



L&D Pilot Funding Arrangements

The Need to Pilot Innovative
Funding Sources and
Response Tools

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Acronyms

AGF	High-level Advisory Group on Climate Change Financing
AOSIS	Alliance of Small Island States
CAPS	Corporate Air Passenger Solidarity
CCTP	California Cap and Trade Programme
CDM	Clean Development Mechanism
CMA	Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement
COP	Conference of the Parties
CSR	Corporate Social Responsibility
ETS	Emissions Trading Schemes
GCF	Green Climate Fund
IAPAL	International Air Passenger Adaptation Levy
ICAO	International Civil Aviation Organization
ICCCAD	International Centre for Climate Change and Development
IMERS	International Maritime Emission Reduction Scheme
IMO	International Maritime Organization
JIT	Just Impact Transition
L&D	Loss and Damage
LDCs	Least Developed Countries
PICAP	Pacific Insurance and Climate Adaptation Programme
PPCR	Pilot Programme for Climate Resilience
ResCo	Resilience Company
SoE	Slow onset events
SOPA	Share of Proceeds for Adaptation
UNCDF	United Nations Capital Development Fund
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNU-EHS	United Nations University Institute for Environment and Human Security
VCM	Voluntary Carbon Market
ICVCM	Integrity Council for the Voluntary Carbon Market

1. Introduction¹

Benito Müller (ecbi and Oxford Climate Policy)

1.1. The Sharm el-Sheikh Decision

On 20 November 2022, the Conference of the Parties (COP) and the COP serving as the Meeting of the Parties to the Paris Agreement (CMA) took a [Decision](#) in Sharm el-Sheikh on “funding arrangements for responding to loss and damage associated with the adverse effects of climate change”. The Decision, which has been widely hailed as historic², was the principal outcome of the 2022 UN Climate Change Conference (COP27/CMA4). In a nutshell, the Decision:

- acknowledges the “urgent and immediate need” for financial resources to assist particularly vulnerable developing countries “in responding to loss and damage associated with the adverse effects of climate change ... in the context of ongoing and ex post (including rehabilitation, recovery, and reconstruction) action”; and
- decides to establish:
 - a. “new funding arrangements” for assisting particularly vulnerable developing countries in responding to loss and damage ... and that these new arrangements “complement and include sources, funds, processes, and initiatives under and outside the Convention and the Paris Agreement”;
 - b. a loss and damage response fund “in the context of establishing the new funding arrangements”; and
 - c. “a transitional committee on the operationalization of the new funding arrangements ... to make recommendations ... for consideration and adoption by [COP 28/CMA 5, December 2023] with a view to operationalizing the funding arrangements, including the [L&D Response Fund]”.

1.2. The Need for Innovative Sources and Response Tools

Despite this outcome, Adil Najan, in his [Conversation](#) piece of 21 November 2022, pointed to a serious problem: “Real as the jubilation is for developing countries, it is also tempered. And rightly so. For developing countries, the danger [is] that [the new fund] turns out to be another ‘placebo fund’, to use Oxford University researcher Benito Müller’s term — an agreed-to funding arrangement without any agreed-to funding commitments.”

The Green Climate Fund (GCF) has, to date, managed to attract USD 1.25 billion per annum for mitigation, as well as for adaptation³. Using this as a benchmark for the new Loss and

¹ This Chapter is based on an OCP blog post titled [Piloting New Loss and Damage Funding Arrangements](#).

² “COP27 agrees historic ‘loss and damage’ fund for climate impact in developing countries”. [The Guardian](#), 20 November 2022]; and “Historic ‘loss and damage’ fund adopted at COP27 climate summit”. [Al Jazeera](#), 20 November 2022.

³ Over the past four annual [replenishments](#), the GCF managed to secure on average USD 10bn, i.e. USD 2.5 p.a.

Damage Response Fund⁴ would not seem unreasonable. The question is whether such an amount could be generated from traditional national budget sources without eating into GCF contributions. However, for reasons discussed below, this scenario is not very likely, which may be one of the reasons why the Decision recognizes “the need for support from a wide variety of sources, including innovative sources” [Para. 6.e]. As it happens, a variety of innovative sources could, in principle, deliver (far beyond) the GCF-benchmarked contributions. Chapter 2 explores potential innovative funding sources in more detail.

The funding disbursement model for the new fund will have to differ drastically from the way things are currently done within the multilateral climate funds, where project proposals are submitted through an elaborate pipeline with an investment decision that can take many months, if not years. Chapter 3, in turn, showcases loss and damage response tools of different types, including but not limited to tailor-made insurance schemes.

1.3. The Need to Act Now

The recently-adopted COP Decision is unequivocal regarding the “urgent and immediate need” to operationalise these new funding arrangements. James Cameron, in his 18 November 2022 [Pollination think piece](#), proposes to “create a pilot project and start getting the money flowing to where it is needed [and at the same time] work on a longer-term loss and damage facility would carry on, with the intention of getting it up and running in the years after 2024, while still piloting innovative new sources of funding and loss and damage response tools”. This could be done very simply by establishing, as part of the new funding arrangements:

- a **technical expert pool** for designing and piloting tailor-made loss and damage response tools, convened by the [Transitional Committee](#) and/or the Standing Committee on Finance, with the help of the [Santiago Network on Loss and Damage](#), which could expand on response tools in existing climate funds for L&D, draw on the expertise of the WIM ExCom for the interim period until the L&D fund is up and running, and/or draw on funding from other loss and damage funding arrangements; and
- a **crowdsourcing platform**—mirroring the [donate button on the Adaptation Fund website](#)⁵—to kickstart the piloting of innovative sources of funding, for example a **solidarity offset premium from the voluntary carbon market** (see Section 2.3.2.) or voluntary **windfall donations by fossil fuel companies**, for designing and piloting response tools.

4 This fund has yet to be formally named; however, for the purposes of this paper, it will be referred to as the Loss and Damage Response Fund.

5 Arguably the quickest way to establish such a platform would be to request the Adaptation Fund to set up a stand-alone website (with the UNFCCC Secretariat under the guidance of the Transitional Committee) as part of its arrangements with the UN Foundation, which manages the crowdsourcing for the Adaptation Fund.

2. Innovative Funding Sources

Benito Müller (ecbi and Oxford Climate Policy)

2.1 The AGF Report

In the wake of the 2009 Copenhagen Climate Change Conference, where developed countries committed to a goal of “mobilizing jointly USD 100 billion dollars a year by 2020 to address the needs of developing countries”, with funding that “will come from a wide variety of sources, public and private, bilateral and multilateral, including alternative sources of finance”,⁶ then UN Secretary-General Ban Ki Moon established the High-level Advisory Group on Climate Change Financing (AGF). It was initially co-chaired by Meles Zenawi, Prime Minister of Ethiopia, and Gordon Brown, Prime Minister of the UK, who first proposed the USD 100 billion goal in a speech at the London Zoo in his Roadmap to Copenhagen speech on 26 June 2009⁷.

The AGF was tasked with conducting “a study on potential sources of revenue for the scaling up of new and additional resources from developed countries for financing actions in developing countries” and considering “how existing mechanisms can be scaled up, [as well as examining] the need for new and innovative long-term sources of finance, in order to fill the gap in international climate financing” [[AGF Report](#): Annex I].

In November 2010, the AGF issued its findings in a Report to the UN Secretary-General, which groups potential sources of finance considered into four categories: (a) public sources; (b) development bank instruments; (c) carbon market finance; and (d) private capital.

Of these, only the ones categorised as ‘public sources’ really lend themselves as instruments to provide grant funding to the Loss and Damage Response Fund.⁸ The Report considers 10 public sources, listed in Box 1.

In principle, all the options, bar [i],⁹ are still on the table. However, several problems that have been pointed out in the past – for example in Müller (2008)¹⁰ – remain today.

6 [Copenhagen Accord](#) (Decision 2/CP.15): paragraph 8.

7 Brown was later replaced by Jens Stoltenberg, Prime Minister of Norway.

8 Development banks, in general, do not provide grants to multilateral (climate) funds, and both ‘carbon market finance’ and ‘private capital’ refer to (sub-national) flows between countries.

9 The first one, historically known as the [Norwegian Proposal](#), is no longer an option due to the absence of assigned amounts in the Paris Agreement.

10 Benito Müller, [International Adaptation Finance: The Need for an Innovative and Strategic Approach](#), OIES EV42, p. 8, June 2008.

