indicators/proxies (e.g., using proportion of population living in rural areas as a proxy data for exposure to agricultural drought-meaning these populations are the ones at risk to slow onset events. For example, it may be land degradation due to long-term drought as in the case of when rainfall anomalies are very low in terms of percentiles and thus, poor agricultural production, and/or proportion of population highly dependent on agriculture to GDP.

becoming more arid; and changes in water availability, and resulting crop production, just to name a few. Moreover, there are "extensive risks" which include extreme rainfall, extreme temperature, and severe thunderstorm events happening at local scales, including intensification of monsoons that lead to severe impacts, which are further confounded by slow onset events. Localized data for these types of risks is also scarce and needs to be strengthened.

2. Development of Integrated Investment Portfolio for Adaptation and CDRFI

Having understood the future materialization of climate impacts across their economies and societies, **countries need to understand how much of that exposure can be averted, through which measures, at what price, and which measures combine most cost-effectively into benefits that justify such investment.** Based on a risk-layering approach to building resilience, the most cost-effective reduction in exposure to climate risks will integrate investments in risk reduction (adaptation), risk retention (e.g. budgetary allocations for contingency funds for low impact, high frequency events), risk transfer on and across different levels (e.g. for high impact, low(er) frequency events) and contingency finance. In such context the incentive for enhanced adaptation investments will come from countries moving to reduce high investments in, for example, insurance policies or other products that can address liquidity needs, since reducing the underlying risk through risk reduction investments will decrease the height of the necessary investment in risk financing instruments. The goal is thus to identify those types of combinatory risk reduction and risk transfer investments that come with the lowest overall costs while maximizing resilience through incentivizing adequate investment in both, adaptation and financial protection. **So far, no V20 member demonstrates an integrated resilience investment portfolio in its NDC, which either makes a clear linkage between planned adaptation measures or their interlinkages with CDRFI instruments.** The development of such integrated investment portfolio **necessitates equipping countries with the necessary methodology and/or tools**, while the portfolio itself can feature in countries' NDCs and National Adaptation Plans and articulate their support needs.

3. Guidance on CDRFI Instruments and their Combination into a Comprehensive CDRFI Strategy

Currently, **NDCs of V20 countries only give a highly fragmented account of CDRFI, if at all, while reference to a broader set of risk financing instruments is lacking in almost all plans.** Since all vulnerable countries, regardless of their specific exposure to climate risks, will be in need of financial protection, the application of a comprehensive set of CDRFI instruments and a strategy for their utilization will be instrumental for achieving resilience. For this purpose, clear guidance is needed, beginning at the most basic level of ensuring that countries have an overview and understanding of existing CDRFI instruments and what type of risk layer to apply them for. **Simply providing such guidance as part of an NDC Development Toolkit can already ensure that countries enhance their account of CDRFI when updating their NDCs, even if methodologies to develop resilience baselines and integrated investment portfolios are still lacking.** In this context, St Lucia's account of a

comprehensive set of CDRFI instruments and related policies in its National Adaptation Plan (NAP)² can serve as a benchmark on how CDRFI should be accounted for in an NDC at the most basic level. **In line with making the aforementioned methodologies available, however, countries need to be equipped with the capacity to develop comprehensive disaster risk financing strategies, which ensure that different CDRFI instruments are introduced as complementary additions to other adaptation investments and applied in a coordinated manner.** Such more refined account of CDRFI instruments will allow countries to feature CDRFI more prominently in their NDCs and, in line with the above, provide cost estimates and support needs for their operationalization and utilization.

Initial Action Areas for Consideration by the InsuResilience High-Level Consultative Group (HLCG)

Based on the above-mentioned barriers, the HLCG should consider the following initial action areas:

- The InsuResilience Global Partnership in partnership with the NDC Partnership may commission work on and/or increase access to a methodology for countries to estimate their resilience baseline scenarios for 4.5 degree, 2.0 degree, and 1.5 degree scenarios. Such methodology should be made available to country governments, including access to funds and capacities for implementing said methodology. As per country needs and requests, the implementation of said methodology should also allow the establishment of localized baseline scenarios.
- The InsuResilience Global Partnership may commission work on and/or increase access to a methodology that allows for the development of an integrated resilience investment portfolio, allowing to identify and cost-effectively combine adaptation investments and CDRFI.
- The InsuResilience Global Partnership, through the NDC Partnership, may move quickly to develop guidance on the existing CDRFI instruments, their application, and their integration into NDCs, as part of the NDC Development Toolkit, while also facilitating the provision of capacities for countries to develop comprehensive risk financing strategies. Based on such guidance and capacity enhancement, the InsuResilience Global Partnership should request the NDC Partnership to support the facilitation of an enhanced account of CDRFI in NDCs, following the example of St Lucia as a minimum benchmark.

Further, while the development and/or facilitation of enhanced access to the requested methodologies and guidance is underway, the enhancement of CDRFI in NDCs should be jump-started to ensure uptake of the to be made available instruments through countries, in so far that:

- The InsuResilience Global Partnership, together with the NDC Partnership, may increase awareness amongst membership of the NDC Partnership that resilience constitutes an integral part of countries' NDCs and that support for countries is available through the NDC Partnership.

² Government of Saint Lucia (2018): [Saint Lucia's National Adaptation Plan - 2018 - 2028](#); Department of Sustainable Development, Ministry of Education, Innovation, Gender Relations and Sustainable Development.

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The Munich Climate Insurance Initiative was initiated as a non-profit organisation by representatives of insurers, research institutes and NGOs in April 2005 in response to the growing realization that insurance solutions can play a role in adaptation to climate change, as suggested in the UN Framework Convention on Climate Change and the Kyoto Protocol. This initiative is hosted at the United Nations University Institute for Environment and Human Security (UNU-EHS). As a leading think tank on climate change and insurance, MCII is focused on developing solutions for the risks posed by climate change for the poorest and most vulnerable people in developing countries.

