



STUDY

Climate Finance for Addressing Loss and Damage

How to Mobilize Support for Developing
Countries to Tackle Loss and Damage

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Caroline-Michaelis-Straße 1
10115 Berlin
Phone: +49 30 65211 0
kontakt@brot-fuer-die-welt.de
www.brot-fuer-die-welt.de

Lead Author Thomas Hirsch,
Climate & Development Advice

With contributions from

Mizanur Rahman Bijoy,
Ojelel Benjamin Etubi,
Lilian Kantei Joseph Imuton,
Genevieve Jiva, Andrew Masaba,
Sabine Minninger, Sixbert Mwanga,
Kenedy Orach, Mohammad
Mahbubur Rahman, Wande Rajabu,
Gerold Schmidt

Editors

Elena Cedillo, Johannes Grün,
Sebastian Landsberger, Maike Lukow,
Athena Peralta, Lisa Binder,
Isaiah Toroitich

Legally responsible for content

Klaus Seitz

Photos Jörg Böthling (p. 41);

Climate Action Network

Tanzania (p. 18);

Jens Grossmann (p. 24, 47, cover);

Thomas Lohnes (p. 34);

Lutheran World Federation (p. 16);

Network on Climate Change,

Bangladesh (p. 13);

Frank Schultze (p. 5);

Thomas Venker (p. 11)

Layout Katja Tränkner (Write Now)

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Preface

As faith-based and humanitarian networks, we understand that climate change will challenge all parts of society. Our particular focus is on the well-being and protection of creation and the poorest and most vulnerable people in developing countries. The need for a comprehensive protection agenda is accelerating day by day with runaway climate change.

The injustice of climate change means that the world's poorest countries, which have done the least to cause the climate crisis, are hit the hardest by climate change impacts and driven deeper into vulnerability, poverty and debt. The financial support and action towards climate change mitigation and adaptation are too little to respond to the climate emergency and increasing climate-related loss and damage.

Frequent droughts, cyclones, flooding and other climate-related disasters are putting a strain on our capacity and that of other humanitarian and development agencies. Even when the humanitarian system works, it can be cumbersome, causing delays in getting funds to those who need them most for relief and recovery. Often this financial support to address climate change impacts in vulnerable developing countries is insufficient, delayed and given in the form of loans, thus increasing these countries' debt burden and putting full recovery further out of reach.

There is currently no international mechanism that provides support to developing countries to recover from climate-induced "loss and damage" linked to the polluter pays principle.

Developing countries continue to push hard within the UNFCCC process for an improved loss and damage mechanism that provides much-needed finance.

This year the UN climate summit (COP25) in Madrid presents an important opportunity for progress on financing to support vulnerable developing countries and communities to comprehensively avert, minimize and address climate-induced loss and damage and to build their resilience to the impacts of climate change.

With this publication, we wish to contribute to the discussions on loss and damage finance, specifically highlighting the needs of the most vulnerable population groups and the responsibility of the polluters as well as of rich countries. Our faith-based humanitarian and development work, as well as our continuous interaction with, and presence in, communities through our churches and partners, enable us to provide important facts and bear witness to the urgent need for loss and damage finances.

If world leaders fail to deliver on this, the deepening climate and debt crises will make it impossible for poor countries to ever meet the Sustainable Development Goals, and the climate injustice gap will continue to grow. This is unacceptable for us, both from a faith and ethical imperative and from a human rights perspective.

REV. DR. h. c. CORNELIA FÜLLKRUG-WEITZEL

President, Bread for the World

RUDELMAR BUENO DE FARIA

General Secretary, ACT Alliance

REV. DR. OLAV FYKSE TVEIT

General Secretary, World Council of Churches

REV. DR. h. c. DR. h. c. MARTIN JUNGE

General Secretary, The Lutheran World Federation

Executive summary



Bangladesh is one of the countries most affected by extreme weather events. Heavy flooding has become a recurrent phenomenon in the southern districts.

The planet is burning. Devastating droughts, hurricanes, wildfires and floods, dying corals, melting glaciers, and thawing of permafrost provide overwhelming evidence that dangerous climate change is happening – and it is hitting faster and harder than ever predicted by scientific researchers. 2019 is likely to become another year of record-high climate-induced loss and damage, making it hard to adapt and leaving more than one hundred poor and vulnerable countries and hundreds of millions of people largely unprotected against disastrous consequences. Pope Francis has declared a state of climate emergency. Swedish schoolgirl Greta Thunberg told heads of state that the young generation would never forgive their continuous inaction. Philip Alston, the UN Special Rapporteur on extreme poverty and human rights, has raised the question as to whether the world has set a course towards “climate apartheid”. Still, these warnings did not resonate at the UN Climate Action Summit held in September 2019 or result in clear commitments by major polluters to decarbonize by 2050 and to halve emissions by 2030. Meeting this civilizational challenge still means keeping below the benchmark figure of 1.5 degrees Celsius, and thus limiting climate-induced loss and damage effectively. As long as this fails to

happen, climate vulnerable countries and their populations have every right to call for climate-induced loss and damage to be redressed as an additional core issue of climate justice and global stability.

It is shown that higher capital costs caused by climate vulnerability, increasing stranded assets due to high climate risk exposure, and higher economic inequality among nations resulting from climate change are not only future risks, but experiences we have seen both past and present. Loss estimations totaling several hundred billion USD per year clearly underline the fact that climate poor and vulnerable countries are facing a huge protection gap that is going to grow further due to reasons beyond their control as low-emitting countries. They also show that if left alone by the international community, these countries will be financially overburdened by the task of tackling current and future climate-induced loss and damage. If the international community does not provide support, climate vulnerable developing countries are very likely to face constantly increasing economic loss, making it almost impossible for them to meet the Sustainable Development Goals (SDGs) and, at worst, increasing the risk of these nations ending up as failed states.

Based on various cost estimations made in this report, Bread for the World considers the financial scale of adequate international assistance required to minimize and redress loss and damage to be at least USD 50 billion in 2022, rising to at least USD 300 billion in 2030. Assessing the impact a lack of real political progress in international climate negotiations is having on financial redress mechanisms to tackle loss and damage, and the significant weaknesses of the technical paper published by the UNFCCC in 2019 on sources and modalities for accessing financial support to address loss and damage, the report argues that the driving force for resolving the financial protection gap cannot come from inside the UNFCCC process alone; the barriers must be broken down from the outside by infusing more visionary ideas, testing and implementing them, and by building new alliances between state and non-state actors.

The report introduces the climate justice criteria of mutuality, solidarity, accountability, and the transversal principle of transparency of finance for assessing financial sources to address loss and damage. It systematically reveals the distinct roles of these criteria, and the underlying pro-poor principles as well as humanitarian, human rights, gender equality, and polluter pays principles, in finding adequate solutions.

This leads to the justice-based analysis of possible financial sources, including, inter alia, an international airline passenger levy, a bunker fuel levy, a financial transaction tax, a climate damages tax, carbon levies, and other innovative sources, including voluntary contributions. The report shows that the options for new and innovative sources go far beyond the status quo presented in the technical paper by the UNFCCC secretariat, and that the estimated total revenues from these sources, or only some of them, would be sufficient to cover climate-induced loss and damage. However, all the options are also beset with different limitations and, most importantly, sufficient political support is still lacking. Thus, the investment of political capital is needed to capitalize on one or more of these sources. To start with, the mobilization of voluntary contributions seems to be the lowest hanging fruit. Certainly, it would be most preferable to employ the polluter pays principle with regard to sources, hence referring to the accountability principle. This, however, might be more difficult to achieve than the solidarity or mutuality principles, at least in the short term.

In a next step, options for funding mechanisms to address climate-induced loss and damage are discussed, i.e. existing mechanisms, for instance the Green Climate Fund (GCF) or regional risk transfer facilities, followed by the modification of existing mechanisms in order to enhance coverage of loss and damage. The report then explores the establishment of completely new funding mechanisms, for instance a Global Loss and Damage Fund as part of the new financial architecture of the PA, or a Global Solidarity Fund to address loss and damage as a voluntary multi-donor fund outside the PA, following the example of the Global Fund.

The report concludes with a number of recommendations:

- Address information gaps regarding the financial dimension of loss and damage.
- Provide international financial support to address loss and damage in developing countries amounting to USD 50 billion annually as of 2022, rising to USD 300 billion or more by the 2030s if global warming exceeds 1.5°C permanently.
- Establish a financial tracking system so that it will be possible to present an accurate picture of the means of financial support provided.
- Pushing for finance to address loss and damage not only from inside but also from outside the climate regime. As a first step, the UN Secretary-General should appoint a High-Level Panel to write a report on innovative finance sources to address loss and damage, following a similar approach to the one taken with regard to the future financing of humanitarian work.
- Regional risk pools and risk insurance, based on mutuality, should widen their approach by introducing elements of solidarity. Risk financing and risk insurance must become more affordable for poor and climate vulnerable countries and populations by providing financial support to lower risk financing costs and by covering insurance premium costs for those who cannot afford them.
- The set of pro-poor principles, as discussed in this report, should be adopted by all mechanisms that contribute to financially addressing loss and damage. They empower stakeholders to understand the legitimate justice concerns of vulnerable populations and help to better address them.

- A human rights-based approach should be adopted by all mechanisms that contribute to financially addressing loss and damage. It sharpens the perception of legal state obligations relating to redressing loss and damage that threatens or violates the human rights of the climate vulnerable. Particularly the transversal human rights principles of participation, empowerment, non-discrimination, transparency, and accountability are of great importance to identify, include, and prioritize the most vulnerable people adequately with regard to redress measures. It is strongly recommended that this issue be put on the Warsaw International Mechanism (WIM) agenda.
- A broad discussion on possible sources and agenda-setting needs to be initiated. In the short term, the mobilization of voluntary contributions, similar to the approach taken by the Global Fund, seems to be the lowest hanging fruit, while in the long term, finance to address loss and damage would ideally be raised, managed, and spent under one obligatory international scheme. Thus, a twin-track approach is being proposed where the development of one international sourcing mechanism is combined with approaches that look at sources already in existence, including at national levels, and which can be accessed and partly used more easily, with the potential to be scaled up later.
- From a climate justice perspective, revenues generated by carbon pricing are well aligned with the accountability principle, providing the opportunity to redress loss and damage and to apply compensatory justice. A general carbon levy or tax (initially introduced at the national level), an airline passenger levy, and shipping levies are potential sources that should be promoted and further explored. Phasing out fossil fuel subsidies and using part of the savings to redress loss and damage is another potential source, leading to compensatory justice.
- It is highly recommended not to promote only one funding mechanism, for instance a Global Loss and Damage Fund, but to advocate for multiple mechanisms that can be introduced in parallel and comprehensively complement each other. This would be a similar approach to the one that has been followed and implemented with regard to mitigation and adaptation.
- InsuResilience Global Partnership, GCF, AF, and specialized funds from the MDBs should put more effort into financially addressing loss and damage based on grants and concessional loans.
- MDBs, as well as national development banks, should set up loss and damage trust funds, providing support to make climate risk insurance and risk financing affordable, or to focus on climate-induced loss and damage caused by slow onset events.
- A Global Solidarity Fund to address loss and damage should be established as a voluntary multi-donor fund outside the UNFCCC and the Paris Agreement (PA), following the example of the Global Fund to Fight AIDS, Tuberculosis, and Malaria. This fund could put a particular focus on addressing the financial needs of climate-induced resettlement and of rehabilitation in the aftermath of extreme climate events that cause loss and damage.

Introduction

The planet is on fire. In June 2019, wildfires unprecedented in magnitude ignited peat soils along the Arctic Circle from eastern Siberia to Alaska and Greenland, burning down thousands of square kilometers and in only one month emitting more CO₂ than all the Arctic Circle fires of the last eight years combined (USA Today 2019).

That same month – the hottest June ever recorded globally, with average temperatures in France and Germany ten degrees Celsius above normal – concluded with a record-breaking heatwave. This was only topped one month later, according to the Copernicus Climate Service (2019), by another heatwave of even greater duration and intensity. This led to a red alert for the French health service, caused additional fatalities, and resulted in dramatic forest damage amounting to billions of euros in Germany alone (agrar heute 2019).

If these trends continue, in three decades from now London will have a similar climate to that of Barcelona and Madrid will feel like Marrakech. While these changes will cost billions of dollars, burdening these and other cities in temperate and Mediterranean climates with heatwaves, water shortages, and drought, more than one hundred large cities further south are forecast to experience climate conditions never before seen in any major city. This poses the immediate question of whether cities like Jakarta, Delhi, Mogadishu, or Belém will remain habitable at all. And, if so, at what cost? (The Guardian 2019)

The large-scale water crisis that affected vast swathes of India in June 2019, directly impacting 100 million across the country, with people left dependent on water tankers and forced to wash in dirty water, is another warning sign. The event also had a huge impact on health and food security, and led to high economic losses caused by a combination of delayed monsoon rainfall and depleted groundwater sources. Experts warn that India has just five years to fix its water problems. Otherwise we may be seeing the start of a “climate apartheid” “where only the wealthy can afford basic resources in the face of fatal droughts, famine and heatwaves” (Philipp Alston, UN Special Rapporteur on Extreme Poverty and Human Rights, quoted by CNN July 4, 2019).

These and other current developments are alarming. The magnitude at which climate change is taking place and the scale of loss and destruction are causing tremendous concern, even among experts. Evidence from the ground is backed up by worrying new results

from climate modeling that indicate a much higher climate sensitivity to rising atmospheric CO₂ concentrations than previously thought. In fact, a doubling of atmospheric CO₂ from pre-industrial 280 to 560 parts per million (ppm), which we are likely to reach in 2060 without major mitigation, may even lead to a global warming of 5°C or higher (Gergis, J. 2019).

The world is still unprepared to tackle these grave threats to ecosystems and humankind. As pointed out in last year’s IPCC special report on 1.5° Celsius of global warming (2018), greenhouse gas (GHG) reduction at an unprecedented scale of at least 6 per cent per year is urgently required to avoid unstoppable climate change. Simultaneously, adaptation needs to be scaled up at rates much faster than we are currently seeing. And, finally, loss and damage that is taking place right now will continue into future decades, even with fast and deep decarbonization and resilience building, and this is an issue that must be addressed. While rich countries have the financial resources to act accordingly, developing countries and the world’s poor and vulnerable need financial support to address climate-induced loss and damage. Without such assistance, they will face “climate apartheid”.

This paper shows how evident the unimaginable risks of continuous inaction would be. It examines which criteria should be applied to mobilize the financial means to tackle loss and damage in an ethical, just, and effective way; explores options for the necessary institutional arrangements to set up the financing architecture to provide adequate support; and looks at how specialized funds could be sourced in a lean, effective, and climate-just way.

Chapter 1

Relevance and urgency of mobilizing climate finance to address loss and damage

Climate change undoubtedly leads to adverse impacts on humankind and nature, and these can be observed in manifold ways, for instance in more frequent and more intense extreme events such as droughts, floods, or cyclones. Both the number of events as well as global economic losses caused by extreme weather events have quadrupled over the last 40 years. The number of extreme events per year increased from 200 to 800, and the average annual losses increased from USD 39.6 billion per year in the period 1980–1988 to USD 158.6 billion of inflation-adjusted losses per year between 2010 and 2018 (Munich RE 2019).

Climate-induced loss and damage is distributed unevenly among world regions

While cumulated economic losses caused by extreme weather events are still highest in North America and the Caribbean (USD 50.9 billion per year in the 2010s), Asia

has seen the steepest increase in terms of both the number of events and damages caused. There, average annual losses have increased by 600 per cent from the 1980s to the 2010s (USD 7.7 billion to USD 46.3 billion) (ibid.) while during the same period they rose in North America and the Caribbean by 414 per cent and in Africa by 76 per cent (ibid.).

While losses in absolute figures are significantly lower in poor countries due to the much smaller size of their national economies, the relative importance and social sensitivity of these losses is usually much higher in poor countries with high climate risk exposure. It is this combination of high exposure to climate perils and a low socio-economic response capacity that makes countries particularly climate vulnerable. The Germanwatch Climate Risk Index (CRI) for the years 1998–2017 illustrates this phenomenon well: Apart from Puerto Rico, with its special political status as an unincorporated territory of the U.S., the Top 10 list of the most climate vulnerable countries comprises developing countries that are either

Figure 1: Most climate vulnerable countries according to the Climate Risk Index (CRI)

CRI 1998–2017 (1997–2016)	Country	CRI Score	Death toll	Deaths per 100.000 inhabitants	Total losses in million USD PPP **	Losses per unit GDP in %	Number of events (total 1998–2017) ***
1 (100)*	Puerto Rico	7.83	150.5	4.061	5 033.16	4.204	25
2 (1)	Honduras	13.00	302.45	4.215	556.56	1.846	66
3 (3)	Myanmar	13.17	7 048.85	14.392	1 275.96	0.661	47
4 (2)	Haiti	15.17	281.30	2.921	418.21	2.642	77
5 (5)	Philippines	19.67	867.40	0.971	2 932.15	0.576	307
6 (4)	Nicaragua	20.33	163.60	2.945	223.25	1.009	45
7 (6)	Bangladesh	26.67	635.50	0.433	2 403.84	0.640	190
8 (7)	Pakistan	30.17	512.40	0.315	3 826.03	0.567	145
9 (8)	Vietnam	31.67	296.40	0.350	2 064.74	0.516	220
10 (44)	Dominica	33.00	3.35	4.718	132.59	21.205	8

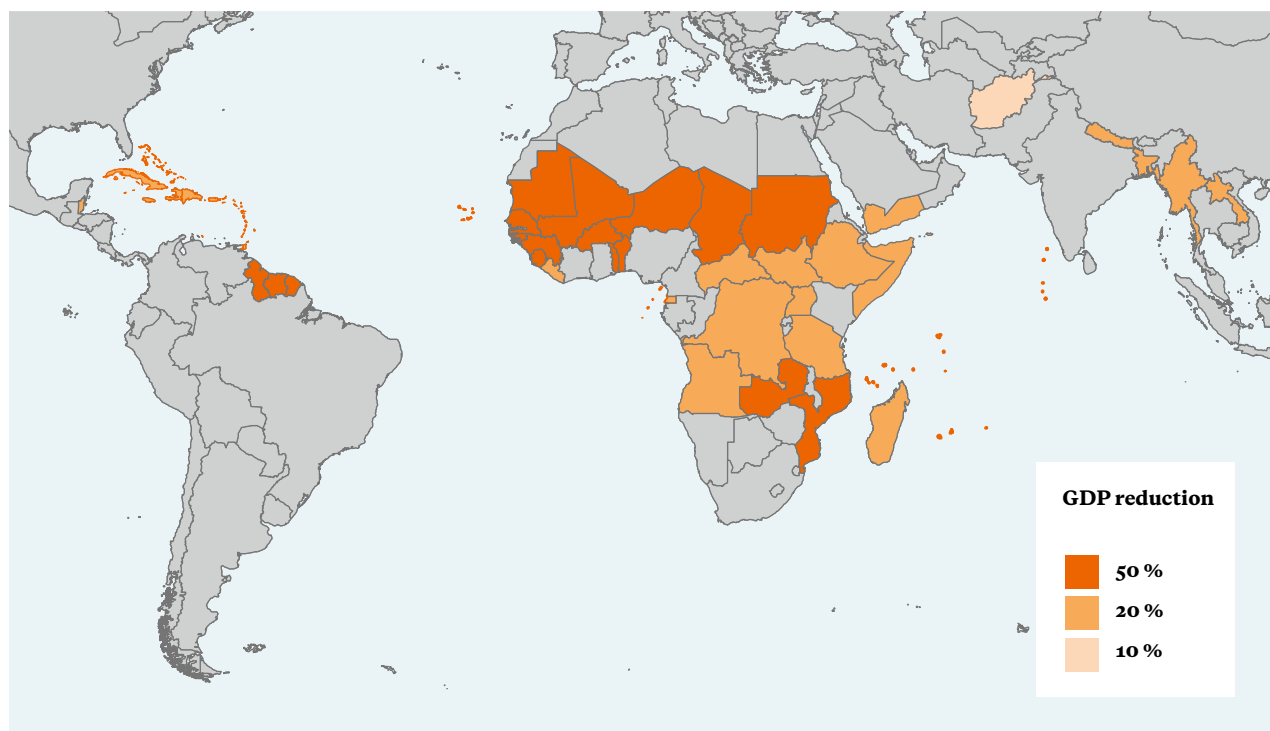
* Puerto Rico was destroyed by Hurricane Maria in September 2017, one of the most damaging hurricanes that ever made landfall.