Box 1. Public Source Options Discussed in the AGF Report (p.15)

- i. Revenues from the international auctioning of emission allowances (such as assigned amount units or AAU under the Kyoto Protocol): this would involve retaining some allowances from developed countries and auctioning them to raise revenues.
- ii. Revenues from the auctioning of emission allowances in domestic emissions trading schemes: this would involve the auctioning of domestic credits (as in the European Union Emission Trading Scheme Phase III) and allocating some part of the associated revenues.
- iii. Revenues from offset levies: this would involve withholding a share of offset revenues as a global source, as currently done under the Clean Development Mechanism (CDM).
- iv. Revenues generated from taxes on international aviation and shipping: this would either involve some levy on maritime bunker/aviation jet fuels for international voyages or a separate emissions trading scheme for these activities, or a levy on passenger tickets for international flights.
- v. Revenues from a wires charge: this would involve a small charge on electricity generation, either on kWh produced or linked to carbon emissions per kWh produced.
- vi. Revenues generated by removing fossil fuel subsidies in developed countries: this comprises budget commitments freed by the removal of fossil fuel subsidies, which can be diverted towards climate finance.
- vii. Revenues from fossil fuel extraction royalties/licences: these could be allocated in part to international climate finance.
- viii. Revenues from carbon taxes: this is based on a tax on carbon emissions in developed countries raised on a per-ton-emitted basis.
- ix. Revenues from a financial transaction tax: this builds on existing proposals on a global financial transaction tax (with a focus on foreign exchange transactions).
- x. Direct budget contributions: this involves revenues provided through national budgetary decisions.

2.2. Three Fundamental Issues

2.2.1. The Domestic Revenue Problem

A study, titled [International Adaptation Finance: The Need for an Innovative and Strategic Approach](#), published in June 2008, analysed several options, which were later considered by the AGF and others (see the Table of Contents reproduced in Box 2). It also introduced the term 'Domestic Revenue Problem' to refer to the problem that "money ... raised domestically, particularly through domestic taxation, is regarded to be nationally owned. Indeed, in the case of taxation, individual taxpayers often see themselves as direct owners of the revenue raised. In addition, the sums involved in ODA or any other tax expenditure are generally perceived in absolute terms, which can create problems, particularly if they are in competition with other (domestic) expenditures" [p.8].

Box 2. Table of Contents: International Adaptation Finance: The Need for an Innovative and Strategic Approach. (Müller, 2008).

Executive Summary

A. Introduction

1. Current estimates of funding needs for adaptation in developing countries
2. Current international adaptation funding

B. How to raise the funding needed? The need for innovation

1. Conventional Funding
2. The Mexican Multilateral Climate Change Fund (MCCF) Proposal
3. Bi- and Multilateral Carbon Auction Levy Funding
4. The Swiss Proposal Global Carbon Adaptation Tax Proposal
5. The EU Global Climate Financing Mechanism (GCFM)
6. An Adaptation Levy on International Emissions Trading
7. Burden Sharing Mechanism (Tuvalu Adaptation Blueprint)
8. International Air Travel Adaptation Levy (IATAL)
9. International Maritime Emission Reduction Scheme (IMERS)
10. Evaluation of Proposed Revenue Instruments

C. How to spend the money raised: The need for strategic spending

D. How to manage innovative international financing

The situation does not improve if, as the AGF Report recognizes in the context of traditional ‘direct budget contributions’ (Option [x]), “the global fiscal environment has placed public finances in many developed countries under extreme pressure [and] some governments would be constrained from increasing the existing tax bases, whether through existing or new sources, owing to the operation of domestic budgetary rules” [p.10]. This has not improved over time, which is why ‘innovative sources’ are more important than ever in the context of generating resources for the L&D Response Fund.

In November 2008, a study, titled [To Earmark or Not to Earmark? A far-reaching debate on the use of auction revenue from \(EU\) Emissions Trading](#), suggested that earmarking – a practice more common than (national) treasuries may care to admit – could be a way forward in addressing the domestic revenue problem, particularly in the case of AGF Option [i]: Revenues from the auctioning of emission allowances in domestic emissions trading schemes.

A more radical way to avoid the domestic revenue problem would be to simply bypass (national) treasuries in the collection of funds, as has happened with the ‘Share of Proceeds for Adaptation’ (SOPA) in the CDM under the Kyoto Protocol and the Article 6.4 Mechanism of the Paris Agreement.

2.2.2. The Global-Tax Stigma

The story behind the introduction of a SOPA in the CDM illustrates another problem for some of the innovative sources that have been proposed, as well as demonstrates ways to overcome it. Treasuries across the globe insist that tax collection is their (national) sovereign prerogative and are generally vehemently opposed to any internationally collected tax or levy. This is arguably one of the main reasons why many international taxes, proposed in the past as innovative sources for climate finance – such as the Global Carbon Tax Proposal (Switzerland, COP12, 2006)¹¹ and the International Air Passenger Adaptation Levy (IAPAL) (LDC Group, COP14, 2008) – were not adopted.

By using the term “share of proceeds” and designating the primary purpose as covering the CDM’s administrative costs, negotiators in Kyoto were able to avoid the Global-Tax Stigma and, in doing so, saved the CDM – and subsequently the Art. 6.4 Mechanism under the Paris Agreement.¹²

11 N.B. Swiss funding from the Swiss proposal was earmarked for both adaptation and insurance (i.e. L&D response): “Switzerland proposed a global carbon tax with an exemption for countries whose annual per capita emissions are less than 1.5 tonnes of carbon dioxide. The resources generated would flow into a multilateral fund for adaptation and **insurance** along with a national climate change fund; AWG-LCA [Report on the workshop on investment and financial flows to address climate change](#), 6 June 2008.

12 For more on this, see Section 1.1 (“SOPA in multilateral carbon markets: A Brief History”) in Benito Müller, [VCM-SOPA: A Share Of Proceeds for Adaptation \(SOPA\) in the Voluntary Carbon Market \(VCM\)](#), Oxford: OCP/ecbi Discussion Note, March 2022.

2.2.3. The Jurisdiction Question

However, this still leaves another problem regarding the introduction of innovative sources under the multilateral climate change regime (UNFCCC/Paris Agreement), namely whether that regime actually has the remit to introduce the funding source in question. In the case of SOPA, the answer was clearly affirmative, given that the mechanisms in question (CDM and Art. 6.4 Mechanism) were themselves created under the jurisdiction of the multilateral climate change regime.

What about the other AGF options? The multilateral climate regime would unlikely have jurisdiction over any of the options involving domestic taxation, which constitutes the majority of options. Of those that do not, introducing them multilaterally might be possible, particularly in the case of IAPAL/IMERS (International Maritime Emission Reduction Scheme). Although not through the multilateral climate change regime, Options [iii] and [iv] of the AGF Report could possibly be implemented through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), respectively.

2.3. What now? Near-term Options

2.3.1. International Air Travel/Aviation Solidarity Charge/Levy

a. Top-down Levy

The idea of “a levy on passenger tickets of international flights” [AGF Report Option (iv)] has in the past been studied in some detail. Proposed by the Least Developed Countries (LDC) Group in December 2008 at COP14 (Poznan) as an [International Adaptation Passenger Levy](#) (IAPAL), the aim was to generate an estimated €10 billion per annum.¹³ Although, the IAPAL proposal was not taken up, arguably because it suffered from the Global-Tax Stigma, it has recently been gaining traction as an innovative source for L&D funding.¹⁴

However, with hindsight, whether the multilateral climate change regime would have the authority to introduce such a levy remains unclear, as alluded to above (Section 2.2.3.). Other avenues may have to be pursued. ICAO might have the authority, but whether it would have the inclination is not self-evident. With respect to other alternatives, one could, for example, take a page out of the French ‘International Solidarity Contribution’¹⁵ (not ‘Levy’!) which inspired the [IATAL study](#) on which the IAPAL proposal was based. A coalition of like-minded countries could collect contributions independently, as suggested in a recent OCP blog-post on [International Climate Solidarity Levies](#) by Saleemul Huq (ICCCAD), Robert Filipp (IFF), and Benito Müller (OCP).

13 Müller, B., and Hepburn, C., [IATAL – an outline proposal for an International Air Adaptation Levy](#), Oxford, OIES, 2006.

¹⁴ See, for example, Saleemul Huq and Mizan R. Khan, [Taxing air travel could fund climate victims](#), *The Daily Star*, Dhaka, 14 February 2023.

¹⁵ For more on the workings of the French international solidarity contributions, see Section 3.3.2 of the [IATAL Study](#).

b. Bottom-up Crowdfunding

Alternatively, 'bottom-up' crowdfunding is an option. On 28 May 2013, Ambassador Diann Black-Layne (Antigua and Barbuda) presented, to the first [Forum of the UNFCCC Standing Committee on Finance](#), an award-winning ecbi report¹⁶ she co-authored on [Crowdfunding for Climate Change: A new source of finance for climate action at the local level?](#) The report recommended that the newly-established "GCF should consider creating a microfinance and crowdfunding window as part of its Private Sector Facility. Under this window, the GCF could support countries that create an enabling environment for 'micro climate finance', through accredited national financial entities or competent private or non-governmental entities in the country." Unfortunately, this recommendation was also not taken on board, so that to this day, the Adaptation Fund remains the only operating entity of the Financial Mechanism with a [donate button](#) to enable crowdfunding.

In 2016, an [ecbi Policy Brief](#)¹⁷ introduced the concept of "Corporate Social Responsibility Air Travel Adaptation Crowdfunding (CSR ATAC)", promoting the idea of voluntary contributions to the Adaptation Fund by corporate travellers. The Brief not only discussed why corporate air passengers, in particular, should support adaptation, but also estimated the potential revenue: "Assuming, conservatively, that only one in ten corporate air passengers who offset emissions switch to the proposed solidarity contribution, the scheme would raise over USD 100 million annually at the suggested contribution of 1% of ticket cost".

In February 2017, Oxford Climate Policy and the Environmental Change Institute of the University of Oxford published a brochure on the [Oxford Crowdfunding for Adaptation Initiative: Tapping into Socially Responsible Corporate Air Travel](#), containing a one-page flyer on "Effective CSR for Corporate Air Travel", a succinct market analysis of the target sector (Why focus on socially responsible corporate air travel? Market size and potential revenue), and the mechanics of the scheme. The brochure was complemented by a website for [Corporate Air Passenger Solidarity \(CAPS\)](#).

The concept of 'solidarity' evoked in this context is not necessarily tied to contributions to the Financial Mechanism for adaptation. It would equally be suited to loss and damage contributions. At the same time, CAPS is ready to be piloted and, as such, could easily be tailored to fit with the envisaged loss and damage fund, if crowdfunding was one of the sourcing modalities. However, this would only work if a receptacle for such contributions exists, such as a **crowdsourcing platform** proposed in Section 1.3.

16 The authors won the Popular Choice Award in the 2013 MIT Climate Co-Lab "Scaling renewables in major emerging economies" contest for an idea based on their ecbi Brief.

17 Müller, B., with A. Kornilova, R. Tewari, and C. Warnecke. (2016). [Two Unconventional Options to Enhance Multilateral Climate Finance: Shares of Proceeds and Crowdfunding](#), Oxford ecbi 2016.

2.3.2. Sub-national Auctioning of Global Solidarity Allowances



On 5 December 2015, during Action Day at COP 21 in Paris, Phillipe Couillard, then Premier of the Canadian Province of Quebec, and Al Gore, former US Vice-President, [announced](#) Quebec's contribution of CAD 6 million to the [Least Developed Countries Fund](#) (LDCF) under the UN Framework Convention on Climate Change (UNFCCC). This was remarkable not only because it was one of the first (innovative) contributions by a sub-national government to the Financial Mechanism, but also because the funds came from Quebec's emissions trading scheme (ETS) allowance auctioning proceeds.

Soon after this, OCP/ecbi began working on spreading the idea to Quebec's ETS partners in the Western Climate Initiative (WCI), particularly California, which led to the [Global Climate Solidarity](#) project, in general, and the Californian Pilot scheme, in particular. The latter involves an annual setting aside of several "Global Solidarity Allowances" in the [California Cap and Trade Programme](#) (CCTP) by the California Air Resources Board, the CCTP governing body, "to be sold (monetised) by a suitable non-governmental organisation on behalf of the designated recipients of the scheme, namely:

- the multilateral climate funds (receiving a proportionate majority share); and
- eligible California civil society organization Enhanced Direct Access programmes for the benefit of local vulnerable communities."¹⁸

18 Müller, Benito. (2021). [Global Climate Solidarity: Monetizing Global Solidarity Allowances for the Benefit of the Globally Poor and Vulnerable](#); OCP/ecbi Technical Options Paper for a California Pilot Scheme, p. 2, May 2021.

The mechanics of the California Pilot are based on the allowance set-aside for utilities, gifted to them to be monetised on behalf of their rate payers. This avoids government collection and appropriations procedures, and, therefore, arguably, making it less prone to the domestic revenue problem (Section 2.2.1). Assuming the Global Climate Solidarity set-aside to be equivalent to 5% of the State-owned allowances, this would generate USD 120 p.a.¹⁹ As the funds would be collected by a non-state actor, this model would presumably also rely on a loss and damage crowdsourcing platform to contribute to the Financial Mechanism of the Paris Agreement.

2.3.3. Solidarity Offset Premium from the Voluntary Carbon Market

Potential buyers of credits from the Voluntary Carbon Market (VCM) are concerned about reputational risks associated with such credits and with the VCM as a whole.

Minimising these risks is one of the key reasons why market actors have called for the development of oversight efforts with the mission of promoting the integrity, liquidity, and growth of the VCM. In response, the [Integrity Council for the Voluntary Carbon Market](#) (ICVCM, successor to the Taskforce on Scaling VCMs) and the [Voluntary Carbon Markets Integrity Initiative](#) (VCMI) were established with the aim of, *inter alia*, ensuring the integrity of credits and the VCM at large.

Another ecbi Policy Paper published in 2023 explores the idea of [safeguarding the social integrity of the VCM](#) through contributing a small (5%) SOP—i.e. a **Share Of Proceeds** and/or a **Solidarity Offset Premium**—to the Financial Mechanism of the Paris Agreement. This would support developing countries in adapting and/or responding to adverse climate impacts, with the aim of including such a SOP in the Core Carbon Principles currently under development in the ICVCM.²⁰

But again, while the Adaptation Fund is equipped with a crowdfunding tool via a donate button, this will not work for collecting solidarity offset premiums without a similar crowdfunding tool for loss and damage.

¹⁹ Ibid. p.8.

²⁰ See, for example, [OCP/ecbi Input to the IC-VCM Consultation on Core Carbon Principles](#).

3. Innovative Response Tools

3.1. Lessons from the 1991 International Insurance Pool proposal and the private insurance market to design a new loss and damage response fund

James Cameron (Pollination), with Inès Bakhtaoui

With the advent of the decision to establish a new fund and funding arrangements to assist in responding to loss and damage from climate impacts, the role of the new international funding structure should be shaped by current inequities associated with: a) the cost for and lack of access to insurance; and b) the need for compensatory mechanisms. Such arrangements, if properly implemented, would enable the most vulnerable to both prepare for, recover from, and become more resilient to the inevitable consequences of climate change.

Those consequences are roughly categorised around a combination of slow onset events (SoEs)²¹, such as sea-level rise and desertification, and rapid onset events, such as increased cyclonic activity, although the two are often interrelated. The scale of impacts from cyclonic activity, for example, is much greater in low-income countries, which lack the resources to act quickly and at scale. Their ability to recover is further affected, with measurable lasting impacts on society's well-being and on economic development.

Insurance functions by transferring the risk held by an individual or legal entity to a pool of underwriters by brokers through a set of products backed by capital. By pooling various risks together, the size of the market distributes the risk widely and enables the beneficial effects of insurance to flow into the real economy. Many products and solutions, developed in large part by the private sector, exist for a wide range of climate risks.

Yet, currently, real economy effects due to lack of access to the private insurance market in many developing economies only exacerbates the lack of equity inherent in the impacts and responses to climate change, especially for the most vulnerable. The physical susceptibility of climate vulnerable countries, together with their economic status, means that the cost of insurance and capital together are very high. This further increases their physical, economic, and social vulnerability to climate change by preventing them from mitigating their risks in the form of insurance or other risk transfer tools.