** Purchasing power parities (PPPs) are the rates of currency conversion that try to equalize the purchasing power of different currencies, by eliminating the differences in price levels between countries.

*** The number of events shows all extreme weather, climatological and hydrological events in the given country.

Source: Germanwatch 2018

Figure 2: Additional GDP losses of Least Developed Countries (LDCs) and Small Island Developing States (SIDS) – 3°C compared to 1.5°C (forecast until 2100)



Source: Climate Analytics, 2019

part of Central America (2) and the Caribbean (2) or Asia (5). Three are categorized as Least Developed Countries (LDCs) and eight have a per capita income in 2019 PPP data that is half or less than half the global average (Statistics Times 2019).

These countries are at high risk of their economies being set back decades by just one major extreme event, as was the case in Dominica when Hurricane Maria struck in 2017. The total losses of USD 1.37 billion were equivalent to 226 per cent of Dominica’s GDP, and less than 30 per cent was covered by international grants and soft loans (Richards/Schalatek 2018).

The future of Least Developed Countries and Small Island Developing States is at risk

Increasing risks of extreme weather events have become a major threat to sustainable development, particularly in developing countries, with Small Island Developing

States (SIDS) and Least Developed Countries (LDCs) the most vulnerable. The loss and damage they face triggers reduced development, higher indebtedness, lower adaptive capacity, and rising risks of more stranded assets caused by future climate extremes (Brot für die Welt 2019). Due to the climate risks they face, climate vulnerable countries pay additional interest rates. An analysis of a sample of developing countries showed this figure totaled at least USD 40 billion over the last decade (Buhr/Volz 2018). Moreover, these countries’ capital costs will further increase in future due to the climate inaction of major polluters, who continue to emit large amounts of GHG without making adequate financial contributions. In the meantime, climate vulnerable countries have to pay the price in the form of increasing losses, worsened capital market access, and reduced GDP growth.

Based on the methodology of Burke et al. (2018), Climate Analytics showed that SIDS and LDCs will face additional economic damages of up to 10 per cent GDP loss by 2030 and up to 50 per cent GDP loss by 2050 in a

3°C world compared to a 1.5°C world (Climate Analytics 2019). While these countries would face the highest relative economic losses, the emerging economies of Brazil, China, India, South Africa, and Russia are expected to be hit hardest in terms of absolute losses according to Moody's Analytics: It is estimated that 2°C of global warming would result in global economic damage of approx. USD 69 trillion by the end of the century compared to USD 54 trillion if temperature increase is limited to 1.5°C (The Hill 2019).

These risk assessments and loss estimations clearly underline the fact that climate vulnerable countries, in particular, are facing a huge protection gap that is going to grow further due to reasons beyond their control as low-emitting countries. They also show that if left alone by the international community, these countries will be financially overburdened by the task of tackling current and future climate-induced loss and damage. If the international community does not provide support at a relevant scale and with urgency, climate vulnerable developing countries are very likely to face constantly increasing economic loss, making it almost impossible for them to achieve the SDGs. Since the GHG emissions causing this extra burden originate, by and large, from

major economies and OECD countries in particular, this has to be seen as a clear case of ongoing climate injustice. In view of the fact that accelerating climate extremes caused by ignorance, irresponsibility, and greed cost lives, destroy livelihoods, may wipe out traditional cultures and indigenous knowledge, and, finally, deprive generations to come of their future, Philip Alston, the UN Special Rapporteur on extreme poverty and human rights, has raised the question as to whether the world has set a course towards "climate apartheid".

Evidence from the ground – How communities suffer from loss and damage

Loss and damage, caused by more frequent weather extremes as well as by slow onset changes, hurt communities in manifold ways as the case studies in this chapter show. Deteriorating climate conditions have become evident all around the globe and they hit poor people hardest. So far, vulnerable countries are largely left alone to redress loss and damage caused by the changes they already face.



Vunidogoloa village in Fiji has been relocated to higher ground due to sea level rise. The old site is regularly flooded and does not provide a safe home for the 156 villagers.

1.1 Relocation of villages endangered by sea level rise in Fiji

By Genevieve Jiva, Pacific Islands Climate Action Network, Fiji

Fiji is a Pacific Island Country comprising over 330 islands, with a population of about 900,000, a majority of whom live in coastal areas. As a Small Island Developing State (SIDS), Fiji is particularly vulnerable to climate change and many communities are at risk of relocation. The Government of Fiji has identified 830 vulnerable communities, 48 of which are in urgent need of relocation. In 2018, Fiji released Planned Relocation Guidelines, which aim to assist and guide relocation efforts at the local level.

In 2014, Fiji became the first country in the Pacific to relocate communities due to climate change and one of the first villages was Vunidogoloa, which was moved because of coastal erosion and flooding. In

2016, Cyclone Winston, the strongest cyclone to make landfall in the southern hemisphere, caused mass damage with 350,000 people (40 per cent of the population of Fiji) affected, including more than 60,000 displaced and 40,000 damaged homes. Cyclone Winston caused USD 470 million worth of damages, roughly 10 per cent of the GDP of Fiji.

Impacts as a result of climate change, including sea level rise, coastal erosion, and saltwater intrusion, are among the reasons communities are having to relocate. In 2015, four new houses were built further inland for the villagers of Vunisavisavi to reduce their vulnerability to these impacts, while the village of Vunidogoloa had to be entirely relocated inland.

Recognizing relocation as a last resort, Fiji's Planned Relocation Guidelines outline necessary processes for relocation after all other feasible adaptation options have been explored. The current guidelines are a living document which will be revised over time, building on lessons learnt from relocation experiences and consultations.

The process of relocation can be complex and costly. The cost of relocation for the communities of Vunidogoloa, Vunisavisavi, and Narikoso was jointly funded by the villagers themselves, the Fiji Government, and international organizations and donors. The relocation of Vunidogoloa is estimated to have cost FJD 978,228, with villagers providing labor and construction materials worth FJD 239,852 (McMichael, C. et al 2019).

Going forward, it is imperative that affected communities are involved in the planning process at all stages and are provided with ongoing support, including long-term strategies such as counseling and food security to ensure a safe and dignified migration. This is primarily due to the fact that relocation not only means losing your home and livelihood; for those facing relocation within or across borders, relocation can also mean facing the potential loss of their history, cultural practices and traditions, language, and identity.

1.2 Loss and damage of small-scale salt producers in Bangladesh

By Mizanur Rahman Bijoy and Mohammad Mahbubur Rahman, Network on Climate Change in Bangladesh (NCC,B)

Salt producing areas are generally located adjacent to the sea and often face the full spectrum of oceanic hazards. In coastal Bangladesh, salt farming generates a large number of employment opportunities. But in recent years the main hubs of crude salt production, Cox's Bazar and Chittagong districts, have been experiencing more frequent cyclonic surges, tidal inundation, and uneven rainfall, hampering salt production, forcing the country to import salt to manage the market shortfall, and pushing Bangladesh from self-sufficiency to net salt buyer.

When unusual rainfall during the pre-monsoon season (mainly in April) exceeded the average, it resulted in a shortfall in production targets, according to observations. Losses were even higher in 2008, 2015, 2016, and 2018 when tidal surges and inundation associated with cyclones washed away the salt fields. As a result, from 2015 to 2018, the country has failed to reach its production target and had to import nearly one million metric tons of salt worth USD 120 million. This should be considered climate-induced loss and damage and, therefore, may lead to compensation claims or support from an international loss and damage financing mechanism, if there was any.

In mid-April 2018, Fakhrul Islam (60) and other small-scale salt cultivators were working hard in their salt fields in Boroghob Village on Kutubdia Island. Suddenly, rainfall started and continued for several hours, preventing the farmers from covering their yield. All the crude salt, along with their dreams, was washed away. The nightmare of 2016 returned to haunt Fakhrul when Cyclone Roanu devastated the whole island and damaged eighteen kilometers of the embankment, which was not repaired, thus leaving the salt fields exposed to tidal



Salt farming generates employment opportunities for many people in coastal Bangladesh. In recent years, production rates have started to decrease due to tidal inundation, storm surges, and changing rainfall patterns, causing economic losses to many salt farmers.

inundation. As a result, the marginal salt farmers of Kutubdia have faced consecutive losses for the last three years.

“Nearly all my capital melted to water. It makes me bound to interrupt the education of my children and the family members have been passing a hard time,” said Fakhrul.

Like Fakhrul and his family, thousands of marginalized smallholders, operating on annually leased land, suffered severe and repeated losses. That has discouraged them from continuing with salt farming, and many of them have left their traditional profession to pursue other labor-intensive activities, such as day labor, and rickshaw and van pulling. Moreover, many families have migrated to the mainland due to shrinking opportunities to make a living and loss of land to the sea.

With a view to the future, climate experts have forecast a change in monsoonal rainfall patterns (IPCC 2013) and increased pre-monsoon rainfall (Shahid 2011) for Bangladesh. Furthermore, extreme El Niño events are predicted to further intensify the threat of cyclonic activities due to global warming (Chowdhury 2018), which may lead to a permanent shortening of the salt-producing season, hampering production, severely impacting livelihoods, and increasing loss and damage.

In the climate negotiations, loss and damage is generally conceptualized as “beyond adaptation”, while at the local level, loss and damage could be defined as the impacts of climate extremes to which households and communities are not able to adapt within their existing capacity (Warner et al. 2012). On top of that, the long-term impacts of local sudden onset and low-exposed disasters (in terms of

disaster response and political attention) on marginalized communities are yet to surface adequately.

Smallholder salt farmers are using manually operated local equipment and their capacity to initiate adaptive measures to protect their yield against climate events is very limited. Cultivators are mainly using polythene or plastic sheets to cover stacked salts and protect them against fog and rain. But it is temporary and offers inadequate protection against extreme events. They are also practicing a traditional technique to store salts whereby a deep hole or well is dug, allowing the water to flow over the covered hole during the rainy season and thus leaving the salt useable. However, cyclones, unexpected tidal inundation, or heavy rainfall during the production period remain considerable risks. Local or national organizations (including the government, NGOs, cooperatives, etc.) have not yet initiated any technical support (for instance the use of solar energy to dry up the salt, or indorsed local weather forecasting services). There are also no insurance schemes available, and risk reduction programs do not exist for marginal salt farmers. However, community-focused land leasing systems, well-targeted insurance schemes, use of mechanical equipment (e.g. water pumps), and reliable weather forecasts could effectively reduce the loss and damage faced by vulnerable salt farmers.

1.3 Climate-induced loss and damage in Peribán, Mexico

By Gerold Schmidt, independent consultant, Mexico

On September 24, 2018, disaster struck within minutes in the municipality of Peribán in the Mexican state of Michoacán. Torrential rainfall caused the Cutio River to swell to unprecedented levels, flooding parts of the town. Peribán's Parástico Reservoir overflowed, killing at least eight and destroying over 20 houses. At least one thousand inhabitants in the districts close to the river were affected by the floods.

The disaster was partly man-made as in the years leading up to the flood, the local authorities had cut down large expanses of water-retaining forest to use the land for lucrative avocado farming. But even as far back as a decade ago, various scientific studies had warned that as a result of climate change, the region was likely to experience less but significantly more extreme rainfall.

While ten years ago, only 40 of the 113 rural districts in the coastal state of Michoacán were threatened by hurricanes and sudden torrential rainfall from the Pacific, today well over half face this threat. A combination of environmental destruction and climate change increase the risk.

To this day, no one knows the exact financial scale of the damage caused to Peribán's infrastructure and homes. But similar levels of destruction are also taking place throughout Mexico. Back in 2011, the Mexican government calculated that climate change would cost 1.1 per cent of its GDP by 2030 – and this would only grow over the course of the century.

Although the often widely varying figures from various sources should be treated with caution, the overall pattern is clear: According to government figures, between 1980 and 1999 extreme precipitation and flooding caused 730 million pesos worth of damage (today this would be around 34 million euros). Between 2001 and 2013, this sum rose exponentially to 340 billion pesos (approx. 16 billion euros).

Predictions suggest that Mexico will fall far short of its climate targets for 2030. At the end of August 2019, a number of environmental organizations in the country called on the parliament to declare a climate emergency.

1.4 Climate-induced loss and damage facing livestock keepers in Turkana county, Kenya

By Lilian Kantei and Joseph Imuton, Lutheran World Federation, Kenya

Kenya is an East African country that has been severely impacted by climate change since the 1980s, i.e. increased droughts, landslides, floods, and extreme weather events. Some of the most affected regions belong to the northern parts of Kenya, predominantly inhabited by pastoralists. Turkana County is one of them, characterized by arid and semi-arid conditions with longer dry periods and a shorter rainy season, but with more extreme rainfall events, causing flooding. The area, largely inhabited by the pastoral Turkana community, suffers vulnerability due to exposure, sensitivity, and a lack of adaptive capacity.

The Turkana community is substantively reliant on water and pastoral grassland for their livelihood, both of which are climate sensitive resources. Thus, worsening and more extreme climate conditions threaten the socio-economic fabric of the community. Drought and flooding events often result in significant loss of human life, starvation, and destruction of households and communal infrastructure, including schools.

“The famine has displaced people. The herd boys who were looking after the live-stock have lost everything, now they have nothing to do. We have no choice but to put our hands up and ask for help. Where will we go now? It is death that awaits us.” (Turkana community member)

Most significantly, millions of Kenyan Shillings were lost due to livestock deaths, poor livestock trading prices because of deteriorating livestock conditions, and low milk production. An assessment by LWF recorded up to 50 per cent livestock deaths in one of the communities in the Turkana West sub-county. Most affected were cattle, regarded as “life” by pastoralists. It is their primary

source of food and a symbol of wealth, prestige, and status in the community. Consequently, education activities have also been disrupted, as most schools close down due to a lack of school feeding programs.

“When we raise livestock and the drought kills all of them, we have no other way. That’s why we are poor. We are suffering that hunger. When it rains there are no more animals left to graze.” (Turkana community member)

As a coping mechanism, the community members migrate either to seek employment as laborers, or to reach areas along main roads and peri-urban areas, where they can access essential emergency relief services. Alternatively, some migrate in search of water for human and animal consumption as well as for pasture for livestock. Such actions often lead to intercommunal or cross border resource conflict, where more human lives and livestock are lost. Other community members opt to sell their livestock, often at very low prices, even discounted up to 90 per cent (National Drought Management Authority, Turkana County, Drought Early Warning Bulletin for December 2016).

Herd splitting (diversifying livestock with more drought-resistant animals such as goats, donkeys, or camels) or livelihood diversification are other coping strategies. This includes selling firewood and charcoal to refugees in Kakuma camps, which accelerates environmental degradation, or weaving and selling mats and baskets.

The government has established policies, institutional frameworks, and financial mechanisms to respond to and mitigate climate change-induced disasters. This includes early warning alerts, the provision of relief emergency assistance, and interventions to restore vital life-support systems for drought-ravaged areas. However, these measures are not yet sufficient to minimize and adequately redress climate-induced loss and damage.

1.5 Climate-induced loss and damage affecting South Sudanese refugees and their host communities in Lamwo and Palorinya, Uganda

By Andrew Masaba, Ojelel Benjamin Etubi, and Kenedy Orach, Lutheran World Federation, Uganda

With 80 per cent of Uganda’s population employed in agriculture, the sector is at the core of the country’s economy – and, at the same time, very vulnerable to climate change, which is characterized in Uganda by prolonged droughts, floods, and the proliferation of pests and diseases. Thus, not only is the country’s economy threatened but also the livelihoods of most of the population, a majority of whom live in poverty.

Uganda is hosting many South Sudanese refugees, who had to leave their country either due to war or because of food insecurity caused by worsening climate conditions, such as increasingly erratic weather

patterns. The majority are crop farmers, depending on rainfed agriculture. They came to Uganda for the sole reason of seeking food assistance.

Many of them now live in the Palabek Settlement, Lamwo District, where they received shelter and small plots of land (30 x 30 meters) and carry out subsistence farming to supplement the food aid provided by the World Food Program. While most of the time food aid does not meet household demand, small-scale farming is hampered by prolonged dry spells, leaving farmers with zero or little harvest.

“For the past 3 years, we have been faced with the similar weather pattern as in South Sudan. We have been experiencing 7 months of prolonged drought in a year with only little rainfall within the remaining period, leading to total loss [of] agricultural production, death of animals due to lack of water, dried wetlands, and severe hunger,” said the vice chairwoman and leader of the camp’s block 8a in zone 4.



Heavy flooding is putting an additional burden on the refugees from South Sudan, who have found shelter at Palorinya refugee camp in northwestern Uganda.

She confirmed that they did not come to Uganda because of war but because of climate-induced famine: “Back home in South Sudan, food items were and still are not affordable. Thus, there is no other option than migrating to Uganda where we can get access to food aid.”

Increasingly unpredictable rainfall patterns had led to substantial agricultural yield losses in South Sudan. Suffering from hunger, communities either fled or became engaged in negative coping strategies, such as wetland reclamation or tree cutting for charcoal and timber, leading to further land degradation. While the South Sudanese government offered little to no support to those in need, in Uganda the government provides some help, assisted by the United Nations and humanitarian agencies. Climate change has not only forced these people out of their homes, turning them into refugees, but has also eroded their sources of livelihood and made them dependent on humanitarian assistance.

Most people in the Palorinya refugee camp in Moyo, another camp, belong to the South Sudanese Kuku, Acholi, and Kakwa tribes, who are predominantly nomads. A small number of them have now engaged in crop cultivation and others have started to join the Moyo host community in Nile river fishing.

However, a huge part of the Palorinya population, be it refugees or host communities, are also suffering as a result of the increasingly extreme droughts and floods that are affecting Uganda. This has led to the occupation of wetlands for agricultural cultivation, sand mining, and overgrazing. The natural resource base is severely damaged, especially the vegetation cover, community forests, and reserves, which have been cleared. Still, food production has drastically declined to levels that make food aid a necessity. Floods have repeatedly destroyed houses and crops, and killed animals. People’s health, sanitation, and hygienic conditions have deteriorated due to flooding, resulting in watery diarrhea, dysentery, and malaria. Palorinya suffers from loss and damage, with climate change the main driver.

1.6 Climate-induced loss and damage in coastal Tanzania

By Sixbert Mwangi and Wande Rajabu, Climate Action Network Tanzania

The coastal area of Tanzania has experienced climate extremes associated with abnormal droughts and rains, leading to more intense and frequent climate disasters that hit poor communities the hardest. In addition, sea level rise is increasingly impacting both groundwater and coastal erosion. In 2014, 2018, and 2019, the coastal areas, and Dar es Salaam in particular, experienced heavy rainfall that caused severe flooding, leaving thousands of households with nothing and resulting in many having to be relocated. The frequency, intensity, and impacts of floods have increased compared to previous years. For instance, the newspaper *Citizens* reported that flooding led to more than 20 deaths in 2014. Many roads were completely submerged and damaged, making access to homes, schools, and workplaces impossible. The loss of property and displacement changed the lives of many people, who were never able to recover economically. Thus, climate-induced loss and damage have pushed coastal communities in Tanzania into more poverty and exposed them to higher risks.

The Intergovernmental Panel on Climate Change (IPCC 2014) concluded that due to sea level rise, coastal aquifers will experience more saltwater intrusion and even small rates of groundwater pumping will lead to stronger salinization. This makes life in coastal Tanzania even more complex and uncertain, as people still need water for domestic activities and their livelihoods. Thus, many Tanzanian coastal communities will, sooner or later, face the risk of displacement.

Available statistics indicate that infrastructure assets worth USD 5.3 billion are exposed to high flooding risks in Dar es Salaam alone, a city that is home to about 5 million people. Without significant investment in risk management and coastal protection, many of these may end up as stranded assets.



Heavy rainfall repeatedly causes severe flooding in Dar es Salaam, particularly affecting the poorest communities, who are less able to cope with floods.

Apart from Dar es Salaam, the coastal districts of Pangani and Bagamoyo are also experiencing extreme weather events. In addition, sea level rise has led to salinization, waterlogging, and inundation affecting both coastal agriculture and settlements. This has further led to malnutrition and increased health costs. Coral bleaching, the disappearance of mangroves and of fish breeding sites are other climate-induced losses in this area. Abnormal drought and heat have led to decreased water flows in the Wami/Ruvu River, causing severe water scarcity that has affected community livelihoods and increased risks of vector-borne diseases.

In most cases, communities affected by floods and/or droughts are supported by family members, friends, or the Tanzania Red Cross Society. At some point, the government does intervene via the Disaster Management Agency, but support provided is too little and too late. Due to the absence of an established system to address climate-induced loss and damage, the community in Pangani has come up with local strategies to make contributions through community organized groups. One example is a Village Community Bank, where people contribute an amount of money each month, which can then be used to support friends and family members during climate-related disasters. This, however, cannot replace the support of the government and the international community because the climate impacts in coastal Tanzania are already beyond the adaptive capacity of poor and vulnerable communities.

On the edge of the abyss – loss and damage in the case of runaway climate change

Accelerating climate extremes – as dangerous as they may be – are by no means the only or even the greatest climate risk to sustainable development, social well-being, and economic prosperity. Unlike previous warming periods that have occurred during the last two millennia, the latest scientific findings show that anthropogenic climate change already affects 98 per cent of the entire planet. This illustrates the overwhelming risk that temperatures rising above 1.5°C may trigger critical tipping points, for instance with regard to glaciers and ice sheets, seasonal weather patterns like the monsoon rains, or ocean currents, that could shift the Earth’s entire system into a new, yet unknown equilibrium (Spiegel online 2019). If this happens, we would enter a new era of unpredictable, irreversible, and unstoppable climate change with drastic impacts on humankind. The anticipated loss of coral reefs (IPCC 2018), one of the most important maritime ecosystems, could be seen as a glimpse of what is yet to come. The dramatically increasing risk of major sea ice collapse, the rapid melting of the Greenland Ice Sheet (PATREON 2019), and even of the West Antarctic Ice Sheet, are other dangerous signs of runaway climate change, increasing, inter alia, the risk of major sea level rise. According to a recent study conducted by the U.S. Geological Survey (E&E News 2019),



Mangroves are important fish breeding sites and serve as protection against coastal erosion. Climate change has resulted in the disappearance of all the mangroves at Pangani Beach in Tanzania.

Climatic hazard and time	Brief description	Locality affected	Associated losses and damages
Flood, 2017	Disastrous floods	Pangani District	Infrastructural damage (bridge)
Flood, 2018	Heavy rains left 2,151 households with severely damaged settlements	Dar es Salaam city	- People displacement - Infrastructural damage including to drainage systems, houses
Flood, 2018	The district is bordered by the Indian Ocean in the east and therefore the shores have been degraded by the ocean tides and the rising sea level	Pangani District/ Pangani Mashariki village	Displacement of people, loss of ecosystems, and direct infrastructure damage. Also magnified the impacts of coastal storms. Includes disappearance of mangrove forest due to sea level rise
Flood, 2019	The floods caused significant damage to properties and livelihoods and put the affected population at risk of disease	Dar es Salaam (Ilala, Temeke, Kinondoni)	- People displacement - Road closure; outbreak of diseases - Rapid Bus Transit engines affected - Significant damage to houses; personal household items and belongings, as well as other properties, swept away
Saltwater intrusion	Plains for pad plantation are no longer productive and are currently being transformed into salt farms	Pangani and Bgamoyo Districts	- Low soil productivity due to increased salt (sea salt intrusion) as a result of sea level rise - Low production of coconut yields

sea level rise will directly affect 600,000 inhabitants and USD 150 billion in property in California alone. Looking at it from a global perspective, this could mean tens of millions of people and trillions in potential losses.

Pope Francis consequently declared a “global climate emergency” in June 2019. Endorsing the 1.5°C limit, he called for urgent and radical action to reduce GHG emissions, pointing to the fact that failure to act would be “a brutal act of injustice toward the poor and future generations”. In a statement that was considered by observers to be one of the strongest he had ever made, Pope Francis went on to say that “future generations stand to inherit a greatly spoiled world. Our children and grandchildren should not have to pay the cost of our generation’s irresponsibility” (The Guardian 2019).

Minimizing loss and damage

But what does it mean to react responsibly in the face of the current climate emergency? According to researchers (IPCC, 2018), the first of our top priorities should be to halve global emissions by 2030, thus adding speed and vigor to the energy transition already underway, and

extend decarbonization to the transportation, building, industrial, agricultural, and forestry sectors so that they become climate neutral by 2050.

Secondly, climate resilience needs to be greatly enhanced, particularly in developing countries, putting priority on the agricultural, fishery, water, forest, health, coastal, and urban sectors in order to better mitigate and absorb climate shocks.

Thirdly, economic and non-economic loss and damage, threatening lives, livelihoods, infrastructure, and ecosystems, need to be minimized as much as possible and redressed to levels that do not overstretch the risk-taking capacity of those affected. That implies significant international financial and technical support for climate vulnerable countries, as we have seen above.

While the first and the second priority are, in principle, accepted by an increasing number – if not a majority – of stakeholders, even if they are not yet implemented accordingly, the third priority is still a highly controversial political issue, despite decades of discourse and negotiations. However, in view of all the indications briefly mentioned above, the relevance and urgency of mobilizing climate finance in order to address loss and damage have never been more evident and fact-based than today.

Financially redressing loss and damage is indispensable to avoid severe global instability

It is high time that many policymakers overcome their ignorance and accept that many developing countries need financial support to address climate-induced loss and damage. Otherwise, vulnerable countries would be at risk of becoming imprisoned in a vicious cycle of climate shocks and escalating financial and socio-economic risks, which would erode their ability to attract the investment necessary to overcome poverty and to meet their SDGs. Thus, without the mobilization of climate finance to minimize and redress climate-induced loss and damage, these countries may ultimately face the risk of either ending up as failed states or becoming largely dependent on international support (Brot für die Welt 2019). Responding to (instead of ignoring) this facet of the implementation of the Paris Agreement is not only a clear matter of climate justice, a humanitarian and ethical imperative, and a human rights obligation, it is also an economic and political requirement, and in the self-interest of wealthy states if they wish to maintain international financial stability and peace. Social unrest and political instability, conflicts, and migration on an unprecedented global scale are the likely consequences of a world where the poor and vulnerable are left unprotected and without redress for climate-induced loss and damage.

The financial scale needed to minimize and redress loss and damage

What would be the global financial scale of measures needed to minimize and redress climate-induced loss and damage in developing countries? Not surprisingly, there is no agreed price tag. Thomas, Menke & Serdeczny (2018) provide a good overview on different methods to calculate the cost of loss and damage. They estimate the loss and damage caused by hurricanes and sea level rise in the Caribbean alone to be USD 22 billion per year by 2050 and USD 46 billion annually in 2100, representing 10 per cent and 22 per cent respectively of current GDP (ibid.). Another report by the UN Environment Program (UNEP) from 2015 estimated the annual costs of loss and damage for Africa at USD 100 billion per year by 2050 in a below 2°C scenario and at USD 200 billion annually in a 4°C scenario, building on the assumption that in

both cases all possible adaptation measures would be taken (UNEP 2015).

A report commissioned by Climate Action Tracker and Oxfam in 2015 estimated the costs of loss and damage in developing countries at USD 428 billion annually by 2030, and at USD 1.67 trillion by 2050 if average global temperatures rise by 3°C (Baarsch et al. 2015). Another report estimated annual costs at USD 399 billion by 2030, and USD 1.07 trillion by 2050 (Richards/Schalatek 2017).

Climate Action Network (CAN) (2018) considers a financial target of USD 50 billion for 2022 to address loss and damage, dramatically rising to USD 300 billion in 2030, as reasonable and feasible.

At least CAN's 2022 target seems to be quite conservative, considering not only the aforementioned findings, but also the fact that USD 50 billion is even lower than the average direct economic losses caused by extreme weather events (and thus excluding costs of slow onset events, such as sea level rise) for the 2010s alone as calculated by Munich RE's Natural Catastrophe Service (Munich RE 2019).

Additional climate-induced capital costs for climate vulnerable countries, calculated at between USD 150 billion and 170 billion for the 2020s (Buhr/Volz 2018), are not included in Munich Re's cost calculation. The same is true for indirect economic losses caused by extreme events. In a study commissioned by Germany on behalf of the G20, the World Bank (2017) has shown that indirect economic damages, such as dropping consumption, in addition to direct climate-induced loss and damage, would increase total loss and damage by approx. another 30 per cent. Thus, climate-induced loss and damage would reduce global GDP growth by 0.7 per cent (Brot für die Welt 2019). This subsequently means that economic loss and damage in 2019 would amount to roughly USD 245 billion for developing countries alone (The total 2019 GDP for developing countries, including emerging economies, is estimated to be USD 35.09 trillion. See <https://www.imf.org/external/datamapper/NGDPD@WEO/OEMDC/ADVEC/WEOWORLD>). And this does not even include the environmental loss and damage caused by climate change. The German Environment Agency (UBA) has calculated the environmental costs of coal-fired power plants in Germany alone to be €46 billion for the year 2016 (UBA 2018).

In conclusion, a comparison of these figures indicates that the economic dimension of climate-induced loss and damage – without even addressing its non-economic

dimension (see Brot für die Welt et al. 2017) – is major and overburdens developing country’s response capacity. It also suggests that the CAN proposal to start with the mobilization of USD 50 billion in international support resonates well with the lowest end of cost estimations as calculated by international experts from various fields.

Mobilizing USD 50 billion internationally to address loss and damage is a well justified minimum benchmark for 2022

Calculating these costs conservatively seems to be reasonable due to a number of reasons: First, not all climate-induced losses can be attributed to anthropogenic climate change. There was always a baseline risk of extreme weather events, and this risk has always been higher in tropical developing countries due to the specific climate of the tropics. The same is true for some slow onset changes, for example sea level rise.

Secondly, there is an expectation that communities, societies, and enterprises can take responsibility up to a certain risk level and invest their own funds in becoming resilient.

Thirdly, the state authorities of developing countries also have a responsibility to invest in comprehensive risk management strategies in accordance with the “prevent – reduce – absorb’ maxim (Brot für die Welt 2019).

Along these lines, it could be argued that very frequent but negligible losses and damages could be considered acceptable risks, while very rare but catastrophic impacts are intolerable risks (see Dow & Berkhout, 2013). While the first risk category could be covered by individuals, communities, and enterprises, the second category of intolerable risks, and the losses and damages they may cause, should be transferred to states and the international community.

However, most climate-induced losses and damages that occur are located somewhere in between these two poles. It would be a matter for political discourse and negotiations to find adequate ways to share the responsibility of addressing these risks and related losses and damages in a just, transparent, and effective way. Or, in other words, to define the lines between individual/community responsibility, national responsibility, and international responsibility with regard to mobilizing the means to minimize loss and damage and to redress losses that are beyond climate risk reduction capacity.

Chapter 2

A brief history of the financial dimension in the loss and damage discourse

2.1. Loss and damage in international climate policies

Climate-induced loss and damage was first addressed in international policies by the Pacific island state of Vanuatu, which called for an international insurance mechanism to compensate for losses caused by sea level rise. While this proposal was refused by industrialized countries, it can be argued that the provision of support to developing nations in addressing climate-induced loss and damage became a discretionary legal obligation one year later, when it was anchored in article 3.2 of the UNFCCC: “Specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration” (United Nations 1992).

However, it took another fifteen years to formally bring back the issue of addressing loss and damage to the COP negotiation agenda, when the decision was taken at COP13 in Bali (2007) to explore “means to address loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change”, as part of the Bali Action Plan, but still placing loss and damage below adaptation (United Nations 2007). Building on this decision, in 2008 the Association of Small Island States (AOSIS) called for a multi-window approach to address loss and damage as an essential part of the then expected post-2012 climate agreement. The three windows would have consisted of (i) an insurance component, (ii) a rehabilitation/compensatory component, and (iii) a risk management component (AOSIS 2008).

In 2009, COP15 in Copenhagen failed to deliver a universal climate agreement that was binding for all, and with it AOSIS’s proposal to firmly establish a mechanism to address loss and damage effectively. One year later, at COP16 in Cancún, the decision was taken to establish a work program, aiming at further exploring loss and damage, followed by the definition of the work program’s

thematic areas at COP17 in 2011 (Durban), and the establishment of the Warsaw International Mechanism (WIM) at COP19 in Warsaw. This aimed at (i) enhancing knowledge and understanding, (ii) strengthening dialogue, coordination, and synergies among stakeholders, and (iii) enhancing the mobilization of action and *means of implementation, including the provision of financial support and technical assistance* (United Nations 2013).

Thus, it took the community of states 21 years from the establishment of the UNFCCC to the first milestone of formally setting up and institutionalizing a process to give “full consideration” to “disproportionate or abnormal burdens” affecting developing countries (see above). Only two years later, at COP21 in 2015, was a second milestone achieved with the adoption of the Paris Agreement (PA). Loss and damage were covered in article 8 of the agreement, thereby acknowledging that, similar to mitigation and adaptation, approaches to address loss and damage represent a stand-alone pillar in helping to achieve the goals of the Paris Agreement. In article 8, the international community of states recognize the importance of averting, minimizing, and addressing loss and damage, and take the discretionary obligation to enhance understanding, action, and support on a cooperative and facilitative basis with respect to loss and damage (United Nations 2015).

However, the question of when, how, by whom, and through which channels the necessary financial means to fulfill this obligation would be mobilized, and how the provision of financial support (see decision on WIM above) would take place, so far remains unanswered. Thus, the central trigger needed to make the WIM functional and to herald a new, operational phase in international climate policies, where the community of states are not only discussing and expressing their dismay over loss and damage, but actively and significantly tackling it, as requested by AOSIS back in 2008, is still not in reach. It should go far beyond and complement existing initiatives like the InsuResilience Global Partnership (on climate risk insurance), and mobilize billions instead of millions, focusing particularly on effective rehabilitation and redress components.

The reason for this is the fact that major emitting countries are still paralyzed by the fear that any indicated readiness to compensate for loss and damage occurring due to the adverse impacts climate change may trigger litigation and thus compensation claims on an unprecedented scale. This is reflected in paragraph 51 of article 8 in the Paris Agreement, stating “that Article 8 of the Agreement does not involve or provide a basis for any liability or compensation” (ibid.). Be it as it may, such obstructive attitudes will not stop lawsuits and compensation claims being filed against major emitters, as the increasing number of such lawsuits indicates. Most of them are notably in the U.S., the Party which introduced paragraph 51 into the Paris Agreement (Columbia University 2019). More importantly, ongoing resistance to a serious and constructive engagement with the fundamental question of how to mobilize the necessary financial support to enable developing countries to effectively minimize (through risk management), transfer (through climate risk insurance), and, finally, redress intolerable loss and damage will seriously undermine the ambitious implementation of the Paris Agreement, the achievement of the SDGs, and a stable and secure world.

Thus, it is no surprise that loss and damage negotiations have remained centered on the financial aspect for many years, and this will likely continue in the years to come (ECBI 2018). The Suva Expert Dialogue that was decided in 2017, and which ended in 2018, made little progress in exploring ways to facilitate “the mobilization and securing of expertise and enhancement of support, *including finance* (...) for averting, minimizing and addressing loss and damage”. Building on the findings and other inputs provided by experts and state parties, the UNFCCC secretariat wrote a technical paper on financial support (see next chapter) that was published in May 2019. This technical paper aims at informing the second review of the WIM – set to take place in 2019 – looking back on the progress made in implementing the current WIM workplan and also looking forward to guide the WIM’s future work, hopefully with a strong view on how to enhance the mobilization of action and *means of implementation, including the provision* of financial support and technical assistance (United Nations 2013). It is hard to imagine that developing countries, particularly the most climate vulnerable ones, would abandon their view that the WIM will not be fully operational until it includes a financial mechanism to provide resources to developing countries to address loss and damage (ECBI 2018).

COP25 in Madrid is expected to focus heavily on the issue of mobilizing finance for addressing loss and damage. Even if no final agreements can be reached in Madrid, COP25 may become another milestone, this time paving the way for the mobilization of international support for tackling loss and damage.

2.2 “Elaboration of the sources and modalities for accessing financial support for addressing loss and damage” – Technical paper by the UNFCCC secretariat

The UNFCCC technical paper ‘Elaboration of the Sources and Modalities for Accessing Financial Support for Addressing Loss and Damage’ (UNFCCC 2019) reviews existing sources of financial support for addressing loss and damage and modalities for accessing it. It builds on the work of the WIM and its collaboration with the Standing Committee on Finance (SCF) under the UNFCCC, which discussed four types of financial approaches in its session in September 2016, namely (i) risk transfer schemes, (ii) catastrophe and resilience bonds, (iii) social protection schemes, and (iv) contingency finance. All these approaches have been discussed broadly by Bread for the World in its studies on climate risk insurance (2017) and climate risk finance (2019), where it was concluded that such approaches can play a role in closing the gap in protection against loss and damage. However, these measures are not sufficient to redress loss and damage occurring in those countries and suffered by populations that are particularly vulnerable and thus unable to afford the associated premium payments or investments without significant subsidies, which apparently have yet to materialize. Furthermore, Bread for the World concluded that these approaches are not suitable to address loss and damage resulting from slow onset events, such as sea level rise or salinization, i.e. perils which cannot be insured. Thus, one key benchmark for assessing the technical paper is whether it addresses these challenges and if it shows possible ways forward to close the protection gap.