As far back as 1991 and in an attempt to address these issues, Vanuatu, on behalf of the Alliance of Small Island States (AOSIS), proposed an "International Insurance Pool" to

²¹ SoEs involve creeping changes that often go unnoticed over time, accumulate, and cause significant impacts.

respond to the international legal arguments of state responsibility for climate change²² (INC 1991). I was involved in developing AOSIS' original proposal, which supported a built-in insurance mechanism that would both address the burden of paying for loss and damage resulting from sea-level rise, and provide accessible resources to those most impacted, beyond what was available in the private insurance market. In the proposal:

“The Parties recognize that:

- (1) There should be established, as an integral part of the Framework Convention on Climate Change, an International Climate Fund to finance measures to counter the adverse consequences of climate change, and a separate International Insurance Pool to provide financial insurance against the consequences of sea-level rise;*
- (2) Revenue for the Insurance Pool should be drawn from mandatory sources, in particular, developed country assessments; and*
- (3) The financial resources of the Insurance Pool should be new, additional and adequate”.*

Although our proposal was never adopted, insurance was acknowledged in [UNFCCC Article 4.8](#):

“Parties shall give full consideration to what actions are necessary under the Convention, including actions related to funding, insurance and the transfer of technology, to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impacts of the implementation of response measures...”

The principles in the AOSIS proposal, however, were powerfully clear—state responsibility, common but differentiated, ultimately leading to payments into a fund on a per capita emissions basis combined with sea-level rise metrics, with payments triggered by measurable parameters.

While our proposal would have both funded climate resilience and incentivised emission reductions at a macroeconomic scale, history has shown the near impossibility of such an approach. This is because international cooperation most often lacks effective binding guarantees; in fact, the Paris Agreement has further buried the notion of mandatory state

²² The economic research and analytical work was led by Professor David Peace at CSERGE (Centre for Social and Economic Research of the Global Environment). The legal work was undertaken by CIEL (Centre for International Environmental Law) and Michael Wilford, a senior partner in the leading insurance firm Clyde & Co. The author of this section, James Cameron, as Director of CIEL, worked with his colleague Jacob Werksman (now lead negotiator for the EU delegation to the UNFCCC). Both were on the delegation of Vanuatu at the first Intergovernmental Negotiating Committee (INC) in Chantilly, Virginia, in February 1991. Robert Van Lierop, Ambassador to the UN for Vanuatu, presented the case for the newly formed AOSIS at that first INC, which included the insurance proposal. Robert was the first AOSIS Chair, a remarkable advocate (a civil rights lawyer from the US), and he played a central role in the intense negotiations that led to the UNFCCC being signed in Rio in 1992 and later ratified.

responsibility imposed directly by international law and replaced it with voluntary national contributions within an international legal framework.

With the new impetus for loss and damage finance, the international community is presented with three important challenges: how can sufficient funding be raised; how can it be channelled to the right people and through which instruments; and, most importantly, how can these structures be expanded to make them near universal and promote climate resilient societies and economies?

These three questions are interdependent, and the Loss and Damage Response Fund should answer all of them. Much can be learned from the private sector, particularly from the private insurance industry, on how to overcome these challenges. Not integrating the private insurance industry in the solutions offered by the Response Fund would be a mistake.

In retrospect, the private insurance industry has arguably achieved far more for loss and damage than international public money has. For instance, it has launched parametric insurance products, which share many of the attributes AOSIS hoped for in its 1991 International Insurance Pool proposal. It has developed structures, strategies, and products to minimise risks, which have attracted significant amounts of capital. It has also gained the expertise and capacity to distribute these risks effectively.

The designers of loss and damage finance should seek to understand what has enabled such a success for insurance markets to grow. The answer lies in compulsion. Generally, such large-scale results were only possible because insurance markets have legal obligations they must follow. For instance, most countries impose a legal requirement on car owners to have an auto insurance policy. As a response, insurers now incentivise risk reduction behaviours and policies from governments and individuals to minimise the risk of car accidents.

In the case of climate change, this could translate not only into widespread adaptation and disaster risk reduction activities, but also into incentives for mitigating carbon emissions to lower the probability of a climate hazard occurring.

An effective solution would, therefore, combine both prevention of and remedies for climate risks. Not only should this lessen the severity of the risk to human life, property, and ecosystems by rapidly unlocking funding to build resilience, but it should also create macroeconomic incentives to reduce risks.

The real challenge that policymakers face, therefore, is: how to build compulsion into the new loss and damage finance architecture; how to determine the role that a Loss and Damage Response Fund plays; and how to create the legal obligation necessary to build a systemic response in a Paris Agreement-type of structure.

Effective compulsion for the quasi-universal adoption of climate insurance and its funding will have to be devolved to the country or regional level and will most likely depend on a

combination of: enforcement through law (for instance, by tying the issuing of licences to operate with sufficient protection against climate change and a fair contribution to a loss and damage fund); and incentive mechanisms driven by the private sector, including the private insurance sector itself.

We can imagine insurance brokers mitigating financial and reputational risks by requiring big polluting industries to pool resources for a loss and damage insurance or compensation scheme and to engage in sufficient decarbonisation. This approach would not be new for the fossil fuel sector, which has pooled risk and resources to compensate and address oil spills and environmental damage for decades under the [International Oil Pollution Compensation Funds](#). These intergovernmental funds provide proof that countries and companies recognise that a coordinated effort for compensation is possible and can be more effective than individual countries or companies acting on their own. However, for further elaborations on how to source the Loss and Damage Response Fund, please refer to Section II of this report.

At the same time, relying on the private insurance market is not sufficient, as its business models lack incentives to address the full range of real-world climate risks and their roots. Most of the climate resilience solutions developed by insurance companies for the Global South so far are not entirely commercial as they have also been supported by philanthropic organisations to develop the solution itself or to cover the cost of the premium to some extent.

While philanthropic support is minimal in volume, it has had catalytic effects on the development of tailored parametric insurance and other risk transfer solutions. Can you imagine the transformative impact that a large-scale and well-funded public facility playing a similar role would have? It would be uniquely placed to scale up its pilot solutions and create systemic, equitable, and sustainable resilience transition pathways by incentivising compulsory action at the national and international levels.

Similarly, the involvement of national and local governments and specialist organisations, as well as business and civil society representatives, would be essential to tailor each solution to specific contexts, and to prevent excesses from the private sector. Such actors could identify the most appropriate distribution channels to reach all segments of society, even its most marginalised members.

At the local level, [parametric insurance](#) remains an effective tool to support households and businesses who face recurring climate hazards (see examples in 3.2. below). At the national level, state insurance schemes are so common that people do not realise national social protection schemes, such as public health insurance and retirement schemes, are a form of insurance, or that such approaches could [inspire support against unavoidable climate risks](#) linked to SoEs and support for long-term recovery.

Governments also commonly create public insurance schemes or subsidise commercial products to ensure fair and effective protection for all against targeted risks. At the regional level, climate vulnerable countries are also creating regional risk transfer facilities, such

as the [Caribbean Catastrophe Risk Insurance Facility \(CCRIF\)](#), to pool risk and resources around their similar vulnerability profiles.

The strength of the current momentum for loss and damage finance solutions could lie in the creation of a multitude of initiatives, with different focuses, approaches, and priorities. A single international fund will not suffice, but it does have the ability to aggregate and catalyse capital, and coordinate the procurement of other funds and solutions, according to recipients' specific needs and circumstances.

To deploy this new system as widely and rapidly as possible, autonomy should be left to the financial and insurance markets as far as their activities serve the higher purpose of the Loss and Damage Response Fund, as well as respect and promote human and nature's rights indiscriminately. These markets have the experience and economic drive to make quick and efficient decisions, with their own professional reputation on the line. Governments and international institutions will play their roles by building and enforcing strong safeguards and grievance mechanisms in a democratic manner that involves the equitable involvement of civil society in the process and, ultimately, ensures prioritisation of the public good.

Of course, insurance, and particularly the private insurance market, is insufficient to cover all aspects of loss and damage. A compensatory fund would have to enable provisions for uninsured losses, whether due to low payouts, uninsurable risk, or non-economic damage, and prioritise long-term resilience. The private sector is already developing interesting examples tying [payments for ecosystem services to the resilience that nature-based solutions can offer](#), which could be explored further.

However, these examples are still in their early stages and, thus far, do not cover the intrinsic value that ecosystems have to offer or their complex relations with Indigenous communities. We know that decision making based on economic cost-benefit assessments have repeatedly failed the most vulnerable, including women and minorities. This chapter, therefore, introduces examples of how a Loss and Damage Response Fund could address non-economic losses and damages, such as [psychosocial impacts of disasters](#) and the [relocation of cultural and spiritual sites](#). It also presents solutions to support a just transition for those whose income and livelihoods have permanently been affected by slow-onset events, particularly climate migrants and those who decide to stay behind.