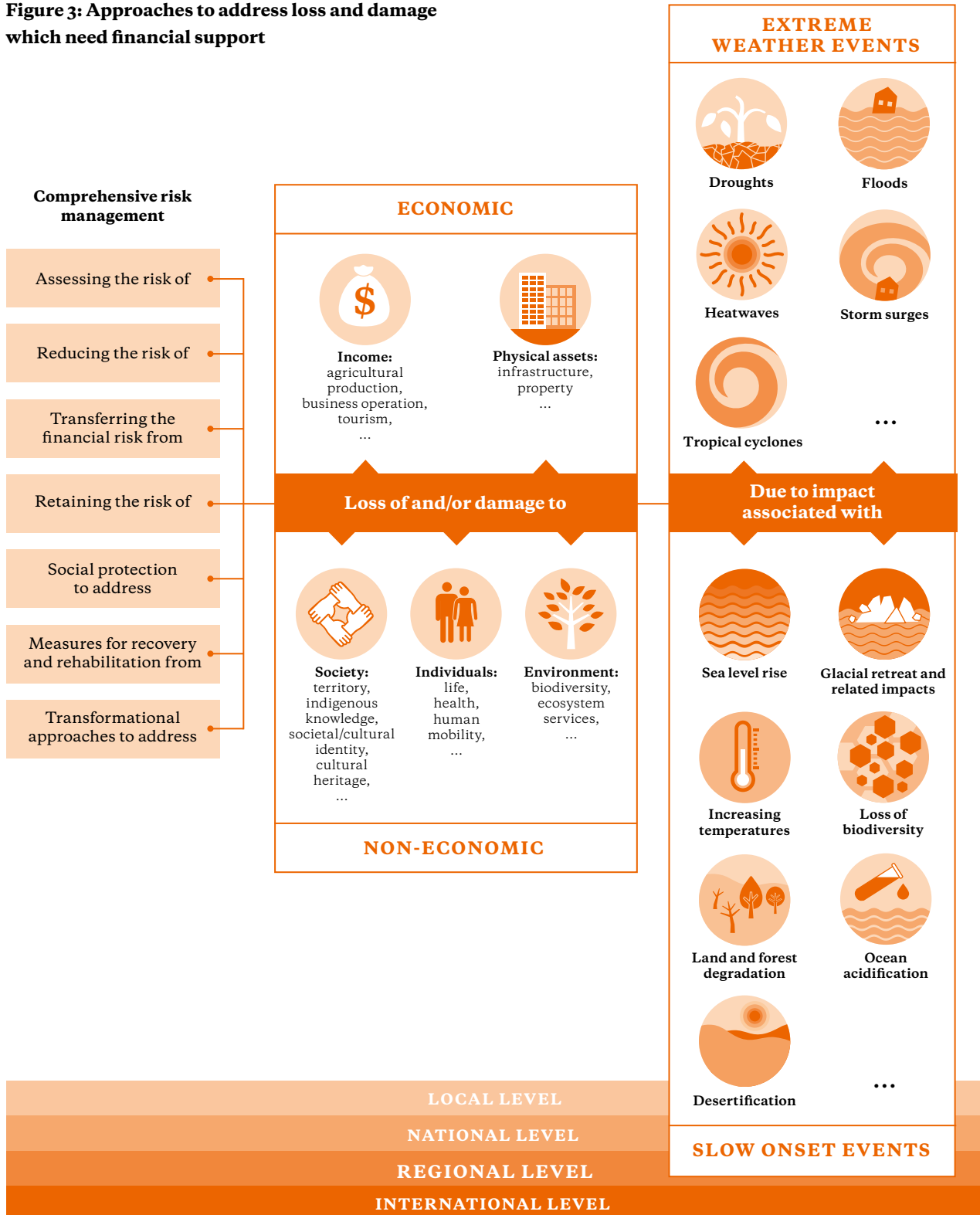
Tacloban City in the Philippines was heavily devastated by Typhoon Haiyan, which made landfall in the country in November 2013.

What is covered by the technical paper and what is left out?

The second chapter of the technical paper describes the broader political context and the emerging scope of loss and damage. It points to the fact that there is still no commonly agreed precise definition of loss and damage resulting from “adverse climate impacts”, that the differentiation between interventions that are intended to (i) prevent or reduce and to (ii) manage residual impacts remains controversial, and that there is often no clear identification of at-risk assets of a physical, environmental, societal, or non-economic nature. This would make it difficult to clearly identify the needs of countries and

populations with a view to efficiently addressing loss and damage. A second, resulting challenge identified in the paper is the fact that finance associated with loss and damage is not yet explicitly tracked and reported by climate funds and other donors, which makes it almost impossible to present an accurate picture of the means of financial support provided. Thus, the technical paper exemplifies how financial support is being provided – or should be provided – as per the needs expressed by Parties, but refrains from providing aggregated data. Inter alia, examples are taken from Nationally Determined Contributions (NDCs), National Adaptation Plans (NAP), and the eight submissions the UNFCCC had received in response to its call prior to the publishing of the technical paper (The small number of submissions, including one by ACT Alliance, can be found here: <https://www4.unfccc.int/sites/submissionsstaging/Pages/Home.aspx>). Most of these examples highlight which approaches and specific actions have been identified by state and non-state actors to tackle loss and damage, covering risk assessment, risk reduction, risk retention, social protection, and risk transfer (see also figure 3), and the related needs and possible types of financial support singled out. Clearly, grants to address loss and damage are the preferred type of financial support featured in the submissions. With regard to debt finance, climate resilience and green bonds are mentioned as a type of concessional loan, i.e. suitable for addressing slow onset changes, while catastrophe bonds are appropriate for providing immediate financial assistance in case of a catastrophe. Contingency finance can also channel post-disaster finance and is being used at local, national, and regional levels by both state and non-state actors (e.g. World Food Program, WFP). Climate risk insurance is another possible financing channel to redress climate-induced loss and damage at macro- and micro-levels and this is pointed out in the technical paper. Unfortunately, the paper by and large refrains from critically assessing the types of financial channels presented. Therefore, very little information is provided on their respective limitations, and they are also not contextualized, neither in light of the enormous challenges described in the first chapter of this analysis nor politically with regard to article 8 of the Paris Agreement.

Figure 3: Approaches to address loss and damage which need financial support



Source: UNFCCC Technical Paper (2019)

The third chapter seeks to illustrate available sources of finance relevant for addressing loss and damage, drawing on the Standing Committee on Finance (SCF) 2018 biennial assessment on climate finance, which provides an overview of financial flows in 2016 and 2017; the outcomes of the Suva Expert Dialogue; and additional sources, also covering financial flows outside the PA financial architecture to a certain extent. Furthermore, annex 1 provides a rather brief summary on access criteria for these sources inside and outside the UNFCCC, and annex 2 briefly describes the reporting and performance of these funds. Again, the paper is severely limited by the fact that none of the sources described so far tracks financial support provided to address residual damage since they all only mark “mitigation”, “adaptation”, and “REDD” finance, following the tracking used by the so-called OECD-DAC “Rio markers”. With regard to these limitations, the paper concludes that “no official estimates exist for the amount of financing needed to address loss and damage. Further, no mechanism exists for accounting for loss and damage finance flows” (ibid., p. 19, para 67). Thus, “... this chapter does not intend to provide an exhaustive and complete assessment of all existing relevant finance, but aims to provide indicative illustrations of characteristics, limitations and constraints to inform the discussions of the review of the Warsaw International Mechanism and the potential undertaking of further analysis to advance the discourse on finance associated with addressing loss and damage” (ibid., p. 20, para 70). It is regrettable that the technical paper states these gaps but, again, completely refrains from evaluating and contextualizing them, and that no proposals are made on how these gaps could be addressed in future.

Building on the SCF 2018 assessment, the overview of financial flows indicates that 25 per cent of overall finance is spent on adaptation, reaching an annual average of USD 14.79 billion, about two thirds of which is provided as grants and more than 90 per cent flows to public institutions. These figures are compared, in a footnote, with the cost estimates for adaptation (taken from the UNEP Adaptation Gap report, see Chapter 1) and the 2017 estimations of loss and damage carried out by Munich RE’s NatCatService (see also Chapter 1). The resulting protection gap is not discussed but becomes very obvious. Furthermore, an interesting reference is made in this footnote (ibid., footnote 69) that in 2017 a sum of USD 373 billion, even exceeding Munich RE’s cost estimations for economic loss and damage for this year

by USD 44 billion, was spent on global fossil fuel subsidies, “a direct contributor to loss and damage”.

Comparing climate funds, the paper stresses the particular relevance of the UN Adaptation Fund in addressing loss and damage, including through national entities and non-state actors, and with a view to focus on vulnerable communities and populations. However, the funds mobilized for these approaches remain comparatively small. A similar focus and limitation are true for the Least Developed Country Fund (LDCF), which, according to the paper, “does not offer the rapid, large-scale financing that certain extreme events causing loss and damage incur” (ibid.). The Special Climate Change Fund (SCCF), and particularly the Green Climate Fund (GCF), are judged to be, at least theoretically, better positioned to address larger scale loss and damage and to do so using innovative approaches, for example the provision of equity to establish risk transfer mechanisms on a larger scale (ibid.). So far, however, that potential has not yet been fully realized, and the same can be said for climate finance being provided by bilateral cooperation and, even more so, by Multilateral Development Banks (MDBs). Regional risk transfer facilities such as the African Risk Capacity (ARC), Caribbean Climate Catastrophe Risk Insurance Facility (CCRIF), and Pacific Climate Risk Assessment and Finance Capacity (PCRAFI), on the other hand, specifically aim at addressing loss and damage through mainly indirect and parametric risk insurance approaches (see *Brot für die Welt*, 2017, for more detail). As pointed out in the UNFCCC technical paper, regional risk transfer facilities can neither cover loss and damage caused by slow onset events, nor do they appear robust enough should more frequent and more intense extreme weather events occur in the future, which may severely undermine their ability to provide solid risk transfer solutions at affordable costs, especially in the case of SIDS and LDCs (see Chapter 1 of this report).

The paper summarizes its main findings in chapter 5, particularly emphasizing the following challenges to using existing sources of finance more effectively and scaling up the mobilization of financial support to increase the coverage of approaches (ibid.):

- Information gaps, as a commonly agreed definition of loss and damage, its costs and measurement framework to effectively record the support provided to address loss and damage.
- Lack of funding to address loss and damage, and,

moreover, the lack of direct access to these funds for those populations and communities who are most climate vulnerable.

- Lack of technical and institutional capacity and enabling political frameworks to generate and use climate and financial data effectively, and to channel bigger financial flows.
- Lack of a finance continuum of action while navigating complexity to effectively address loss and damage, inter alia, by better risk analysis and risk layering approaches.
- Lack of financial means and approaches to address non-economic loss and damage, for example loss of territory, cultural identity, and forced human mobility.
- Complete lack of transparency and information with regard to the role of private finance in addressing loss and damage.

The paper concludes with a number of recommendations for further research to close knowledge gaps. It refrains from making similar suggestions as to how the above-mentioned, well documented gaps in mobilizing financial support to adequately address loss and damage could be politically approached.

The relevance of the technical paper to guidance provision

The technical paper falls short of providing guidance and initiating discussions on the way forward, as controversial they may be among parties, because it does not analyze or contextualize the information it provides. Given the relevance and urgency of the large-scale mobilization of new funds to address climate-induced loss and damage in order to avoid humanitarian catastrophes, economic havoc, social unrest, and violent conflicts, further destabilizing an already fragile world – an issue that is relevant now and will be even more so in future – if runaway climate change happens, out-of-the-box thinking and new solutions of a different scope and scale will be urgently needed. Instead, the technical paper continuously remains within a narrow framework of ideas, refusing to even ask which sources could be used to mobilize new finance, how it could better reach the most vulnerable, and at which scale it would be needed to fulfill the mandate of the WIM, the Paris Agreement, and, ultimately, the Convention, namely to consider the “specific

needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden” (UNFCCC, article 3.2, see at United Nations, 1992). The technical paper limits itself to just describing challenges, without providing a single answer as to how to overcome them and without discussing options for ways forward to close the protection gap it vaguely diagnoses. Moreover, it even refrains from attempting to quantify the range of finance realistically needed to address loss and damage, apart from making a short remark in a footnote, as mentioned above.

It would be misleading to put all the blame on the UNFCCC secretariat, which published the paper. The narrow limits it features have been set by Parties, who again refuse to leave what they define as their comfort zones, as it can be taken by the narrow terms of reference for the secretariat’s technical paper, set by the Executive Committee of the WIM. Thus, the real reason behind these shortcomings are the ongoing political blockades in international negotiations and, particularly, the unwillingness of industrialized countries – but probably also other major emitters – to break down their mental barriers and start discussing the real issues, such as re-dressing needs. At the same time, they need to separate this vital discussion from the issue of litigation.

Given the significant scale of financial support needed, and the complexity of addressing loss and damage, it would probably take considerable time to reach viable solutions, even within a constructive and solution-oriented political discourse. Delaying this discussion further and further, as is currently the case, will not make it any easier to resolve the problems at hand, but will only aggravate them.

Looking back at the experience of the last almost thirty years of discussions, it is not very likely that a new and more constructive spirit will suddenly emerge within the bubble of climate negotiations. Thus, the silos must be broken down from the outside by infusing more visionary ideas, testing and implementing them, and by building new alliances between state and non-state actors.

Chapter 3

Climate justice criteria for assessing financial sources to address loss and damage

There is evolving understanding that the mobilization and investment of finance is necessary to address loss and damage that can or will not be avoided or reduced by further mitigation and adaptation measures. The aim of this is to avoid developmental regression, deprivation, and conflict, as shown in this report. This has led to an emerging call for justice associated with the loss and damage debate. Climate vulnerable countries and communities, with the support of NGOs, have expressed their legitimate justice concerns. In the following, different climate justice principles will be discussed that could be used as criteria to assess possible sources and modalities – or instruments – to financially address loss and damage.

As pointed out before, instead of examining approaches to avoid loss and damage through comprehensive risk management, including risk insurance and risk financing, this report will focus on approaches to redress loss and damage resulting from climate impacts that could not be avoided. This is a very different approach to the one taken by the technical paper (see 2.2), which put risk insurance and risk finance approaches at its core.

Putting redress approaches at the heart of this report does not mean that risk reduction, risk insurance, and risk financing are inferior approaches. They have an important role to play, as discussed by Bread for the World in earlier reports (2017 2019) – but they have limitations, for instance their inability to address loss and damage caused by slow onset changes, e.g. sea level rise.

Looking at it from a climate justice perspective, the biggest difference lies in the fact that the insurance concept in most cases (unless the insurance premium is paid by a third party) builds on the principle of *mutuality*: The insured form a pool and mobilize the financial means needed from within the pool, i.e. usually no transfer payments are made to the pool from outside the pool (Mechler 2019).

While *mutuality* can still be seen as a justice principle, there are two more such principles, namely *solidarity* and *accountability*. In both cases, payments to address loss and damage come from outside the pool of those being damaged (ibid.).

Solidarity is based on the concept of voluntary payments, i.e. without liability, but made out of humanitarian and other considerations. According to the need of countries or people suffering from loss and damage, losses are redressed and thus an act of *distributive justice* takes place (ibid.).

Accountability, or responsibility, differentiates from the solidarity principle insofar as the support for those experiencing loss and damage is motivated by a “perceived ethical or legal obligation” (ibid.). Thus, accountability links the support provided by an actor to their responsibility for direct or indirect causation, by fault or negligence, of outcomes that ultimately led to loss and damage experienced by those receiving the support. This is a case of *compensatory justice*, because accountability means that those who are responsible for climate-related impacts and risks are ultimately answerable for resulting loss and damage (ibid.).

In the following, the overarching justice principles of solidarity and accountability will be further discussed and differentiated in order to enrich the discourse on financial aspects of addressing loss and damage. The chapter concludes with a brief discussion of another key principle, which is both *transversal* in nature (ibid.) and briefly addressed in the technical paper (see 2.2): *transparency of finance* provided to address loss and damage.

3.1 Solidarity

Pro-poor principles

Inequality among nations would have decreased far faster had climate change not mattered. While poor countries lost out, rich countries, especially those who have racked up a lot of emissions over the last 50 years, have benefited from global warming. This is the main finding of a recent study by Burke/Diffenbaugh (2019), which is based on an analysis of economic and climate data. They estimate that the gap in per capita income in the richest and the poorest countries is 25 percentage points larger than it would have

been without climate change, adjusted for other factors, for instance population growth. They found that economic growth slowed down particularly around the equator, where developing countries are concentrated, and where even slight increases in temperature can be devastating to crop production, human health, and labor productivity (The New York Times 2019). Countries in cool zones benefited, for instance Norway, which grew 34 per cent richer, while temperate countries such as China have yet to feel much effect; countries like Nigeria have had to face havoc (ibid.). Apart from the recognition that drastic emission reductions are needed to eliminate poverty, this raises the important equity issue of who would pay for the loss and damage that has already taken place and is set to continue, even in a positive scenario of ambitious future mitigation action.

The UN High-Level Political Forum on Sustainable Development also emphasized that climate change has become a great threat multiplier, worsening poverty and hunger (UN Climate Change News 2019). This endangers the achievement of the Sustainable Development Goals, which are aspirational by nature and not legally binding, despite the unanimous support Agenda 2030 received when it was adopted by the community of states in the same year as the Paris Agreement (United Nations 2015).

Sustainable Development Goal 17, i.e. strengthening the means of implementation and revitalizing the global partnership for sustainable development, is formulated in the spirit of solidarity. However, implementation is still off track, indicated, inter alia, by the fact that net official development assistance (ODA) flows, totaling USD 149 billion in 2018, declined by 2.7 per cent in real terms from 2017. Most negatively affected by declining bilateral ODA are LDCs (minus 3 per cent) and Africa (minus 4 per cent), i.e. particularly climate vulnerable countries suffering from significant loss and damage (United Nations 2019b). This contradicts the rising needs and increasing inability of those being affected to deal with the consequences of climate change, and clearly illustrates the huge equity dimension.

In the preamble of the Paris Agreement, and with reference to the UNFCCC, Parties, “being guided (...) by the principle of equity”, commit to “recognizing the specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change”, and to “taking full account of the specific needs and special

situations of the least developed countries with regard to funding” (Paris Agreement, see at United Nations 2015).

The InsuResilience Global Partnership for Climate and Disaster Risk Finance, founded in 2017 with the support of the G20 and the V20 countries, and aiming to “protect the lives and livelihoods of poor and vulnerable people against the impacts of disasters” (InsuResilience Global Partnership, 2019), has adopted its own aspirational pro-poor principles:

- Impact: Create positive and lasting change for poor and vulnerable people.
- Quality: Implement adequate and high-quality climate and disaster risk finance and insurance solutions that address the needs of poor and vulnerable people.
- Ownership: Ensure demand-driven approaches through environments that are conducive to stakeholder action, with a focus on the agency of end users.
- Complementary: Develop a mix of synergistic climate and disaster risk finance and insurance solutions building from existing institutional frameworks.
- Equity: Climate and disaster risk finance and insurance solutions should provide inclusive and targeted support to promote equitable growth.

While the sub-principles, or criteria, underlying impact, quality, ownership, and complementary (see ibid. for more details) include relatively little poverty-specific substance, this is different for the principle of equity as one of the InsuResilience Pro-Poor Principles. There, the following sub-principles are listed:

- Leave no one behind: The poor and vulnerable should not carry the burden of increased climate risks, and given their already-strained resources, their access to climate risk protection needs to be favored.
- Realize human rights: Climate and disaster risk finance and insurance solutions will contribute to ensuring poor and vulnerable people attain and maintain their Human Rights in the aftermath of disasters, or consequent to slow onset events caused by climate change.
- Provide inclusive and targeted support: Resources should be allocated on the basis of transparent targeting mechanisms ensuring that support deliberately reaches the poor and vulnerable, including consolidating adaptive social protection.
- Be gender-inclusive: Climate and disaster risk finance

and insurance solutions need to be designed taking into consideration the special vulnerabilities of women, and their access should be facilitated through targeting, support, and delivery mechanisms.

- Enhance accessibility: Work to ensure accessibility for poor and vulnerable who may need predictable and long-term financial support, especially through considering adaptive social protection programs, also in the form of Public-Private Partnerships, as a delivery vehicle.

These pro-poor criteria, formulated for climate risk insurance and finance, could be extended to redress all types of loss and damage, including the uninsurable types, such as loss and damage caused by slow onset events, e.g. sea level rise. However, one essential element is lacking, one that was originally included in the set of seven pro-poor principles developed by MCII to the then InsuResilience Initiative (before becoming a Global Partnership), and that is the principle of affordability, i.e. that measures should be supported to increase the affordability of insurance for poor and vulnerable people, and their inclusion is paramount to the success of insurance schemes and to satisfy equity concerns.

By not explicitly covering affordability of risk transfer solutions for the poor, the above set of pro-poor principles outlined by the InsuResilience Global Partnership is incomplete and thus no safeguard to ensure that climate risk insurance closes the enormous protection gap for the poorest, who cannot afford to pay for their protection. Insofar, the principle of solidarity as practiced here – to come back to our conceptual starting point – is not fully functional to ensure the distributive justice required to fulfill the needs of the poorest.

This brings us to the point that grant-based, predictable, and long-term solutions are needed to redress loss and damage experienced by the poor and vulnerable. Thus, any financial approach to address loss and damage, as far as it builds on solidarity and voluntary support, should fulfill these requirements.

InsuResilience Global Partnership should take this up as a recommendation, going far beyond its current approach which avoids the coverage of premium costs for the poorest and most in need, and thus excludes them from being directly protected, despite all the references made to “access” and “inclusiveness”. Indirect coverage, through a combination of social protection schemes and climate risk insurance, may serve to ensure

humanitarian assistance is delivered fast and effectively in case of calamities. It may protect lives, but it does not protect livelihoods because it does not redress climate-induced losses of livestock, harvest loss, a sunken fishing boat, or an inundated island home. It is these stranded assets that matter, too – for the poorest even more than for the rest of the population. This is clearly shown by the case studies in this report (see Chapter 1). Further examples are provided by Füllkrug-Weitzel (2019), covering, inter alia, cases from Bangladesh, El Salvador, Ethiopia, Mozambique, Namibia, and Swaziland. Thus, pro-poor approaches should address loss and damage of the poorest populations adequately, and that requires the provision of grant-based financial support to redress loss and damage. As long as this is not the case, the legitimate claims for distributive justice will not cease, and rich countries cannot rightly argue that the solidarity they show adequately provides distributive justice.

Humanitarian principles

The four humanitarian principles – humanity, neutrality, impartiality, and independence – guide humanitarian response. Since loss and damage is often associated with climate disasters, and part of the financial support provided to the victims of these disasters is categorized as humanitarian aid (UNFCCC 2019), these humanitarian principles should be applied. From the solidarity principle under the justice perspective, two of them in particular deserve to be highlighted, namely humanity and impartiality. The humanity principle, according to OCHA (2012) requires those providing humanitarian response, to address “... human suffering (...) wherever it is found. The purpose of humanitarian action is to protect life and health and ensure respect for human beings” (ibid.). The impartiality principle calls on actors to carry out humanitarian action “on the basis of need alone, giving priority to the most urgent cases of distress and making no distinctions on the basis of nationality, race, gender, religious belief, class or political opinions” (ibid.).

Humanitarian, i.e. non-economic loss and damage has increased in previous years (see Brot für die Welt, 2017b), and the Sendai Framework for Disaster Risk Reduction, as adopted in 2015, has stressed the urgency of reducing climate-induced loss and damage, prioritizing the needs (i) to better understand disaster risks, (ii) to strengthen disaster risk governance and management,

(iii) to invest in disaster risk reduction for resilience, and (iv) to enhance disaster preparedness, including to “build back better”. To be applied to the poor and vulnerable countries and communities, the implementation of these priorities, again, requires financial support in the form of grants. Poor coastal communities, which were hit by the deadly hurricanes Idai and Kenneth in 2019, rely on international solidarity in the form of significant financial support “to build back better”.

According to UNICEF, Cyclone Kenneth, the strongest storm on record to hit Mozambique, destroyed about 80 per cent of homes in the Macomia District alone, which houses 90,000 people. This happened at a point in time when the then ongoing humanitarian response to Cyclone Idai, which targeted millions of people, still remained critically underfunded according to the UN (The Guardian 2019).

In spite of the fact that, in future, extreme weather events will hit vulnerable countries harder and more frequently, as scientific climate models have repeatedly indicated (IPCC 2018), and thus more humanitarian response will be needed, humanitarian aid fell by 8 per cent between 2017 and 2018, a sharper decline than for any other category of ODA (United Nations 2019b).

Solidarity is an important founding principle for the provision of justice in financially addressing the economic and non-economic loss and damage of poor and climate vulnerable countries and people. Pro-poor and humanitarian principles, and their subsequent criteria, derive from the solidarity principle. They form a basis from which to assess sources of finance and approaches for addressing loss and damage. However, financial flows motivated by solidarity alone are so far inadequate to appropriately close the protection gap, and there are no indications that this will change in the near future. Thus, other justice principles in addition to solidarity should be employed to trigger more funding and close the protection gap.

3.2 Accountability

Human rights principles

Human rights and basic human needs are closely connected but not the same: Basic needs are the ethically acceptable minimum people require to be able to live in dignity, and thus the avoidance of serious harm (Gasper, D. 2005). Core social and economic human rights

(e.g. right to adequate food, water, health, housing, etc.) as defined in the International Bill of Human Rights, which comprises the five core human rights treaties of the United Nations (ESCR-Net 2019), consist of a person’s basic entitlement to exercise normative authority (Schaber 2014). As such, they are inalienable rights, protected by human rights treaties enshrined in international law, for example the Universal Declaration of Human Rights and the International Covenants on Economic, Social and Cultural Rights and on Civil and Political Rights. Thus, legal human rights entitlements are different from aspirational political goals (e.g. the SDGs). They can be claimed by the rights holders, and State Parties to the human rights treaties are obliged to apply a maximum of available resources to respect, protect, and progressively fulfill human rights. There is further regulation to stipulate that in cases where protecting the human rights of those living in its territory would overburden a state, it shall seek the cooperation and support of the international community of states to ensure that the necessary level of resources is made available to close the protection gap (see Brot für die Welt 2016).

The Office of the United Nations High Commissioner for Human Rights (OHCHR) presented a comprehensive report to the UNFCCC at COP22 in Lima (OHCHR 2014) that demonstrated how loss and damage is negatively affecting human rights, such as the right to live, self-determination, food, water, health, housing, etc. Bread for the World (2016) has discussed the findings and the resulting state obligations in detail. The Island Rights Initiative (2015) called on states to give more prominence to human rights law in the discourse around loss and damage, and Duyck/Lador (2016) called on the Human Rights Council and the G20 to contribute to strengthening the respect and protection of human rights in the implementation of the Paris Agreement, where human rights are acknowledged in the preamble, but references to such rights remain weak in the articles of the agreement and absent in the article on loss and damage.

With or without this reference in the PA, states remain accountable for ensuring that the human rights of its people are not threatened by climate-induced loss and damage – and if this cannot be avoided, states are obliged under international human rights law to take measures to redress the situation.

This was again reiterated by the UN Special Rapporteur on human rights and the environment, David Boyd, who released a report on States’ obligations related to a

safe climate in July 2019 (UN 2019), which was presented to the United Nations General Assembly in 2019:

“Climate change is having a major impact on a wide range of human rights today, and could have a cataclysmic impact in the future unless ambitious actions are undertaken immediately. Among the human rights being threatened and violated are the rights to life, health, food, water and sanitation, a healthy environment, an adequate standard of living, housing, property, self-determination, development and culture. (...) .. that a failure to prevent foreseeable human rights harm caused by climate change, or a failure to mobilize the maximum available resources in an effort to do so, could constitute a breach of their (States’) obligation to respect, protect and fulfil all human rights for all. States must, therefore, dedicate the maximum available financial and material resources (...)” (ibid.).

On financing loss and damage, the Special Rapporteur recommends that:

“States should agree on a common definition of the concept (of loss and damage), including economic costs (such as damages to crops, buildings and infrastructure) and non-economic losses (such as loss of life, livelihoods, territory, culture, habitats or species). States must establish one or more new financing mechanisms that generate revenue to fund payments for loss and damage suffered by vulnerable developing countries, such as small island developing States, because of climate change” (ibid., para 91).

Providing financial support to redress human rights violations resulting from climate-induced loss and damage is thus not a voluntary act of solidarity or of distributive justice, but a legal state obligation to restore human rights by providing compensatory justice. The addressee of this state obligation is first the home state of the people whose human rights have been violated, e.g. the right to housing, or to self-determination, caused by climate-induced loss of livelihoods or damage to houses. If the response capacity of the home state is strained, i.e. a maximum of available resources was already spent by the affected state, the legal obligation to provide financial support is extended to the community of states (and particularly the richer states, which are more capable than others).

From a human rights perspective, it can be argued that rich states are accountable for providing poor states with finance to redress climate-induced loss and damage, at least insofar as basic human rights standards, such as human security, food security, access to fresh water, health, or housing, are impacted and in cases where affected states have exhausted their own means to fulfill the human rights of their populations. This was obviously the case in Mozambique, Mali, and Zimbabwe when roughly one million people were displaced by Cyclone Idai (Action Aid 2019). Unfortunately, the human rights case was not made by the affected states. Instead, they received about USD 700 million in crisis response loans from the World Bank (World Bank 2019), which have to be paid back eventually, thus further indebting these countries.

Fulfilling the human rights obligation to ensure that the above human rights standards are met is one key criteria under the human rights principle to assess the performance of states in providing adequate financial support to address loss and damage. As a second criterion, the human rights principles of participation, empowerment, non-discrimination, transparency, and accountability should be met when financially addressing loss and damage. They are particularly important to ensure that no one is left behind and that transparency is ensured – if financial support to address loss and damage is provided at all (see *Brot für die Welt* 2016). Paragraph 64 of the aforementioned 2019 report by the UN Special Rapporteur on human rights and the environment specifies further how these human rights principles translate into procedural state obligations (UN 2019).

So far, human rights obligations regarding the provision of financial support to redress loss and damage suffered by victims of human rights violations have not played a role in the loss and damage political discourse, e.g. in the WIM. It is strongly recommended that this issue be brought to the political agenda. Agenda-setting might be supported by upcoming judicial decisions, providing precedent. When this report was written, an initiative launched by the Pacific Island Students Fighting Climate Change (PISFCC), a group of law students from the University of the South Pacific, was underway, aiming at asking the International Court of Justice to provide an advisory opinion on the obligations of states under international law to protect the rights of present and future generations against the adverse effects of climate change (Climate Liability News 2019).

Gender equality principle

Women in developing countries are more affected by loss and damage than men, for example in terms of loss of health, life, or food security. Particular vulnerability results from multiple factors, such as unequal access to resources and decision-making, limited mobility, or socio-cultural norms (Shahid 2018).

Discrimination resulting in higher vulnerability and a broader exposure to climate risks are the reason why women, along with other vulnerable groups, enjoy a special legal protection status under international law that makes states accountable for guaranteeing the protection and the resulting rights of women. In the Human Rights Council Resolution 26/L.33 (OHCHR 2014b), it is stated:

“While implications affect individuals and communities around the world, the adverse effects of climate change will be felt most acutely by those segments of the population that are already in vulnerable situations, owing to factors such as (...) gender.”

The rights of women and the resulting state obligations are laid down in the Convention on the Elimination of all Forms of Discrimination Against Women (CEDAW), an international treaty adopted by the United Nations General Assembly in 1979 (United Nations 1979). In 2018, the CEDAW Committee published General Recommendation No. 37 on a gender-based approach on the prevention of and response to climate change, providing guidance to States (CEDAW Committee 2018). This General Recommendation specifies how gender equality should be ensured in a post-disaster situation, i.e. when loss and damage need to be addressed, and that state authorities have a special obligation to make it happen.

In the Sendai Framework for Disaster Risk Reduction, too, it is particularly emphasized that “women and their participation are critical to effectively managing disaster risk and designing, resourcing and implementing gender-sensitive disaster risk reduction policies, plans, and programs; and adequate (...) measures need to be taken to empower women (...) in post-disaster situations.” (UNDRR 2015).

The principle of gender equality makes states accountable for ensuring that special measures are taken so that the human rights of women are respected, protected, and fulfilled. This approach should also guide the development of sources, modalities, and approaches to

financially address loss and damage, including with regard to redress measures. This also includes the stipulation that transversal criteria, such as participation, empowerment, non-discrimination, transparency, and accountability, are applied in a gender-sensitive and inclusive way. In this respect, the Pro-Poor-Principles of the InsuResilience Global Partnership (2019) are a good practice example.

Polluter pays principle

The polluter pays principle is a fundamental principle in the environmental law of most OECD countries and beyond. It is enacted to make the polluting party (for instance an energy provider) accountable for providing financial compensation for damage done. Here, accountability directly links the payment by an actor to their responsibility for direct or indirect causation, by fault or negligence, of outcomes that ultimately led to the loss and damage experienced by those receiving the support. This is a clear case of compensatory justice because those who are responsible for climate-related impacts and risks are ultimately responsible for redressing loss and damage (Mechler 2019).

Carbon dioxide or greenhouse gas emission taxes or fees, as well as more specific air travel taxation or a loss and damage tax (see next chapter), are possible ways to put a price on GHG emissions. This is currently being increasingly discussed in many countries, on the one hand, to set incentives to reduce emissions and, on the other, to mobilize funds that can be invested in mitigation or adaptation. The next logical step – to implement the polluter pays principle in the stricter sense of its meaning – is to make polluters compensate those who suffered the loss and damage. While this is being proposed for the so-called loss and damage tax (see Chapter 5), the same approach could be applied for fees or taxes on GHG.

From a perspective of compensatory justice, non-discrimination, and to avoid carbon leakage, it would be advisable to include as many GHG sources as possible in the pool to be taxed or to have levies imposed, regardless of whether they are past or current.

According to a study conducted by Knopf et al. for the UNEP Emission Gap Report 2018, there were around 50 carbon pricing systems in place, covering less than 50 per cent of GHG emissions in the 42 countries belonging to OECD or the G20 (UNEP 2018).

In most countries it would be legally difficult to simply transfer carbon tax income to financial instruments that compensate those who have suffered loss and damage, both locally and globally. It is possible, however, to source a redress mechanism with public finances that are equivalent to tax income or levies resulting from carbon pricing.

3.3 Conclusions on climate justice criteria

There are different sets of principles and criteria relating to solidarity or accountability. So far, they have not been guiding the ongoing discourse on mobilizing and distributing finance to address loss and damage that could not or cannot be avoided. Introducing these criteria to the debate would help to break the silos and to move forward as needed.

As a starting point, principles relating to the *solidarity dimension of climate justice could become a set of aspirational principles for the voluntary financing of loss and damage*, empowering stakeholders to understand legitimate justice concerns with regard to climate-induced loss and damage, and to making a contribution to addressing loss and damage based on voluntarism, as well as including all types of stakeholders, not solely state actors. The limits of such approaches, which can be *aligned with the implementation of the SDGs and the Sendai Framework for Action*, will probably be of a financial nature. As we have seen, the mobilization of funds on a voluntary basis has been a cumbersome process.

Promoting and adopting a *human rights-based approach* could be a strategic tool to *sharpen the perception of legal state obligations relating to redressing loss and damage* that threatens or violates the human rights of the climate vulnerable. The challenges to such an approach are manifold, however: Firstly, not all states have become Parties to the respective human rights treaties. Secondly, finding common agreement on which loss and damage resulted in human rights violations and what would be the adequate redress measure would be a lengthy process. Thirdly, it would initially be the domestic states who are obliged to redress, while other states would only become responsible once the home state has checked that all financial means to provide redress have been exhausted. Still, it would be an important entry point to ensure that those redress mechanisms that are



Hurricane Matthew caused devastation across the Caribbean islands. With insufficient resources to respond to the hurricane damage, the Haitian government requested aid from other nations to rebuild the country and help it recover.

put into place are functioning in ways coherent with human rights principles, including ensuring a particular focus on the most vulnerable and the often marginalized. Thus, *the transversal human rights principles of participation, empowerment, non-discrimination, transparency, and accountability are crucial to identifying, including, and prioritizing the most vulnerable people adequately with regard to redress measures*.

Employing the *polluter pays principle* for mobilizing funds to redress loss and damage would not only be the most suitable approach financially. It would also provide the closest link in terms of accountability between the support provided by an actor and its responsibility for direct or indirect causation, leading to the loss and damage experienced by those receiving the support. This is, therefore, the *most stringent way to realize compensatory justice*. The proposal to tax major emitters has a certain charm, but is probably the most difficult to implement for a number of reasons, which will be discussed later. Mobilizing funds by simply earmarking a certain amount of public funds, not exceeding revenue generated by carbon pricing, would probably be easier.

Proposing that certain revenues generated by carbon pricing would be reinvested to redress climate-induced loss and damage, both nationally and internationally, could even be a strong argument for the **legitimacy** of carbon pricing. Therefore, it is strongly recommended that such an approach be promoted further. The first steps would involve the formation of an alliance of like-minded state and non-state actors who would promote the polluter pays principle within the debate on financially addressing loss and damage, and to test some pilot schemes with the potential to be scaled up.

Whatever the approach will be to mobilize finance to address loss and damage, it is strongly recommended to ensure **transparency** concerning the finance provided, inter alia by using criteria to categorize and track the provisions made, similar to the approaches already used for mitigation and adaptation. If not, double counting will

again become a toxic issue and it will be difficult, if not impossible, to assess how far climate justice criteria are met. Complementing the set of Rio Markers with another one on “Comprehensive Climate Risk Financing” would be an option. From a climate justice perspective, it would be of fundamental importance to also track how the funds provided are used, and who is benefiting. Here again, the climate justice principles to provide distributive and compensatory justice, with a particular priority for those who are most vulnerable, would be a strategic approach to guide action. This should include the application of transversal criteria, as shown above, to ensure inclusiveness, gender sensitivity, and participation.