In conclusion, this new Loss and Damage Response Fund presents a unique opportunity to create a system with tremendous influence on decision making by governments and provide a significant compensatory mechanism for the most vulnerable populations. Relying on existing solutions and risk distribution systems built by the insurance market is the fastest and most systematic way to achieve just that. Now is the time for governments to take responsibility to create policies that lead to fair and sustainable insurance that can thrive, so insurance can, in turn, influence policy.

3.2. Insurance and risk transfer options for the recovery from rapid onset events

3.2.1. Protection against extreme events for the most vulnerable—the UNCDF, UNU-EHS, and UNDP’s Parametric Climate Risk Microinsurance in the Pacific

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The United Nations Capital Development Fund (UNCDF), the United Nations University Institute for Environment and Human Security (UNU-EHS), and the United Nations Development Programme (UNDP) are jointly implementing the [Pacific Insurance and Climate Adaptation Programme](#) (PICAP), which is developing innovative market-based climate risk insurance solutions for the most vulnerable populations in the Pacific.

Through its two-year inception phase (2020-2022), PICAP facilitated the development and launch of the first parametric climate risk microinsurance products in the Pacific region, specifically in Fiji, Vanuatu, and Tonga, insuring 1,388 farmers and fishers (32% women) in its first year (2021/2022 cyclone season) and 4,799 (47% women) in its second year (2022/2023 cyclone season).

Policyholders receive payouts when pre-defined parameters (amount of precipitation or wind speed) are reached or exceeded in their respective districts. For that, satellite and weather station data are continuously monitored. The products are structured in a way so that the more severe a cyclone is and the closer it passes to the policyholder’s location the higher the payouts. As recently as February 2023, a [first-of-its-kind payout was triggered by heavy rainfall in Fiji](#), where more than 559 insured farming and fishing households (41% women) received quick payment via mobile wallets. Further research on the success of these payments is being conducted.

One of the advantages of parametric climate risk insurance schemes, such as the ones developed and offered through PICAP, is that payouts can be made within days following the occurrence of an extreme weather event. Unlike traditional indemnity-based insurance, no lengthy damage assessments are necessary. The rapid and successful implementation of the PICAP was only possible through strong ownership and collaboration from private and public counterparts in all countries.

The new climate risk insurance products in the various markets are offered by national and regional insurance providers, including FijiCare, SUN, and VanCare, as well as Tower insurance. The latter joined during the PICAP’s second year after seeing the value and success of offering parametric climate risk insurance products by other insurers in the region.

On the public side, the Reserve Bank of Fiji agreed, for example, to pilot the new insurance products under its regulatory sandbox²³, thereby committing to create an enabling regulatory environment for climate disaster risk financing and insurance solutions. The Government of Fiji also waived the VAT for the new products, helping to make them more affordable even for low-income groups.

Leveraging digital solutions helped reduce the insurance premium even further. For example, a new digital platform for insurance and aggregator partners, such as cooperatives, allows them to seamlessly enrol their members and other new beneficiaries. This platform, as well as the use of existing digital payment channels such as mobile money for payouts, creates efficiencies and saves costs, thereby reducing premiums for policyholders. In addition, innovative distribution methods and bulk signup through aggregators, including cooperatives, enables smallholder farmers, for example, to overcome the temporary liquidity constraints they would face if they paid the full insurance premiums before the start of the cyclone season.

Recognizing the need to support the most vulnerable more directly, the PICAP, together with the Government of Fiji, introduced a specific parametric climate-risk insurance product for social welfare beneficiaries, which will gradually protect the entire population covered by the national social protection system through a macro-to-micro insurance mechanism. The insurance product protects beneficiaries against extreme wind events, such as cyclones. The Government of Fiji uses international budgetary support and development assistance to purchase this product for social welfare beneficiaries and pay for their premiums. The insurance contracts are, nevertheless, between the insurance companies and individual policyholders. When payouts are triggered, this setup enables direct transfers to the respective social welfare beneficiaries via mobile money, so time is not lost channelling money through traditional social protection schemes.

During its ongoing expansion phase (2023-2025), the PICAP is working to introduce climate-risk insurance in additional Pacific Island countries, including Kiribati, Samoa, and the Solomon Islands. It will also refine existing insurance products and broaden outreach to the most climate-vulnerable populations, for example by launching products not only for individuals but also for micro, small, and medium enterprises, which are often underserved in their access to disaster risk financing solutions.

23 A regulatory sandbox is a legal classification that creates a space where participating businesses are not subject to onerous regulations—usually for a limited amount of time. The point is to allow these businesses to “play” in the sandbox without regulations to determine whether innovative ideas and products can gain traction and enter the market.

Box 3. Additional Examples of Insurance Schemes

- [Howden Group's Climate Risk and Resilience](#) team, which specialises in parametric insurance with a focus on market analysis, software solutions, product structuring, and pricing (see for instance their [parametric insurance for Jamaican farmers](#)).
- [Extreme Heat Income Micro-Insurance](#), Arsht-Rock's new parametric insurance product, which will help 21,000 women in India cover wages they would otherwise lose due to climate-driven extreme heat.
- [InsuResilience Global Partnership](#), which [developed a brief](#) on linking climate-risk insurance with shock-responsive social protection.

3.2.2. Funding long-term resilience through private finance: Pollination's Resilience Company Model for ecosystem-based risk reduction services

Inès Bakhtaoui, with Rohit Das (Pollination), Stuart Martin (Howden), and James Cameron (Pollination and Howden)

The previous examples introduced how public and private insurance schemes can be used to transfer risks away from individuals and companies. However, as climate change worsens, the private insurance market is experiencing an increase in the number of claims. Insurance brokers may react either by increasing premiums, making insurance less affordable for vulnerable households, or exiting the market altogether. In any case, delays in climate action are costly and disincentivise private sector involvement.

Meanwhile, risk reduction investments are underfunded. Populations most vulnerable to climate change rely heavily on public funding to adapt and transform their livelihoods in the wake of climate impacts. Long-term recovery from climate-induced losses and damages is facing similar prospects. Yet donation-dependent adaptation is falling short. One of the biggest challenges for resilience practitioners is to attract private finance into such investments—which are not prone to generating profit.

An upcoming business model, the **Resilience Company (ResCo) Model**, aims to solve this market failure. Developed by [Pollination](#), a specialist climate change investment group, the ResCo Model combines climate-risk insurance with targeted private investments into activities and assets that reduce that same risk, in a scheme which generates profit for investors and resilience benefits for the local population.

To illustrate the ResCo Model, consider a growing coastal city in Southeast Asia, whose economic development is limited by increasing climate risks. Over the last decades, the mangroves that protected the coast from adverse weather events have been damaged by economic activities and a recent hurricane further damaged this natural barrier. The city has identified rehabilitating the mangroves as a priority to build resilience against future extreme weather events. However, the recent hurricanes have also taken a toll on the town's infrastructure and hampered its ability to make the initial investments necessary to recover its mangroves.

Under the ResCo Model, an insurance broker would provide parametric insurance to the city against future hurricanes. Meanwhile, private investors would set up a company to rehabilitate and manage the mangroves. The insurance contract covers damages to the company in case a new hurricane hits in the early phases of the project, thereby offering protection until the mangroves generate resilience benefits (which can take a few years). The insurance broker later benefits from the mangroves as they decrease the risks of damages to the community caused by hurricanes and pays the company for the resilience ecosystem services generated by its mangrove management services. The insurance broker can indeed estimate savings generated from the decrease in risk provided by the mangroves, which are paid back to the mangrove management company and form a revenue stream. The Loss and Damage Response Fund could potentially serve as a counterparty on the insurance agreement for the broker, especially in countries where the government lacks the capacity to do so. This example provides additional benefits for the local population, including renewed biodiversity and/or new local employment opportunities.

This Model was recently tested for the first time in the United Kingdom by the British Environment Agency in the context of flood risks. Seven to ten years after the initial investments, it showed a positive return, albeit a small one. The results are expected to be published in 2023.