Figure 4: Overview of climate justice principles

	Mutuality	Solidarity	Accountability	Transparency
Type of justice	Support based on mutuality	Distributive justice	Compensatory justice	Procedural/ participatory justice
Principles	Mutuality	- Pro-poor - Humanitarian	- Human rights - Gender equality - Polluter pays	- Inclusiveness - Gender sensitivity - Participation
Criteria	- Risk pricing, pooling and sharing among those affected - Risk transfer at real cost	- Leave no one behind - Realize human rights - Inclusiveness - Accessibility - Affordability - Humanity - Impartiality	- Universality - Non-discrimination - Respect, protect, and fulfill substantive human rights standards, procedural human rights principles, and special obligations - Gender sensitivity - Polluter redresses damages	- Participation - Empowerment - Non-discrimination - Transparency - Accountability
Legal/ political basis	Legal entitlements: - National law - International treaties	Aspirational goals: - Agenda 2030 / SDG - InsuResilience Global Partnership - Sendai Framework	Legal entitlements: - International human rights law - CEDAW - National environmental law	Legal entitlements or aspirational goals: - International human rights law - National law - International treaties and political agreements (e.g. Paris Agreement)

Source: Bread for the World, based on Mechler (2019)

Chapter 4

Possible financial sources in light of climate justice

The UNFCCC technical paper has not touched on the question of possible sources to raise the funds needed to financially address loss and damage by going beyond the existing climate finance architecture, which, as we have also seen, does not include a specific financing line to address loss and damage. The WIM Executive Committee has discussed several times a number of financial instruments, for instance regional risk pooling, climate risk insurance, or catastrophe bonds, i.e. instruments that fall under the justice category of mutuality, as discussed in previous chapters. What has not been discussed in the technical paper, for the reasons mentioned in Chapter 1, particularly the resistance of rich countries, are new and innovative sources that go beyond those based on mutuality.

The ongoing unwillingness to tackle the challenge and discuss how the resource basis to address loss and damage can be widened in a way that is more adequate in scale and scope given the massive risks shown in Chapter 1 contrasts sharply with the path chosen by the High-Level Panel on Humanitarian Financing in its report to the Secretary General in 2016. The Panel, in light of increasing humanitarian costs, including those associated with more and more cross border catastrophes, called for “solidarity funding capable of crossing borders in an interconnected world” and proposed “that governments (...) sign up to the concept of a solidarity levy and create a steady revenue stream for humanitarian action”. They further stated: “We see every day that the impact of insufficient funding is more global instability. In this sense, prevention of the spread of instability is a global public good; therefore, providing the resources for doing so should be a collective responsibility” (High-Level Panel on Humanitarian Financing 2016).

A similar approach should be taken to mobilizing the sources for addressing loss and damage. However, so far the policy discourse is too toxic to make that move from within. To break down this silo, the UN Secretary General could appoint a High-Level Panel to write a report on innovative finance sources to address loss and damage.

In the following section, a number of approaches will be presented that are already publicly known. It is important to note that innovative finance would ideally be raised, managed, and spent under one international scheme. This would also contribute to keeping funding additional, independent from national budgets, and thus relatively predictable (Durand, A. et al. 2016). However, making this a reality would very likely turn it into a cumbersome process. Thus, a twin-track approach is being proposed where the elaboration of one international sourcing mechanism is combined with approaches that look at sources already in existence, including at national levels, that can be accessed and partly used more easily, with the potential to be scaled up later.

4.1 International Airline Passenger Levy or Bunker Fuel Levy

An International Airline Passenger Adaptation Levy (IAPAL) was first proposed by LDCs in 2008 as a new source to generate climate finance, but gained little support (Huq 2019). In 2019, it has been revived in a revised version, called International Airline Passenger Levy for Loss and Damage (IAPALLnD), and put forward as a solidarity levy on all international air passages to mobilize funds which would then be used to address loss and damage in developing countries (ibid.). The revived proposal has gained political support among LDCs, SIDS, and AILAC (Association of Independent Latin American Countries) members (oral statement by Huq, S. in a consultation organized by ACT Alliance, Bread for the World, and the German Development Institute on June 25, 2019, in Bonn). The concept foresees the levy being differentiated by flight class, with USD 6 for an economy-class ticket and USD 62 for a business or first-class ticket (Khan/Huq 2019). With a revenue base comprising all international air travel, currently counting a billion passengers per year, and a forecast 5 per cent annual increase in flights, the total revenue would be between USD 8 to 10 billion per year over the next six years (ibid.).

Revenues raised in developed countries could either go to the Financial Mechanism of the PA, sourcing the GCF or the AF (ibid.), or to a newly created Global Loss and Damage Fund to provide redress to those who have suffered loss and damage (Huq 2019). Revenues raised in developing countries could also be collected and spent domestically, e.g. through national funding entities, to ensure no net incidence on developing countries (Khan/Huq 2019).

Back in 2015, Thomas Piketty and Lucas Chancel, two French economists, proposed taxing flights with a levy of USD 20 on economy class and USD 196 on business class tickets to raise an estimated USD 150 billion for adaptation in developing countries (The Guardian 2015). They used the same argument that is now being put forward for IAPALLnD: Taxing international airfares is a very effective way to employ the polluter pays principle by making individuals with high-polluting lifestyles accountable for providing redress to the victims of climate change (ibid.). This approach would also effectively cover privileged elites in emerging economies and developing countries, who can afford to take international flights, and whose carbon footprints outstrip those of working-class Europeans, according to the analysis conducted by Piketty and Chancel.

Thus, it can be concluded that taxing international air passengers, differentiated by flight classes, would potentially be a way to address loss and damage, and one that is very much in line with the polluter pays principle, providing compensatory justice if set up adequately, i.e. in line with the transversal criteria introduced above. In his 2019 report (see above), the UN Special Rapporteur on human rights and the environment also recommended that states provide financing for loss and damage through “an air travel levy, a levy on fuels used by the aviation and shipping industries, or a climate damages levy on the revenues of fossil fuel companies”. Apparently, he was most drawn to an international airline passenger levy, stating the following:

“A basic global air travel levy would raise USD 40–100 billion annually (at USD 10–25 per person per flight, given that current passenger levels exceed 4 billion per year). Air travel causes significant, largely unregulated emissions, and is used primarily by relatively wealthy people. A progressive air travel levy could impose higher payments on business – and first-class tickets, as well as on longer flights” (UN 2019, para 92).

But what about feasibility? Many countries impose flight taxes, and some, like France most recently, have introduced levies that fall under the category of carbon pricing. It does not seem very likely that a global International Airline Passenger Levy for Loss and Damage will be introduced very soon. However, such a measure could be introduced relatively easily as a voluntary solidarity levy by single countries or, better still, by an alliance of those willing to pioneer such a solution. The feasibility of such an approach has long been proven by Unitaid (for more information see <https://unitaid.org/#en>), an international organization investing in innovative ways to prevent, diagnose, and treat diseases. They fund their work through a voluntary “solidarity levy” with the participation of just ten countries and were able to raise USD 1.6 billion between 2006 and 2011. This good practice example is also highlighted by the High-Level Panel on Humanitarian Financing in its report to the Secretary General in 2016, where they proposed their solidarity levy (see above). On a voluntary basis, the polluter pays principle would still be employed, but covering fewer polluters and fulfilling the criteria of climate justice based on solidarity rather than accountability.

Flight-related GHG emissions do not fall under the regulation of the UNFCCC, but of the ICAO (International Civil Aviation Organization), a specialized UN Agency. The same is true of maritime transport, which is regulated by the IMO (International Maritime Organization). As airfares could be taxed to generate funds to address loss and damage, the same could be done here, too, e.g. by introducing a (mandatory or voluntary) bunker fuel levy.

4.2 Financial Transaction Tax (FTT)

A Financial Transaction Tax (FTT), also known as Tobin Tax, is a levy on a specific type of financial transaction, such as in relation to bonds, stocks, or currencies, with a particular purpose, e.g. curbing the financial volatility of financial markets. In 2011, there were 40 countries that made use of an FTT, raising a total of USD 38 billion (Griffith-Jones/Persaud 2012). If applied across Europe, it is estimated that between USD 25 and USD 34 billion could be raised annually. While this would be a large-scale source for addressing loss and damage, a global, or even European agreement on FTT is unlikely to materialize in the near future.

A more realistic scenario, however, would be the introduction of an FTT by the ten EU members participating in the EU procedure of Enhanced Cooperation, where an FTT has been discussed, estimating that the FTT introduction at this level could generate €15.99 billion annually, including €5.1 billion in Germany alone. Even the reduced version, with levies on stock transactions only, as proposed in a Franco-German position paper, would raise €4.4 billion per year (Deutscher Bundestag, 2019). So far, this instrument has not been adopted and it has not been discussed by involved governments as an innovative source to address loss and damage. NGOs and other stakeholders could, of course, start this discussion. There is reason to believe that public support for a new FTT could be generated by making the link to climate change and to the use of public funds generated through an FTT as a means to redress loss and damage. From a climate justice perspective, this possible source would fall under the solidarity rather than the accountability principle, providing distributive rather than compensatory justice, since there is no causal connection for the reasons to be taxed and the causation of climate-induced loss and damage.

4.3 Climate Damages Tax (CDT)

The concept of a Climate Damages Tax (CDT) builds on an initiative by the Climate Justice Program (see <https://climatejustice.org.au>) and the Heinrich Böll Stiftung, and is being promoted by a broader NGO alliance (Richards et al. 2018). It proposes that every country, starting in 2021, imposes a CDT on fossil fuel extractors for each ton of coal, barrel of oil, and cubic meter of gas extracted on its territory. The levy would be calculated at consistent rates globally based on how much GHG emissions per unit are embedded in the respective fossil fuels (ibid.). Proponents recommend that the level of tax starts low (USD 5 per ton CO₂ equivalents), increasing annually by USD 5 per ton until 2030, then reviewed and thereafter expected to rise by USD 10 per year (ibid.) Others propose ensuring that the level of tax does not fall below 20 per cent of the profit of each company being taxed (Huq 2019). The levies could be directly paid by the taxed companies to a “Solidarity Facility for Loss and Damage” under the auspices of the GCF (to be established), or a “Global Loss and Damage Fund” (to be established), and then further channeled to the Adaptation Fund, as an

intermediary for small and micro-projects, to a Disaster Response Facility (to be established), and directly to countries who suffer from loss and damage. A “fair transition remittance” would be paid to national tax authorities. The potential annual revenues are estimated to reach around USD 300 billion in 2030 and generate many more billions of funds which could be used by countries for a fair transition towards a climate resilient, zero-carbon civilization.

Proponents argue that the CDT, if imposed globally, would not distort markets, and that the initial levy is too minimal to have a significant impact on fuel prices, thus giving all actors time to adapt. The steady tax increase would, on the other hand, incentivize the necessary decarbonization of the energy sector over time.

The CDT proposal suggests that poor countries would retain all revenues generated by the tax in their territories, while the proportion of generated revenues that can be spent by countries on their own would be lower in upper-middle income and high-income countries. In these cases, a higher proportion of revenue would remain with the Solidarity Facility at the GCF, to be spent as briefly described above (Richards et al. 2018).

From a climate justice perspective, mandatorily taxing all fossil fuels at the source and using the revenues to address loss and damage, distinguishing according to the needs of those who have suffered the losses, would be an approach in line with the polluter pays principle, aiming at providing compensatory justice. The research on “Carbon majors”, as conducted by CDB (formerly Carbon Disclosure Project), found that only 100 fossil fuel-producing companies are the source of over 70 per cent of GHG emissions (CDP 2017a). Taxing these “Carbon majors” (e.g. Saudi Aramco, ExxonMobil, Shell, or BP, see also CDP 2017b) could be seen as a strategic key not only to very effectively creating a new and adequate source for financially addressing loss and damage, but also to developing incentives for global decarbonization.

The concept of the CDT, however, fails to offer an argument as to why countries should agree to it, and why they should give up the right to nationally self-determine how tax income should be used. Secondly, it is true that such an approach would sharply contradict tax legislation in many countries. Thirdly, it does not seem at all realistic to let the proposed Solidarity Facility for Loss and Damage be managed under the auspices of the Green Climate Fund given the obvious challenges the GCF is currently facing, including governance issues and

operational capacity challenges that mean it struggles to even manage its current (comparatively small) portfolio adequately. The Climate Damages Tax, as fair as the proposal may be from the perspective of the polluter pays principle, does not seem to be a feasible option for the mobilization of new sources to financially address loss and damage in the short- to medium-term. In today's world, with its severe crisis of multilateralism, a global, top-down imposed, mandatory taxation system is hardly feasible, all the more so as it would require the agreement of those states who are the least interested in it: fossil fuel-producing countries, such as Saudi Arabia, Russia, or the U.S.

A much smaller, but probably more feasible approach, however, could be a levy on fossil fuel extraction, which could be declared a “solidarity levy”, sourcing a solidarity fund to redress climate-induced loss and damage on a voluntary basis. In this case, fossil fuel companies would voluntarily agree to pay this levy – or a country (or group of countries) could impose a solidarity tax on companies extracting oil, gas, or coal on their territories. In this case, the basic idea – to impose a special levy at the source of emissions and then use the revenues to compensate for loss and damage – would remain the same. According to Richards/Schalatek (2017), the estimated annual revenue for a fuel extraction levy of USD 2 per ton of CO₂, if applied globally, would raise roughly USD 50 billion per year. A certain precedent for a voluntary levy on oil extraction already exists in the form of the IOPC Funds, which compensate those who have suffered oil pollution damage in a member state but who cannot obtain full compensation for the pollution damage from the shipowner under the relevant Civil Liability Convention (see: <https://iopcfunds.org/compensation/>).

4.4 Carbon levy

Pricing carbon, be it by tax or by trading systems (for instance the EU Emissions Trading System, EU-ETS), nationally, regionally, or globally, is another potential source from which to generate innovative climate finance: not only to finance the necessary transition, but also to source instruments to redress climate-induced loss and damage. So far, there are numerous carbon pricing systems in place, and they are increasing rapidly in scope and scale, but a carbon levy has neither been implemented on a global level, nor is there any significant poli-

tical debate at the UNFCCC to use a carbon levy to redress loss and damage. Hence, this would be new territory, but with the potential to deliver outcomes.

Why is that? Well, there is strong political momentum for carbon levies, more than has ever been seen before. There is emerging political will to spur mitigation, and a carbon tax is widely accepted as the most effective policy for curbing carbon emissions (Hagmann et al. 2019). Policymakers, pushed by their citizens and movements like “Fridays for Future”, but also by industries and investors, understand that action needs to be taken.

To stay at 1.5°C, or well below 2°C of global warming, emissions in a country like Germany need to decrease steadily by 4 per cent every year in order to stay aligned with the Paris Agreement (Fischedieck, M. in *Handelsblatt* 2019). But how can this be done? In 2018, ten out of the 30 largest German companies actually increased their CO₂ emissions, and as a group, the total emissions only decreased by 1.2 per cent (ibid.). To buck this trend, experts argue that carbon pricing is the most promising approach.

Staying with the example of Germany, this favorable approach towards carbon pricing is reflected in a recently published special report conducted by the Potsdam Institute for Climate Impact Research and the Mercator Research Institute on Global Commons and Climate Change, and commissioned by the German Council of Economic Experts. The report “Optionen für eine CO₂-Preisreform” (Options for a CO₂ Price Reform) (MCC/PIK 2019) found that carbon pricing across all economic sectors is the best way to achieve the 2030 climate targets. Carbon pricing would create the necessary incentives to mitigate emissions and to invest in climate smart technologies. Taxes would be easier and faster to implement compared to expanding carbon emission trading schemes not yet covered by the EU ETS. Carbon prices may start at €50 per ton of CO₂ and could then increase to €130 per ton in 2030 to set the right tone (Spiegel online 2019).

In fact, according to a recent study, carbon pricing systems with prices up to €115 per ton of CO₂ (Sweden) have already been introduced in more than 50 countries worldwide, including 30 European countries, 15 non-European G20 members, and a number of other countries, (Germanwatch 2019). The study has found that the introduction of carbon pricing systems has become increasingly dynamic in recent years, and that this development is likely to accelerate. Many of the countries that have

recently introduced carbon pricing, or enhanced existing systems, have prioritized carbon taxes, and other countries are about to introduce them in the near future. Carbon taxes generate revenue and that makes them a promising source.

So far, governments that introduce carbon pricing schemes tend to look for solutions that are socially acceptable. The so-called Yellow Vest movement in France has alerted policymakers to the fact that socially unbalanced carbon pricing could lead to widespread social unrest, at least in democracies. Therefore, the current carbon pricing policy discourse in Germany has a strong focus on net incidence for taxpayers: The promise is that carbon prices would be introduced but that, at the same time, other energy taxes would be reduced, or that direct cash payments, called a “climate dividend”, would be made to taxpayers to compensate for the new carbon tax.

However, as carbon pricing would increase over time, it is unlikely that net incidence would be ensured at the same proportion in the medium-term. Thus, if revenues exceed compensatory measures, the question will arise as to how to use these revenues. It is therefore highly recommended that awareness be raised and political support be mobilized for the approach of using at least part of the revenue from carbon pricing as a new source to redress loss and damage. The financing of the UN Adaptation Fund sets a good precedent: It is partly financed with a share of proceeds from the Clean Development Mechanism (CDM).

Kollmuss (2018) has highlighted different political instruments that Switzerland could use to mobilize its fair share of the developed countries’ commitment under the PA, i.e. to provide USD 100 billion per year in international climate finance. The Swiss Climate Alliance of NGOs has estimated Switzerland’s fair share to be CHF 1 billion annually. Kollmuss analyzed the sourcing potential by using revenues from new carbon pricing systems. A similar approach could be taken to mobilize funds that would source a financial mechanism to redress loss and damage. The study analyzed eleven different instruments, including a general carbon tax for all emissions across sectors (CHF 21 per ton of CO₂ to mobilize CHF 1 billion), carbon taxes on fuels, a fee or airline passenger levy, and a share of proceeds from the emission trading system. It concluded that a combination of these instruments is economically and socially feasible, legally possible, and would mobilize the additional funds needed to fulfill Switzerland’s commitments.

From a climate justice perspective, revenues generated by carbon pricing are well aligned with the accountability principle because prices are imposed on those who emit, providing the opportunity to redress loss and damage and to apply compensatory justice.

4.5 Other innovative public sources

Shifting public finance from fossil fuel subsidies to redressing loss and damage

In 2015, annual fossil fuel subsidies totaled USD 4.7 trillion (Coady 2019), which is equivalent to 6.3 per cent of that year’s global GDP and more than ten times higher than the estimated climate-induced loss and damage for 2015 (see Chapter 1). The largest subsidizers were China (USD 1.4 trillion), the United States (USD 649 billion), Russia (USD 551 billion), the European Union (USD 289 billion), and India (USD 209 billion). It is frequently argued that fuel subsidies disproportionately benefit middle- and high-income households rather than the poor (OECD 2017). Poor households could be more efficiently supported by targeted direct cash transfer (ibid.). Phasing out fossil fuel subsidies is not only indispensable to remaining at 1.5°C, it would also significantly reduce the strain on public budgets and thus free up financial resources that could be used to redress loss and damage. From a climate justice perspective, this would be another effective option, leading to compensatory justice.

Debt for climate swaps

Many climate vulnerable countries facing severe loss and damage are, per capita, among the most heavily indebted developing countries, for example Caribbean SIDS (Fuller et al. 2018). This considerably limits these countries’ ability to invest in climate risk management, risk financing, and the redress of loss and damage. Debt relief could free up national funds in the affected countries which could, in turn, be invested in measures to address loss and damage. The Jubilee Debt Campaign launched a public campaign in December 2018, calling for a permanent debt relief process for SIDS in response to climate-related disasters (<https://jubileedebt.org.uk/actions/climatedebt>). Further conditions could be attached to this debt relief, ensuring that SIDS invest a part of the



Cyclone Sidr has been named one of the ten strongest and deadliest cyclones to strike the region of Bangladesh. It killed around 15,000 people and caused damage estimated at USD 1.7 billion.

saved capital costs in a national or regional redress mechanism for loss and damage. From a climate justice perspective, this would be an effective option, leading to distributive justice.

4.6 National mechanisms in developing countries

The sourcing of funds to address loss and damage should not be restricted to developed countries. Emerging economies and developing countries are also – collectively or individually – mobilizing sources to redress climate-induced loss and damage. Apart from regional risk pools, such as African Risk Capacity (ARC) (see Brot für die Welt/ACT Alliance 2017) or national funds like the Calamity Funds in the Philippines or the Mexican Natural Disasters Fund, FONDEN (Fideicomiso Fondo de Desastres Naturales) (see Brot für die Welt 2019), which all follow the mutuality principle of climate justice, a new and innovative instrument is currently under discussion in Bangladesh. The government intends to establish a National Mechanism to Address Loss and Damage in

order to close a gap in current national climate policies, namely to explicitly address loss and damage (Huq 2018) that is leading to humanitarian disasters and severe violations of human rights in Bangladesh which have largely been ignored (Shamsuddoha et al. 2018).

The envisaged National Mechanism to Address Loss and Damage would build on existing institutions and policy frameworks, fostering collaboration across the Ministry of Disaster management and Relief and the Ministry of Environment and Forests. Reserves created under the national Bangladesh Climate Change Trust Fund would be used to source the National Mechanism in a two-year pilot phase. This phase would serve the purpose of enhancing understanding on loss and damage in Bangladesh, examining how the National Mechanism could be designed to comprehensively and effectively approach loss and damage, and exploring ways to provide targeted support to those suffering (Huq 2018).

The development of national mechanisms in developing countries responds to the human rights obligations of these countries to progressively protect and fulfill the human rights of their population: Every country has the responsibility to respond to human rights threats, inclu-

ding those caused by extreme weather events or slow onset changes, using a maximum of available resources. In terms of climate justice, the principle of national accountability is being applied here. What is not applied, however, is the polluter pays principle. National action in developing countries to source instruments that redress loss and damage is necessary and well justified from a climate justice perspective. However, in this case, developed countries would not be held accountable to contribute the main financial share. This could be introduced by allowing National Mechanisms to receive co-funding from international contributions.

4.7 Other voluntary contributions

Voluntary contributions to source redress of loss and damage could be made by all types of actors, i.e. donor governments, private foundations, the private sector, and other institutions, based on voluntarism. Thus, these contributions would be based on the justice principle of solidarity, providing distributive justice. Due to their voluntary nature, i.e. given that the commitment is there, these sources can be easily realized without lengthy legal processes.

Looking at the climate finance architecture, the UN Adaptation Fund sets a precedent as a fund that mobilizes resources on such a wide voluntary basis and is principally open to all different types of donors.

Looking beyond climate finance, an interesting blueprint is the Global Fund, which manages to mobilize around USD 4 billion in voluntary contributions annually to support programs in more than 100 countries aiming at ending the AIDS, Tuberculosis, and Malaria epidemics. The Global Fund was established in 2002, based on a commitment by the then G8 countries to strengthen the fight against these diseases. So far, USD 42.2 billion have been disbursed (<https://www.theglobalfund.org/en/>).

The list of contributors has been widened over time. More than 60 countries have made contributions, including all the OECD countries, emerging economies such as China, India, and Saudi Arabia, but also some smaller developing nations like Namibia. 95 per cent of all contributions have come from donor governments, and 5 per cent were raised from philanthropic foundations, the private business sector, and other innovative sources (ibid.). The target for the sixth replenishment conference in

October 2019 in Lyon was set at USD 14 billion for the next three-year cycle.

Would a similar approach work to address loss and damage? One of the basic considerations for the G8 to initiate the Global Fund, apart from humanitarian and ethical considerations, was the shared understanding that these epidemic diseases, if not fought aggressively, could lead to a nightmare, seriously undermining human security and political stability. A similar argument would apply for the accelerating risks of loss and damage, for instance in terms of forced migration, leading to an unprecedented global refugee crisis. Thus, voluntary contributions similar in scale to those mobilized for the Global Fund might be raised to support risk prevention, planned resettlement, and rehabilitation measures after extreme climate events.

The pledge made by some of the world's largest asset managers to the French president Emmanuel Macron that they would account for climate risks in their investments in order to better align them with the goals of the Paris Agreement can be taken as an indication that private investors are increasingly aware and ready to green their investments (Climate Home News 2019). That, of course, does not mean that the private sector is ready to also be accountable for climate-induced loss and damage. But it seems feasible that some companies and investors would be ready to support risk reduction and redress of loss and damage on a voluntary basis.

Voluntary contributions that provide distributive justice could be the lowest hanging fruit in terms of new and innovative sources. Being voluntary, they are based on solidarity, not on accountability and the polluter pays principle. In terms of scale, the funds that could be mobilized will probably fall short given the gap that needs to be closed, but a start could be made on financially addressing loss and damage, and pilot projects could be launched in many countries.

4.8 Conclusion on possible sources

The overview of possibilities has shown that there are various options for new and innovative sources to address loss and damage, going far beyond the status quo presented in the technical paper by the UNFCCC secretariat (see Chapter 2.2).

The estimated total revenues from these sources, or only some of them, would be sufficient to cover

climate-induced loss and damage. However, all the options are also beset with different limitations, and most importantly, sufficient political support is still lacking. Therefore, it is vital that the debate be strengthened by NGOs and other like-minded actors. Once agenda setting has successfully taken place, and policymakers, as well as forums like the WIM Executive Committee, have started to openly discuss new and innovative sources, alliance building and the investment of political capital is needed to capitalize on one or more of these sources. To start with, the mobilization of voluntary contributions seems to be the lowest hanging fruit, due to the reasons given above.

From a climate justice perspective, all options are in line with one or more of the following justice principles

(see Chapter 3): mutuality, solidarity, or accountability. Certainly, it would be most preferable to employ the polluter pays principle with regard to sources, hence referring to the accountability principle. This, however, might be more difficult to achieve than the solidarity or mutuality principles, at least in the short term.

The following figure provides a summarized overview of the sources discussed, stating estimated financial volumes per year, which justice principle is being applied, how the political and legal feasibility is being assessed, and how rapidly the sources could be implemented. All details provided are based on information discussed in this chapter, and on assumptions made by Bread for the World in light of this information.

Figure 5: Overview of new and innovative financial sources to address loss and damage

Source	Estimated volume per year	Justice principle	Polluter pays principle	Political and legal feasibility	Rapidly implementable
International airline passenger levy	USD 8–150 bn	Accountability Solidarity	●	●	●
Financial transaction tax	USD 20–50 bn	Solidarity	●	●	●
Climate Damages Tax	USD 50–300 bn	Accountability	●	●	●
Carbon levy	Unknown	Accountability	●	●	●
Other public sources	USD several trillion	Solidarity	●	●	●
National mechanisms in developing countries	Unknown	Accountability Mutuality	●	●	●
Voluntary contributions	USD 4 bn	Solidarity	●	●	●

Very high
 high
 medium
 low
 very low

Source: Bread for the World

Chapter 5

Options for funding mechanisms to address loss and damage

In this chapter, possible new funding mechanisms or modalities to provide finance for addressing loss and damage that go beyond existing options based on mutuality, for instance climate risk financing and risk insurance mechanisms, will be briefly discussed.

5.1 The Green Climate Fund (GCF)

The Green Climate Fund (GCF) is the youngest but also the largest climate fund under the UNFCCC. That makes it the flagship in the climate finance architecture of the PA.

The GCF mandate reads as follows: “In the context of sustainable development, the Fund will promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to the impacts of climate change, taking into account the needs of those developing countries particularly vulnerable to the adverse effects of climate change.” (see <https://www.greenclimate.fund/home>).

Enhanced livelihoods of the most vulnerable people, communities, and regions, as well as resilient infrastructure, are among the eight main impact areas identified by the GCF. Along these lines, GCF has committed to spend 50 per cent of its funds on adaptation action.

Financially addressing loss and damage is not mentioned as a separate impact area, and so far no funds have been used to redress climate-induced loss and damage. Climate risk management projects, including those with climate risk insurance components, most recently seen in a GCF co-funded project in Zimbabwe, are, however, part of the GCF portfolio.

The UNFCCC technical paper (see Chapter 2) judges the GCF to be theoretically better positioned than other existing climate funds to address loss and damage at larger scales and through innovative approaches, for example the provision of equity to establish risk transfer mechanisms at a larger scale (UNFCCC 2019).

In informal discussions with the authors of this report, some members of the GCF board have indicated the readiness of the GCF to consider more projects in future that would financially address loss and damage, but, at the same time, warned that the labeling of projects as “loss and damage” would still be a major problem for many GCF board members for the reasons discussed in Chapter 2 of this report. Therefore, using terms such as “climate risk management”, “risk financing”, or “adaptation” may help gaining support and approval.

In light of these political limitations, but also due to other limiting factors, it seems unlikely that the GCF will transform into an instrument to financially address loss and damage at larger scales, as indicated by the UNFCCC technical paper (see above).

Among these other limiting factors, significantly narrowing the space of the GCF, are the ongoing internal discussions about governance, the slow approval process for new projects, the limited space provided to national entities to have funding approved, and the very cumbersome process to become registered and thus eligible for GCF funding at all. In light of these difficulties, GCF will have to fight hard to manage much higher amounts of mitigation and adaptation funding, as required from 2020 onwards in view of the USD 100 billion climate finance commitment made by industrialized countries. This is, of course, assuming that the GCF will become one of the main mechanisms to deliver on this commitment. Thus, it is unlikely that the GCF will, at the same time, take on the extra burden of opening a new, large-scale window to financially address loss and damage as suggested by proponents of the Climate Damages Tax. What does seem possible, however, is that the GCF increases its support for climate risk management and risk financing approaches. This must not be limited to approaches based on mutuality but could also include approaches based on solidarity. This could include, inter alia, support to enable climate risk-related upgrades to social security systems (so that they are better prepared to deal with post-climate disaster calamities), the payment of climate risk insurance premiums for climate vulnerable people (direct insurance) or countries

(indirect insurance or risk pools, such as ARC) that cannot afford these payments on their own, the coverage of necessary resettlement costs due to sea level rise (as in the case of low-lying islands), or financial support provided to national mechanisms dealing with loss and damage, for instance FONDEN in Mexico or the Calamity Funds in the Philippines (see Chapter 5.6).

Accordingly, GCF, despite its limitations, could and should play a much bigger role in financially addressing loss and damage, but is, at the same time, very unlikely to become the “one and only” solution to the problem, i.e. it is no silver bullet.

5.2 The UN Adaptation Fund (AF)

The Adaptation Fund (AF) was established in 2001 and created as a financial mechanism under the UNFCCC and the Kyoto Protocol in 2016.

In terms of sources of finance, the AF comprises a mixture of funding from the Clean Development Mechanism and voluntary contributions, mostly from developed countries. Given this set-up, it should be feasible to widen the range of sources and in future also receive funds specifically generated to address loss and damage.

In comparison to other financing mechanisms, the AF has three additional innovative elements that may qualify it to be used as a financing mechanism to address loss and damage: a governing board comprising a majority of members from developing countries, lower hurdles for eligible countries to directly access funds, and a strategic mandate to prioritize the needs of particularly vulnerable communities.

Over the years, the fund has allocated around USD 500 million to increase climate resilience in more than 70 countries around the world, many of them on climate risk reduction, but there have been no specific projects to redress loss and damage. Other than disaster risk reduction or coastal zone management, loss and damage, as such, is also not mentioned as one of the sectors for funding (see: <https://www.adaptation-fund.org/projects-programmes/project-sectors/>).

While the AF has some unique selling points that may qualify it for channeling funds to address loss and damage, such as its flexibility to receive funding from different sources, good accessibility for national entities and non-state actors, and its strong focus on the needs of vulnerable communities and populations, it also has

limitations. The funds mobilized for these approaches remain comparatively small and are unlikely to grow significantly in the near-term. Accordingly, the operational capacity of the AF is much smaller compared with the GCF. Therefore, the AF currently does not fulfill the requirements needed to become a major mechanism for channeling finance to address loss and damage.

However, as in the case of the GCF, the AF could and should strengthen its focus on risk reduction and widen it in a way that would allow for the funding of smaller-scale pilot projects, particularly those of sub-national and non-state actors, to redress loss and damage, for instance the provision of livelihood support for people who have been evicted as a result of the impacts of climate change, or funding innovative climate risk insurance for marginalized groups, such as small-scale fishers, small-holder pastoralists, or peasants.

5.3 Other climate funds

The points made concerning GCF and AF are also valid for other climate funds, e.g. the **Least Developed Country Fund (LDCF)** and the **Special Climate Change Fund (SCCF)**. They could widen the scope of their funding to include certain niches of financially addressing loss and damage, but they cannot be scaled up in a way that offers “the rapid, large-scale financing that certain extreme events causing loss or damage incur”, to quote the UNFCCC technical paper once again.

The LDCF, which was established in 2001 and became operational just one year later (as it was administered by the World Bank’s Global Environmental Facility), aims at addressing the adaptation needs of climate vulnerable LDCs. Since the LDCF has had a strong focus on financing the implementation of National Adaptation Programs of Action and many of these programs, developed by LDCs, also cover climate risk reduction and risk transfer, it should be possible for climate vulnerable LDCs to design and propose projects to the LDCF that include redress measures for people, communities, or cities who suffer from climate-induced loss and damage.

The SCCF, also established in 2001 and operated by the World Bank, provided access not only for LDCs but for all developing countries to address climate change. They, in cooperation with international entities registered under the Global Environmental Facility, can propose projects for funding. So far, adaptation has had a

stronger focus than mitigation (for further information on LDCF and SSCF, see ACT Alliance 2018b). Principally it should also be possible to launch a project for funding that addresses loss and damage, but it is unlikely that the SCCF would turn into a main mechanism to address loss and damage, given its wide scope and very limited financial size.

5.4 Other possible funding mechanisms

Multilateral Development Banks (MDBs) have high potential to address climate-induced loss and damage, but this has not yet been fully realized. The fact that all large MDBs have committed to aligning their investments with the PA, and that they will specify how this pledge is to be operationalized at COP25 in Madrid, gives reason for optimism that climate risk financing will gain relevance as part of a larger climate risk management framework.

MDBs are used to set up (multi-donor) trust funds, and this approach could also be used to manage new funds, for instance those generated by a carbon levy, to financially address loss and damage.

While climate resilience building and climate risk reduction play an increasing role in the portfolios of all MDBs, it is the Asian Development Bank (ADB) that has the most experience in setting up special funds to address climate risks. Relevant examples are (see ACT Alliance 2018b):

- Asia-Pacific Climate Finance Fund (ACliFF), established in 2017 by ADB as a multi-donor trust fund aimed at supporting the development and implementation of financial risk management products, including climate risk insurance. Germany was the first country to contribute to ACliFF;
- Integrated Disaster Risk Management Fund (IDRMF), established in 2013 by the ADB with financial support from Canada, aiming at strengthening disaster risk management capacities in Cambodia, Indonesia, Laos, Myanmar, the Philippines, Thailand, and Vietnam, inter alia through community-based and gender-focused integrated risk management and climate risk financing, including regional risk pooling;
- Urban Climate Change Resilience Trust Fund (UC-CRTF), established in 2013 by ADB and sourced by the Rockefeller Foundation, Switzerland, the United States, and the United Kingdom, aiming at building

climate resilience in medium-size Asian cities, with a particular focus on the urban poor.

On the one hand, these special funds, along with others, could strategically extend their work to financially address loss and damage. On the other hand, they provide institutional examples of how special MDB funds can be set up to address particular issues of strategic importance by investing funds from multiple sources, be they own, public, or private. Thus, all MDBs could easily set up special funds with the aim of addressing climate-induced loss and damage. The advantage of such an approach would be that the MDBs are well anchored and respected in their respective regions, have a lot of regional expertise, well-functioning regional representation and operational structures, and that they, as a group, cover the entire developing world. In terms of donations, it would also be relatively easy for developed countries, as well as charities and the private sector, to voluntarily provide funds to address loss and damage based on solidarity that are then managed or administered by MDBs.

The points raised here in relation to MDBs could theoretically also apply to **national development banks**, for instance the German KfW – Kreditanstalt für Wiederaufbau. This and other banks, given the political commitment of their owners to effectively address climate-induced loss and damage, could also set up special funds to address loss and damage. As in the case of MDBs, such a fund could be financed from different sources. In the hypothetical case of the German Parliament deciding that an amount equivalent to a certain percentage of the public income generated by a carbon levy or tax should be spent to redress climate-induced loss and damage in poor and climate vulnerable developing countries, these funds could be managed by a KfW Loss and Damage Fund.

A special focus of a loss and damage trust fund, be it located within a national or multilateral bank, could either be to provide premium support to make climate risk insurance affordable, or to concentrate on climate-induced loss and damage that cannot be protected by climate risk insurance, for example the impacts of sea level rise and other slow onset events.

Regional risk transfer facilities, such as African Risk Capacity (ARC), Caribbean Climate Catastrophe Risk Insurance Facility (CCRIF), and Pacific Climate Risk Assessment and Finance Capacity (PCRAFI), already exist and serve the purpose of climate risk financing,



The destructive power of Typhoon Haiyan in the province of Eastern Samar, Philippines.

mainly through indirect and parametric risk insurance approaches as previously discussed in this paper. Mainly based on mutuality, they are still limited in the provision of protection to the most vulnerable, who cannot afford to pay premiums for risk coverage. Thus, a new and additional element for these institutions could be to set up budgets to provide financial premium support for the most vulnerable – either by using own funds or by receiving funds from one or more of the new potential sources discussed in the previous chapter. Thus, regional risk transfer facilities, or even an inter-regional (V20) or global risk transfer facility, which remains hypothetical, could greatly enhance their contribution to redress loss and damage if it contributes solidarity elements to its mutual functioning, making the protection provided much more inclusive, accessible, and affordable for the poor.

5.5 Global Loss and Damage Fund

As shown in the previous sub-chapters, there are many options to scale up existing funding channels or to modify them in ways that they can widen the scope of their work and thus contribute to closing the protection gap with regard to climate-induced loss and damage. However, none of the existing funding mechanisms can be scaled up to levels that would sufficiently serve the purpose of redressing loss and damage at the scales needed. Therefore, in his 2019 report, the United Nations Special Rapporteur on human rights and the environment con-

cludes that “States must establish one or more **“new financing mechanisms”** (United Nations 2019).