However, the Model is not a panacea, as it only works for areas with sufficient economic value that are also at risk, such as a growing town, city, or industrial area. Small and remote communities, for instance, do not qualify for this type of private investment. To leave no one behind and to help the most vulnerable, the Loss and Damage Response Fund must, therefore, anticipate provisions for long-term recovery and resilience for those who would not otherwise attract private investments. Such support can be provided in the form of grants, social protection, and direct technical support. Measures must also be anticipated for residual risks not covered by the ResCo Model in areas where it applies.

Meanwhile, the Red Cross and Replexus are currently developing an **Asia-Pacific Blended Financing Facility**, which aims to protect communities from natural disasters, while also contributing to the restoration of valuable and vulnerable ecosystems, which in turn provide resilience co-benefits. Using the example of mangrove management in the region, the Facility would: generate revenue through the sale of carbon credits induced by mangrove growth; set up a catastrophe bond—an insurance product that transfers disaster risks to private investors—to, in part, support disaster relief for affected communities, and future mangrove projects, as well as pay for catastrophe bond premiums; and act as a trust fund that pools capital from these resources as well as potential donations, and invests them in capital markets to generate revenue for the Facility.

Importantly, these solutions are both still in their very early stages, and many unknowns and uncertainties remain before the products become marketable, including: how to optimize resilience dividends in the ResCo Model; whether such projects will indeed attract investors; and how to adapt them to a variety of risk profiles. Such products would, therefore, benefit from the support of a Loss and Damage Response Fund to further test and scale them up. Such a

fund can also play a crucial role by convening partners, subsidizing the insurance policy, acting as a counterparty on insurance agreements, supporting pilots, and de-risking investments in the project, especially in developing economies where investors tend to be risk averse.

Natural carbon storage solutions have huge potential for co-benefits when developed by and for affected communities. Yet, mounting evidence shows that nature-based solutions and off-setting projects can lead to violence against Indigenous Peoples and cause more harm than good to local ecosystems. Unregulated, voluntary carbon markets have been proven ineffective or even counterproductive as they further legitimize the narrative that companies can outsource their emission reductions quickly and cheaply. Private sector involvement in the Loss and Damage Response Fund must, therefore, be carried out with the utmost precaution, given the ethical implications of generating profit in situations where people suffer from climate change. We suggest that the Loss and Damage Response Fund impose the highest standards of no-harm precaution to all its partners, adopt robust safeguards, and guarantee their enforcement.

Box 4. Other Private Finance Examples

- [Global Fund for Coral Reefs](#), which acts as an investment vehicle to fund innovative business models that increase the resilience of coral reefs and the communities that depend on them.
- The catastrophe bond market, an area where private investors can be involved is elaborated in [Climate change implications for the catastrophe bonds market: An empirical analysis](#) (Morana & Sbrana, 2019).

3.3. Migration and Slow Onset Events: Tools to Enable a Just Transition

Mizan Khan (International Centre for Climate Change and Development – ICCCAD)

3.3.1. Framing of a just transition in climate vulnerable countries hit by slowonset events

Displacement, particularly of poor communities from their homes, is one of the effects of climate impacts, both in the context of rapid onset events, such as floods, cyclones, and storm surges, and slow onset events (SoEs), such as sea-level rise, desertification, land degradation, and melting glaciers. In both cases, increasing displacement, particularly of poor people in populous regions like South Asia, is a mounting humanitarian failure (Singh, et al. 2020). Yet, much more attention has been given to dramatic rapid onset events and associated population displacement rather than to SoEs. Displacement related to SoEs is usually overlooked, as it happens at a much slower pace, and often results from multiple stressors, making direct causal links to climate change much more difficult to establish (Tosun and Howlett, 2021). Nevertheless, slow onset-induced displacements must be

addressed to offer dignity and well-being to affected individuals and communities. This section presents two instruments as options for communities internally displaced by climate-induced SoEs.

We suggest reframing migration and displacement in the context of just transition, which under the UNFCCC, currently involves addressing the impacts of response measures to mitigate climate change (Preamble, Paris Agreement; UNFCCC, 2018)²⁴. It warrants a smooth transition from a fossil fuel-based economy to a low-carbon and climate-resilient one, particularly for workers in carbon intensive industries by enabling them to diversify their job opportunities. Just transition can, therefore, be understood as a form of adaptation to the impacts of climate change mitigation.

In Bangladesh and other countries that are not big fossil fuel producers but are particularly vulnerable to the effects of climate change, just transition could benefit from a reconceptualization. We Extending the concept to include measures to respond to the impacts of climate change on jobs and workers, particularly in the context of SoEs, which often result in accelerated and more permanent displacement (Khan & Afsara, 2022).

In this context, [reframing the concept of just transition](#) to just impact transition (JIT) would expand the transition to include all the consequences of climate action on workers and jobs, whether to avoid L&D (through mitigation and adaptation), minimise L&D (through adaptation), or address L&D. This section focuses on the latter, i.e. on instruments that offer JIT conditions for individuals and communities whose livelihoods are already affected by climate impacts.

3.3.2. Options for internally displaced people from slow onset events in Bangladesh

Several financing mechanisms are available that could support and compensate individuals in the wake of rapid and slow onset events. For example, parametric insurance and social protection schemes can be combined with regional or national contingency funds. However, commercial insurance is not usually a viable option for SoEs as it relies on the risk of an unpredictable event occurring, while SOEs are predictable events (Robinson, et al. 2021). In the context of climate-induced migration, monetary compensation must be accompanied by policy measures, infrastructure, and services to ensure that the well-being and dignity of the migrants and those who decide to stay behind are preserved, and that they have livelihood options.

The Bangladeshi context is characterized by acute land scarcity and, thus, by the lack of virgin space for relocating climate displacees. The overwhelming share of those displaced by climate change around the world choose to resettle within their own country, indicating that in-country adaptation is the most viable option. The global community of practitioners on disaster displacement, including the UNFCCC, primarily recommends this option. Thus, internal displacement should be considered as the first option. Alternatively, two home-

24 A decision at COP27 in Sharm el-Sheikh established a Just Transition Work Programme and discussions are ongoing.

grown choices, which evolved out of sheer necessity for the survival of a huge proportion of the population in Bangladesh, would benefit from adequate international support, which is currently lacking.

3.3.3. Promoting migrant-friendly towns

For the last few years, the [International Centre for Climate Change and Development \(ICCCAD\)](#), at the Independent University of Bangladesh, in partnership with [BRAC](#)²⁵, has cooperated with several coastal towns and small cities to promote them as migrant-friendly –where migrants who leave their inhospitable homes can settle and manage various income options, as well as have access to other minimum amenities.

The basic parameters for safe and orderly movement of migrants are to, inter alia, embed employment, social protection, access to education, housing, health services, and utilities within the adaptation and loss and damage plans and priorities of those towns and cities. There, we advocate for national and local governments to develop migrant-friendly plans considering three elements: building resilient hardware, such as low-cost housing, industries for employment generation, and other infrastructure; software, such as legal, policy, and institutional frameworks; and “heart-ware”, which entails promoting awareness, and reflecting local values and ethics (Khan, et al. 2021). Although government support is important, engagement of the private sector, NGOs, civil society, and university-led research are also necessary to enable such efforts.

Such initiatives have multiple co-benefits. They divert the tide of migration away from Dhaka and other large cities toward smaller towns, as well as facilitate the decentralization of climate-resilient development. We observed that if opportunities were similar to those found in bigger cities, the uprooted populations would prefer to settle in a town closer to their ancestral home in order to maintain kinship and cultural comforts.

This process is rooted in a participatory and consultative approach involving municipal authorities, host community leaders, and settlers. The Bangladesh National Strategy for Management of Disaster and Climate Induced Internal Displacement (2019) includes such options as supporting livelihoods for new settlers and skills development, both in displacement hotspots and in new settlements. However, this requires adequate international support, which the Loss and Damage Response Fund could provide once it is operationalised and capitalised.

3.3.4. Microfinancing as a tool to address L&D for those who stay behind

Microcredit was initiated and promoted in its modern version by the Grameen Bank, which was established by Muhammed Yunus in the early 1980s as an instrument of poverty reduction and adaptation in Bangladesh and elsewhere (Agrawal & Maelis, 2010). As a result of long-term SoEs, including increasing salinization from sea-level rise, temperature rise, and land degradation, many habitats in vulnerable hotspots are becoming increasingly

25 BRAC is an international development organisation based in Bangladesh.

inhospitable to continuing livelihoods particularly in agriculture, carpentry, and small businesses, which men usually occupy. This often triggers migration, particularly of able-bodied male populations, to nearby towns or to metropolitan cities like Dhaka in search of alternative livelihoods.