The existing climate financing architecture thus needs to be broadened by creating additional institutions. These new institutions could further complement the toolset of mechanisms without replacing existing tools. One option being proposed by civil society organizations (see, for instance, Brot für die Welt/ACT Alliance/LWF/WCC 2017; Huq 2019), and finding increased support in many developing countries, is the creation of a new Global Loss and Damage Fund to be set up inside, i.e. under the aegis of, the UNFCCC or the PA.

This fund could be financed through new and additional sources, using one or more of the options that have been discussed in the previous chapter. It could be mandated to address the broad range of funding needs described in the first chapter of this report without the type of mandatory limitations mentioned for the existing funding mechanisms, as is the case, for instance, for the GCF or regional risk transfer facilities, and it could be made operational according to the needs of climate vulnerable countries.

So far, the Global Loss and Damage Fund remains a rather vague concept, and its detailed institutional set-up and procedural functioning still need to be further developed. Apart from these conceptual issues, however, the main problem of making such a new mechanism reality lies in the fact that there is still very little appetite and political support for creating a new funding mechanism to address loss and damage under the formal auspices of the UNFCCC or the PA, as we have discussed in Chapter 2. The skepticism towards new mechanisms was also flagged by speakers in the lunch consultation “New and innovative approaches to mobilize finance for addressing climate-induced loss and damage in the context of climate justice”, held by Bread for the World, DIE and ACT Alliance in June 2019 in Bonn. Thus, strong arguments and good proposals need to be developed in the near future, including from governments, in order to create political support and to lower the resistance of those opposing it. Important issues to be resolved are, inter alia, the sources and modalities to contribute to the fund, be they mandatory, discretionary, or voluntary, i.e. building on solidarity or accountability as underlying justice principles, and issues around governance, eligibility, and access. This will require more time, while, in the meantime, climate-induced loss and damage is very likely to worsen further. Therefore, a pragmatic strategy to finan-

cially address loss and damage more effectively than current approaches may not focus solely on the creation of a Global Loss and Damage Fund.

5.6 Global solidarity fund to address loss and damage

Another option for a new and additional funding mechanism is the creation of a global fund outside the UNFCCC and the PA, building on voluntarism and solidarity. As already pointed out, a possible precedent would be the Global Fund to Fight AIDS, Tuberculosis, and Malaria (see: <https://www.theglobalfund.org/en/>). Such a fund could be established as a multi-donor fund, either as a complete stand-alone fund or a trust fund, hosted and administered by another institution, such as GEF, for instance.

It is assumed that the voluntary nature of such a fund and the decision to locate it outside the auspices of the UNFCCC would probably lower the political hurdles to setting it up compared to the creation of a Global Loss and Damage Fund inside the international climate regime. Accordingly, this option might be faster and more easily realized.

Back in 2015, Bread for the World and some of its partners proposed the creation of such an international fund, but with a particular focus on addressing the financial needs of climate-induced resettlement and of rehabilitation in the aftermath of extreme climate events that had caused loss and damage (see *Brot für die Welt/ACT Alliance/Germanwatch 2015*).

A voluntary fund, in terms of size, sourcing, mandate, governance, and operational modalities, could also be designed in accordance with the broad range of needs and in line with climate justice criteria, as discussed in this report. The strategy to make it happen would not be too different from the one briefly described with regard to a Global Loss and Damage Fund, but with one very important difference: Being placed outside the international climate regime, the establishment of this fund could be pushed forward by a group of like-minded, progressive countries, and would not require the unanimous support of all Parties to the UNFCCC. Therefore, the way forward would very likely be less cumbersome and slow, and this option would have a higher chance of being realized in the relatively near future.

5.7 The possible role of the WIM

The WIM was established under the UNFCCC with a clear mandate to address climate-induced loss and damage, including financially. This role was reconfirmed and strengthened by the adoption and entry into force of the PA, which specified its role further. Since then, the WIM has been constantly conducted its work, including through the formation of expert groups and different work streams, to implement its work plan. However, the concrete results achieved so far remain limited, especially with regard to financially addressing loss and damage. The UNFCCC technical paper, as shown in Chapter 2, illustrates well how unlikely it is that a real breakthrough on financial issues will come from inside the system, to which the WIM belongs.

Therefore, the WIM will remain an important platform, including to set and move the agenda and push for the necessary advancements, but the WIM itself cannot be expected to become the driving force for pioneering solutions: Members of the Executive Committee, despite the fact that they serve in a personal capacity, are too strictly bound to the limited mandates of their governments. This drastically limits their room for maneuver, and if the governments (of developed countries) are not ready to leave their comfort zones for reasons which have also been explained in Chapter 2, then the WIM will not break free of its own silo.

Thus, the driving force for exploring new sources and setting up additional channels and modalities to financially address loss and damage will probably come from outside the WIM. Progressive actors should form an alliance of the like-minded, moving forward with pioneering solutions, preferably ones that can be implemented by them without the consent of all parties. This approach could pave the way forward, finding additional supporters and thereby moving the debate within the system, including the WIM, onto a second step. Such an approach of transformative change-making would not ignore the WIM's mandate and role, but can create the necessary political capital to help the WIM to fulfill its mandate.

5.8 Conclusions on possible funding mechanisms

As shown in this chapter, three main options for funding mechanisms to address climate-induced loss and damage are possible:

- To use existing mechanisms, for instance the GCF or regional risk transfer facilities, with the first example being placed under the auspices of the UNFCCC, and the second sitting outside the Convention.
- To use existing mechanisms as a basis but modifying them in order to enhance coverage of loss and damage; again, that approach could be applied to mechanisms inside or outside the aegis of the UNFCCC: The GCF could be enhanced by setting up a special loss and damage facility, and MDBs, being placed outside the UNFCCC, could also create new trust funds to redress loss and damage.
- To establish completely new funding mechanisms, for instance a Global Loss and Damage Fund as part of the new financial architecture of the PA, or establishing a Global Solidarity Fund to address loss and damage as a voluntary multi-donor fund outside the PA, following the example of the Global Fund.

All these options have their specific pros and cons. From the perspective of climate justice, perhaps the most elegant version would be a Global Loss and Damage Fund sourced from the biggest emitters in accordance with their respective responsibilities or accountability. The other options, however, could also be designed in ways coherent with climate justice criteria, mainly by building on solidarity. From the perspective of those seeking redress of climate-induced loss and damage, the more relevant question would be if their rights and needs are being respected, and finally, if their claims for justice are being addressed adequately. In this regard, issues of procedural and participatory justice, such as inclusiveness, transparency, gender sensitivity, or non-discrimination, are most important and need to be ensured. However, this would theoretically be possible under all presented mechanisms – if they are designed accordingly. The AF may serve as a good practice example, as we have seen.

Looking at the different mechanisms from the perspective of political feasibility, it is obvious that many governments – particularly, but not only, from developed countries – show very little interest in setting up a new mechanism. The support for such an approach would

even shrink if such a mechanism were to be placed under the UNFCCC or the PA. Thus, those solutions using existing mechanisms, either as they are or in a modified version, are probably easier to be realized.

Such small solutions, however, face the problem that they are inadequate in size – as clearly pointed out by the UNFCCC technical paper (see above) – and that they will probably not cover the full spectrum of financial needs. Thus, without new mechanisms, the large protection gap cannot be closed. Therefore, a new mechanism placed outside the UNFCCC, and based on voluntary solutions, might be the more realistic option for a new mechanism, compared with a Global Loss and Damage Fund under the UNFCCC.

In view of these conclusions, and the more detailed discussion on the previous pages, including the potentially large scale of funding requirements, it is highly recommended not to promote only one funding mechanism, for instance a Global Loss and Damage Fund, but to advocate for multiple options that can be introduced in parallel, comprehensively complementing each other. This would be a similar approach to the one being followed and implemented with regard to mitigation and adaptation.

Chapter 6

Concluding recommendations

The conclusions and recommendations arising from this report are grouped into five sections:

RELEVANCE AND URGENCY OF FINANCIALLY ADDRESSING CLIMATE-INDUCED LOSS AND DAMAGE

Conclusion: A comparison of available scientific analysis indicates that the economic and non-economic dimension of climate-induced loss and damage is significant, unevenly distributed, and hits vulnerable people and countries, particularly LDCs and SIDS, hardest. These countries are at high risk and financially overburdened in the case of the extreme weather events already seen today. Their future is at stake, and the situation will deteriorate, particularly when faced with runaway climate change, which could be triggered if global warming exceeds 1.5°C. ***This significantly puts at risk the possibility of achieving the SDGs, human rights, human security, and global stability. Thus, it is vital that loss and damage be redressed.***

Recommendation 1: To significantly and rapidly scale up and effectively provide targeted support to those who suffer from climate-induced loss and damage, ***information gaps should be urgently addressed.*** This includes, inter alia,

- a commonly agreed definition of economic and non-economic loss and damage;
- effective risk analysis, risk management, and financial risk layering approaches;
- its estimated costs;
- technical and institutional capacity and enabling policy frameworks to generate and use climate and financial data effectively and to channel bigger financial flows;
- and ways to ensure direct access to redress for those populations and communities who are most climate vulnerable.

Recommendation 2: Our analysis has found that ***the scale of international financial support needed to address loss and damage in developing countries will total USD 50 billion annually as of 2022***, rising to USD 300 billion or more by the 2030s if global warming exceeds 1.5°C permanently.

THE ROLE OF THE UNFCCC, THE PARIS AGREEMENT AND THE WIM

Conclusion: So far, the international climate regime has failed to deliver on the commitment to effectively address the “specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden” (UNFCCC, article 3.2). The legitimate call of climate vulnerable countries to redress climate-induced loss and damage, constantly made over the last three decades, has not been responded to adequately, mainly because of the fear of major polluters that they will be faced with high compensation claims. There is little reason to believe that developing countries would give up their demands, and the longer a just solution is delayed, the higher the costs and resulting instability will be. The WIM will not be fully operational until it includes a financial mechanism to provide resources to developing countries to address loss and damage. The WIM review at COP25 provides a new opportunity to break the deadlock. While the WIM may advance the transparency of financial support and the provision of small-scale solutions to deliver assistance, it is unlikely to break the stalemate with regard to mobilizing new sources and establishing new financial mechanisms that are capable of channeling large-scale monetary flows. Thus, ***apart from change from the inside, a driving force for transformative change must also be established outside the climate regime.***

Recommendation 3: So far, finance provided to address loss and damage is not yet tracked and reported by climate funds and other donors, which results in a large transparency gap. ***It is recommended to establish a financial tracking system so that, in future, it will be possible to present an accurate picture of the means of financial support provided to address residual loss and damage.*** The WIM and the Standing Committee on Finance are called to work towards the establishment of a tracking system that would resemble the model used to track mitigation and adaptation finance. One way would be to amend the OECD-DAC Rio markers.

Recommendation 4: A twin-track approach is recommended, pushing for finance to address loss and damage not only from inside but also from outside the climate regime. Progressive actors should form an alliance, moving forward with pioneering solutions, preferably ones that they can implement without the consent of all parties. This approach could guide the way forward, finding additional supporters, and thereby moving the debate within the system, including the WIM, into a second phase. Such an approach would not ignore the WIM's mandate and role, but can create the political capital needed to help the WIM to fulfill its mandate. As a first concrete step, the ***UN Secretary General should appoint a High-Level Panel to write a report on innovative finance sources to address loss and damage,*** following a similar approach to the one taken with regard to the future financing of humanitarian work.

CLIMATE JUSTICE CRITERIA TO ASSESS NEW SOURCES AND FINANCING

Conclusion: Grant-based, predictable, and long-term solutions that are needed to redress loss and damage should be in line with climate justice principles and their related criteria in order to ensure targeted and effective solutions, as well as political legitimacy and public support for the solutions provided. ***Mutuality, solidarity, and accountability are legitimate justice principles, complemented by transversal transparency principles to ensure the necessary procedures.***

Accountability with regard to human rights, gender equality, and polluter pays is the strongest expression of climate justice. It can be complemented by the solidarity principle, linking financial approaches to address loss

and damage to the SDG implementation (pro-poor approaches) and the Sendai Framework for Action on disaster risk reduction (humanitarian principle). Mutuality already forms the basis of regional risk financing pools, but still lacks adequate answers to the question of affordability if no additional financial support is provided from outside the pool of risk financing or insurance pool.

Recommendation 5: Regional risk pools and risk insurance, based on mutuality, should widen their approach by introducing elements of solidarity. ***Risk financing and risk insurance must become more affordable for poor and climate vulnerable countries and populations by providing financial support to lower risk financing costs (e.g. of catastrophe bonds) and by covering insurance premium costs for those who cannot afford them.***

Recommendation 6: ***The set of pro-poor principles, as discussed in this report, should be adopted by all mechanisms that contribute to financially addressing loss and damage.*** They empower stakeholders to understand the legitimate justice concerns of vulnerable populations and help to better address them.

Recommendation 7: A human rights-based approach should be adopted by all mechanisms that contribute to financially addressing loss and damage. It sharpens the perception of legal state obligations relating to redressing loss and damage that threatens or violates the human rights of the climate vulnerable. It would be an important entry point to ensure that those redress mechanisms that are put into place are functioning in ways coherent with human rights principles. Particularly the transversal human rights principles of participation, empowerment, non-discrimination, transparency, and accountability are of great importance to identify, include, and prioritize the most vulnerable people adequately with regard to redress measures. ***So far, human rights obligations regarding the provision of financial support to redress loss and damage suffered by victims of human rights violations have not played a role in the loss and damage political discourse, e.g. in the WIM. It is strongly recommended that this issue be put on the political agenda.*** Agenda-setting might be supported by upcoming judicial decisions, providing precedent.

POSSIBLE FINANCIAL SOURCES

While there is increasing understanding of the significant costs of climate-induced loss and damage, there is much less progress in identifying possible sources to generate the funds needed to tackle loss and damage. ***The overview of possible sources provided in this report proves that there are various options for new and innovative sources to address loss and damage, going far beyond the status quo presented in the technical paper released by the UNFCCC secretariat.*** The estimated total revenues from these sources, or only some of them, would be sufficient to cover climate-induced loss and damage.

Recommendation 8: A broad discussion on possible sources and agenda-setting needs to be initiated by NGOs and like-minded stakeholders. Political capital needs to be invested to capitalize on one or more of these sources. In the short term, the mobilization of voluntary contributions, similar to the approach taken by the Global Fund, seems to be the lowest hanging fruit, while in the long term, finance to address loss and damage would ideally be raised, managed, and spent under one obligatory international scheme. ***Thus, a twin-track approach is being proposed where the development of one international sourcing mechanism is combined with approaches that look at sources that already exist, including at national levels, and that can be accessed and partly used more easily, with the potential to be scaled up later.***

Recommendation 9: From the climate justice perspective, revenues generated by carbon pricing are well aligned with the accountability principle, providing the opportunity to redress loss and damage and to apply compensatory justice. ***A general carbon levy or tax (initially introduced at the national level), an airline passenger levy or shipping levies are potential sources that should be promoted and further explored.*** Phasing out fossil fuel subsidies and using part of the savings to redress loss and damage is another potential source, leading to compensatory justice.

FUNDING MECHANISMS TO ADDRESS LOSS AND DAMAGE

Existing mechanisms that are used (e.g. regional risk sharing pools such as ARC) or that could be used (e.g. GCF or AF) to financially address loss and damage have political acceptance but are inadequate in size and are barely able to cover the full range of loss and damage. The creation of new and bold mechanisms, in turn, is not receiving the political support needed. This is particularly true for mechanisms that would fall under the auspices of the UNFCCC or the PA.

Recommendation 10: It is highly recommended not to put all eggs in one basket by promoting only one funding mechanism, for instance a Global Loss and Damage Fund, but ***to advocate for multiple mechanisms that can be introduced in parallel and comprehensively complement each other.*** This would be a similar approach to the one that has been followed and implemented with regard to mitigation and adaptation.

Recommendation 11: ***InsuResilience Global Partnership, GCF, AF, and specialized funds of the MDBs, as discussed in depth in this report, should put more emphasis on financially addressing loss and damage based on grants and concessional loans.***

Recommendation 12: ***MDBs, as well as national development banks, should set up loss and damage trust funds, e.g. to provide support to make climate risk insurance and risk financing affordable, or to focus on climate-induced loss and damage caused by slow onset events.***

Recommendation 13: ***A Global Solidarity Fund to address loss and damage should be established as a voluntary multi-donor fund outside the UNFCCC and the PA, following the example of the Global Fund to Fight AIDS, Tuberculosis, and Malaria. This fund could put a particular focus on addressing the financial needs of climate-induced resettlement and of rehabilitation in the aftermath of extreme climate events that cause loss and damage.***

Abbreviations

ACliFF	Asia-Pacific Climate Finance Fund	ICAO	International Civil Aviation Organization
ADB	Asian Development Bank	IDRMF Fund	Integrated Disaster Risk Management
AF	Adaptation Fund of the United Nations	IMO	International Maritime Organization
AILAC	Association of Independent Latin American Countries	IOPC Funds	International Oil Pollution Compensation
AOSIS	Association of Small Island States	LDCs	Least Developed Countries
ARC	African Risk Capacity	LDCF	Least Developed Country Fund
BMU	German Federal Ministry for the Environment, Nature Protection and Nuclear Safety	MDB	Multilateral Development Bank
BMZ	German Federal Ministry for Economic Cooperation and Development	NDC	Nationally Determined Contributions
CAN	Climate Action Network	NGO	Non-governmental organization
CCRIF	Caribbean Climate Catastrophe Risk Insurance Facility	OCHA	United Nations Office for the Coordination of Humanitarian Affairs
CDM	Clean Development Mechanism	ODA	Official development assistance
CDT	Climate Damages Tax	OECD	Organization for Economic Cooperation and Development
CEDAW	Convention on the Elimination of All Forms of Discrimination Against Women	OHCHR	Office of the United Nations High Commissioner on Human Rights
COP	Conference of the Parties	PA	Paris Agreement
CRI	Climate Risk Index	PCRAFI	Pacific Climate Risk Assessment and Finance Capacity
CSO	Civil society organization	PPM	Parts per million
CVF	Climate Vulnerable Forum	RE	Renewable energies
EU-ETS	European Union Emission Trading Scheme	SCCF	Special Climate Change Fund
FTT	Financial transaction tax	SCF	Standing Committee on Finance
FONDEN	Mexican Natural Disaster Fund (Fideicomiso Fondo de Desastres Naturales)	SDGs	Sustainable Development Goals
G20	Group of Twenty: about 20 countries with the world's largest economies	SIDS	Small Island Developing States
GCF	Green Climate Fund	UCCRTF	Urban Climate Change Resilience Trust Fund
GHG	Greenhouse gas	UNDRR	United Nations Office for Disaster Risk Reduction
IAPAL	International Airline Passenger Levy	UNFCCC	United Nations Framework Convention on Climate Change
IAPALLnD	International Airline Passenger Levy for Loss and Damage	V20	Group of climate vulnerable countries
		WFP	World Food Program
		WIM	Warsaw International Mechanism

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Brot für die Welt
Evangelisches Werk für Diakonie
und Entwicklung e. V.

Caroline-Michaelis-Straße 1
10115 Berlin
Germany

Phone +49 30 65211 0
Fax +49 30 65211 3333
info@brot-fuer-die-welt.de
www.brot-fuer-die-welt.de