During the initial stage, family dependents, such as older parents, wives, and children, are left behind because of uncertainties in settling in new areas. Thus, women-led households that stay behind often take advantage of microcredit to generate income from diverse activities based on local resources, such as vermicomposting, goat rearing, quilt stitching, and roadside tea stalls. These activities, including vegetable gardening in tiny homestead plots, can continue even in the face of impacts from SoEs. In Bangladesh, the Grameen Bank, BRAC, and many other microfinance institutions provide micro-loans, where more than 95% of clients are women, who have been more reliable and consistent in paying back their loans than men. Micro-loans are often the only option for liquidity, as few grant options exist for SoEs either from national or international sources (Oxfam, 2020). However, microgrants, notably through unconditional cash transfer and social protection systems, would be a more appropriate response given the injustice that most vulnerable populations face in the wake of SoEs (Bakhtaoui and Shawoo, 2022).

Female-headed households in Bangladesh reportedly spend three times as much as male-headed households on climate-related expenditures (18.8% of income for female-headed households compared to 6.5% for male-headed households) (cited in Islam and Tasnim, 2019). It is, therefore, important to recognise that poor women as frontline victims of climate change consider climate action a higher priority and are key actors in promoting climate change resilience and recovery in their communities.

This model is being replicated in many countries both in the Global South and Global North. It has also been promoted in many developing countries through the Pilot Programme for Climate Resilience (PPCR) under the Climate Investment Funds (CIF, 2017). The challenge for microfinance instruments is to align with local needs and priorities to address loss and damage at the local level, including the preference for grants over loans. Here, we note an overlap between adaptation approaches and loss and damage finance, which are both required to combine their resources to effectively address the losses and damages inflicted by climate change.

3.3.5. Way forward

SoE-induced displacements in populous countries like Bangladesh impose an additional pressure toward enabling a just transition for their populations. In such predicaments, this brief discussed two home-grown options: the model of making existing smaller towns and growth centres more migrant friendly; and using the contribution of women-led microfinance systems to enhance poverty reduction and recovery capacity.

However, the most vulnerable countries and communities lack the minimum provisions to support the growing number of climate-induced displacees. Therefore, the Loss and Damage

Response Fund must make supporting climate migrants through the mobilisation of adequate finance a priority, in addition to using existing climate funds. This represents a significant challenge, for which the global community must explore new and innovative funding sources.

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3.4 Tools to respond to non-economic loss and damage

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3.4.1. Introduction

[Non-economic loss and damage](#) (NELD) refers to the broad range of losses and damages induced by climate change impacts that cannot be measured in monetary terms, in contrast to economic loss and damage for which monetary valuation is possible (e.g. infrastructure, assets, and income).

Developing a typology for NELD is not an easy task. Past attempts generally divide NELD into three categories: health and well-being, culture and spirituality, and biodiversity and ecosystems. These categories, which overlap and interact with each other, can be further applied to three levels of impact: individual, societal, and environmental. An example of a typology is presented below.

Figure 1: Typology of Non-economic Loss and Damage



Source: [Fankhauser, et al. 2014](#)

NELD and economic loss and damage are intertwined, but, thus far, humanitarian, development, and adaptation practitioners have largely focused on saving lives and economic recovery, through reconstruction and rehabilitation. Ecosystem recovery has been limited to quantifiable services associated with certain economic sectors, like tourism. Meanwhile, the intrinsic value of ecosystems and the cultural practices and livelihoods that depend on them have been ignored as they are not easily translated into an economic value. This often leads to an underestimation of actual loss and damage faced by front-line communities ([Griswold et al. 2022](#)).

NELD are likely to bear more importance than economic loss and damage for households and communities in developing countries ([Fankhauser et al. 2014](#)). Recognizing and managing the risk of NELD should, therefore, be a central part of loss and damage recovery interventions given their impact on human welfare. It is against this backdrop that this section focuses on key solutions to address NELD in the context of a Loss and Damage Response Fund.

One of the most critical yet overlooked aspects in most interventions related to NELD is psychosocial support. Climate change is widely acknowledged to predispose individuals to develop and/or trigger mental illnesses through psychosocial problems that accompany disasters, such as trauma, poverty, and community breakdown ([Saeed and Gargano 2021](#); [IPCC 2022](#)). Thus, the first example presents on ways the provision of mental health and psychosocial support can respond to the mental health impacts of climate change.

Climate change also impacts cultural heritage, which is crucial for the identity and cohesion of communities and includes the distinctive intangible (e.g. linguistic, spiritual, intellectual,

emotional) and tangible (e.g. art, monuments, ancient burial sites) features of a social group. The second example highlights the importance of socioeconomic and customary elements in loss and damage recovery strategies.

However, these examples do not cover the majority of non-recoverable NELD. They underscore the limits of recovery-based interventions, which cannot address the loss of identity, the loss of social cohesion in communities, or the loss of knowledge (Nand et al. 2023). Often, the only appropriate way to address such NELD is through symbolic activities and indemnities, such as active remembrance, apologies, material compensation, and guarantees of non-repetition (Addison et al. 2022).

Finally, we emphasize that interventions to address recoverable NELD cannot and should not be limited to the types of activities presented in the examples below. Research has shown that NELD is extremely complex and highly context specific, which requires each solution to be developed in cooperation with the affected communities. Thus, classifications—including the one presented above—are only indicative tools and should not be used as sole benchmarks for designing NELD interventions (Tschakert et al. 2019). Emerging discourse and best practices suggest grounding NELD interventions in the views and priorities of affected communities on a case-by-case basis and through an inclusive process (Van Schie et al. 2023).

3.4.2. Training programmes for community-based mental health and psychosocial support related to natural disasters in Asia

Asia is highly vulnerable to climate-related hazards. In 2021 alone, over 100 natural hazard events in the region affected nearly 50 million individuals, causing over 4,000 fatalities (WMO 2021). Climate change has increased the frequency and severity of natural disasters in the region, threatening mental health and psychosocial well-being. Vulnerable populations, such as low-income groups who often live in remote disaster-prone locations, face an increased risk to adverse mental health effects and require special consideration in response and recovery measures. However, in the aftermath of disasters, priority is often given to physical recovery and rebuilding to meet the immediate needs of people partly due to the less visible nature of mental health.

In 2012, the Institute of Mental Health and the Temasek Foundation (Singapore) launched the [Disaster Mental Health Programme for Communities in Asia](#), which developed community-based training programmes in mental well-being and resilience against disasters in Thailand, Indonesia, and China. The programme used the “train the trainer” model to develop context-appropriate psychosocial care in response to natural disasters over three years. Mental health professionals trained community leaders, NGO members, teachers, and local healthcare providers on how to provide mental health support in a crisis context who could then, in turn, train members of their own communities using locally adapted methods. As a result, and in the aftermath of the 2014 earthquake in Chiang Rai, Thailand (measuring 6.3

on the Richter scale), programme participants from Thailand were able to provide mental health support to help earthquake victims cope with post-traumatic stress disorder (PTSD).

Building on this successful case, a community of practice has since been established in Thailand to strengthen a national and local network that can reduce psychosocial impacts of disasters on affected populations ([Institute of Mental Health 2015](#)). In Sichuan, China, training was based on a local needs assessment and reflected different risk profiles in the communities. Children were identified as a high-risk group for trauma and psychological first aid was prioritised for people on the frontline in disaster hotspots (*ibid*). Prioritising the most vulnerable helps prevent the deepening of inequalities and vulnerabilities following climate-related disasters.

Yet, in many communities, mental health issues are stigmatised, which hinders people from seeking support despite the well-understood and persistent long-term effects of trauma on resilience and well-being. This stigma, associated with the dismissal of mental health as a priority in the context of survival, makes it difficult to understand the extent to which climate change impacts affect mental health and the well-being of frontline communities ([Hayes and Poland 2018](#)).

However, prioritising engagement with affected communities can facilitate the sharing of experiences and help define sustainable psychosocial support recovery programmes that can better meet communities' needs. Such approaches also enable implementation of interventions within existing community structures, which can bolster social cohesion and support collective recovery in the aftermath of disasters. Additionally, community-centred mental health programming can be crucial in addressing mental health challenges related to SoEs. For example, sea-level rise and coastal erosion may induce feelings of stress and anxiety with respect to potential displacement from one's land. Creating local support groups can help communities share the emotional and psychosocial burden of loss and damage.

Communities who are most vulnerable to climate change impacts are also historically under-resourced for mental health. Consequently, a continuum of funding, as well as an increase in investment, for mental health during and following climate change-related disasters is necessary. The Loss and Damage Response Fund could make explicit provisions for mental health, including scaling up mental health support capacity for pre-existing community personnel and community outreach volunteers so they can better respond to climate-related disasters through, for example, the provision of Psychological First Aid²⁶.

26 Psychological First Aid is an evidence-informed modular approach for assisting people in the immediate aftermath of disaster to reduce initial distress and to foster short- and long-term adaptive functioning.

Box 6. Addressing psychosocial injustice

The World Health Organization (WHO) notes that the availability of mental health services is limited by gaps in funding and the lack of trained personnel. Globally, only 28% of countries have a functional health programme that integrates mental health and psychosocial support within disaster risk reduction and recovery, including for climate-related hazards (WHO 2020). Recurrent stigmatisation and lack of recognition of mental health in many contexts, as well as scarcity of data on mental health impacts and care, hinders the capacity to identify vulnerable populations and develop targeted responses. Therefore, the task ahead is to make climate-related mental health issues more visible among practitioners and policymakers to benefit those most vulnerable to climate impacts.

3.4.3. Salvaging and restoring tangible cultural assets—learning from relocations linked to the mining industry in Senegal

Much can also be learned from relocations linked to the mining industry. For example, the region of Kedougou in Senegal, found near the tripoint of Senegal, Guinea, and Mali, is home to 98% of Senegal's gold mines. Artisanal and small-scale gold mining is vital to the area's local economy. Since 2009, the national government has granted exploration and exploitation permits to large mining companies to exploit the region's gold resources, which has led to the expropriation of several local communities.

These relocations are allowed by the national government, which owns most of the land the communities live on (and, therefore, everything below it), but engender conflicts with local communities over land use. The relocations are preceded by environmental and social impact assessments and agreements with the displaced communities on resettlement and compensation for their assets and investments. However, they create tensions with local communities who have lost their main source of income, namely artisanal gold mining. In a [report published in 2014](#), Amnesty International reported on malpractices in the relocation practices of Teranga Gold Corporation (a Canadian mining giant involved in the region), particularly concerning the quality of a relocation site's infrastructure, and the lack of resources (water, land) for the subsistence and livelihoods of displaced communities. However, more recently mining companies are increasingly worried about their reputations and, thus, are taking more care in their relocation processes.

For example, over the last year, the village of Sabodala in the Kedougou region was the first reported case of the resettlement of a community and its sacred burying ground and site by Teranga Gold Corporation, following a long process of consultations and negotiations with local communities. This example illustrates the potential challenges faced when relocating populations and their cultural assets, and the importance of participatory and inclusive processes to achieve these objectives.

The community chief, local officials, and the company began negotiating resettlement of the community in 2016. However, the move was not without its problems and negotiations took place over three years. As the community has a deep cultural connection to its burial practices, which includes burying their loved ones in sacred sites near their homes, one of

the main concerns raised by the community was the disruption of their cultural practices. As such, the community had to come to terms with the traumatic decision to exhume the remains of their ancestors and move them to a new burial location.

The relocation of the site, which also included a sacred stone, was conditional on the approval of a spiritual leader. The villagers also maintained they would relocate together so that old neighbours would remain neighbours at the new site. Similarly, tombs that were located side by side at the original site had to be placed side by side at the new site. The mining company and government officials have worked closely to address these concerns and to ensure that the relocation process is carried out with respect for the community's cultural practices. The relocation process was completed in 2023. Its impact on the community in Kedougou and its cultural practices are still being assessed, but community members are decidedly committed to preserving their traditions and ensuring their ancestors are relocated with dignity and respect.

Such relocation efforts are already taking place in the context of climate change. For instance, due to sea-level rise, residents from the Fijian village of Vunidogoloa were successfully relocated in a case in which communal unity and traditional duties to ancestors played a crucial role in the deliberations ([Charan, et al. 2017](#)).

The expected rise in sea levels and temperatures, and changes in precipitation patterns, will only exacerbate the risks vulnerable populations face, making it more likely they could lose their ancestral lands. As a result, both voluntary and involuntary relocation will become a necessary response to climate change and can potentially result in a loss of identity, livelihoods, and culture. The examples above show that the relocation of tangible cultural and spiritual assets is possible, but takes time, requires inclusive processes, and can still result in malpractices or human rights violations. Relocation should, therefore, be avoided as much as possible, respect the preferences of affected populations if necessary, and always include robust safeguard and grievance mechanisms.

While physical cultural heritage such as archaeological sites can be salvaged and moved as part of relocation efforts as those described above, intangible cultural heritage is more difficult to address. This includes loss of identity and sense of place, as well as associated distress due to climate-induced displacement and relocation, which further reduces the resilience of people to future climate change impacts. However, the relocation of key cultural, social, and spiritual tangible assets can help with the preservation of intangible goods, such as well-being and sense of community, for the displaced communities.

Salvaging or relocating cultural heritage will also require adequate funding, as vulnerable populations will be unlikely to bear the burgeoning costs of climate-induced relocations alone. The Loss and Damage Response Fund can provide direct-access windows for local action to enable recovery work that not only considers the financial and bureaucratic conditions surrounding salvaging or restoring cultural heritage, but also the numerous socio-cultural features that encompass the community. This may involve ensuring a legitimate approach,

advance planning and consultation with the communities, and the use of civil society groups as intermediaries for the communities where necessary.

Box 6: Other examples and resources

Morganstein, J.C., and R.J. Ursano. (2020). [Ecological Disasters and Mental Health: Causes, Consequences, and Interventions](#). *Frontiers in Psychiatry*, Vol. 11.

Pearson, J., Jackson, G., and K.E. McNamara. (2023). [Climate-driven losses to knowledge systems and cultural heritage: A literature review exploring the impacts on Indigenous and local cultures](#). *The Anthropocene Review*, 10(2), 343-366.

WHO. (2022). [Mental Health and Climate Change: Policy Brief](#).

Ayeb-Karlsson, S., A. Chandra, and K.E. McNamara. (2023). [Stories of Loss and Healing: Connecting Non-Economic Losses and Damages with Gendered Wellbeing Erosion in the Asia-Pacific Region](#). *Climatic Change*, 176, 157.

Amnesty International. (2014). [Mining and Human Rights in Senegal: Closing the gaps in protection](#).

5. Conclusion

As presented in this brief, the recently adopted decision on a fund and funding arrangements for loss and damage provides a unique opportunity to further explore innovative funding sources and different types of response tools. This will surely be needed as temperatures continue to rise and the ability to adapt is further tested. Given that the economic cost of loss and damage is projected to be around USD 400 billion a year or more by 2030 alone^{27,28} and up to 1.8 trillion by 2050, a fund based on models currently used by multilateral funds that have complicated processes where it can take years to get funding, will not be sufficient to meet the challenge. In addition, a significant amount of loss and damage cannot be expressed in monetary terms. This too will need to be responded to in creative ways, as some of the examples above illustrate.

Future efforts will differ drastically from the way things are currently done, the challenge will be to ensure that the sources of funding predictable, reliable and at scale to meet the growing needs of L&D. Already, there is some movement on this front. **An international taxation taskforce, expected to be launched at COP 28, will** consider a range of options, including levies on international shipping, aviation, financial transactions, and fossil fuels, which could help fund the response to loss and damage.

On the other end, it must be utilized in pragmatic ways that best support those impacted the most by climate change. Many solutions already exist and are being implemented on the ground by those affected populations in order to respond to economic and non-economic losses and damages. Actions enabled by L&D finance must respect the priorities and needs of the most affected and prioritize their autonomy and agency to act against climate impacts and respond to loss and damage. More untapped ideas are regularly being developed to address new and unseen impacts. They deserve careful attention for the potential relief and support they can offer.

27 Baarsch, F. (2015). [Impacts of low aggregate INDCs ambition](#). Climate Analytics.

28 Markandya, A., and M. González-Eguino. (2018). [Integrated Assessment for Identifying Climate Finance Needs for Loss and Damage: A Critical Review](#). Part of the Climate Risk Management, Policy and Governance book series.