



Climate-Related Loss and Damage

Finding a Just Solution to the Political Challenges

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Foreword

Climate change is not a challenge for some far off future. Alone the increase of unusual and extreme weather events, such as the cyclone that hit Vanuatu or the current extreme drought in California and flooding in Southeast Asia, is evidence of this. Globally, last year was the warmest year since records began. Moreover, the available data so far suggests that this year will be even warmer still.

Partner organisations and ACT-members from the Global South, where the effects of global warming are felt stronger than the worldwide average, point with increasing urgency to how altered weather patterns and extreme weather events are already drastically affecting the lives of millions of people. On the one hand, this is due to ocean warming, which has led to increasingly strong typhoons and rising sea levels that destroy the homes of millions. On the other hand, however, this imbalance is also owed to the fact that a high percentage of the population in these regions is directly engaged in highly weather-dependent agriculture, and many people lack the means and capabilities to adapt to unexpected torrential rainfall or drought. If we fail to take action, climate change will destroy the livelihoods of ever more people, leading to even greater waves of migration than we are experiencing now. Moreover, climate change is scandalously unjust in that it inflicts the greatest amount of damage on the poorest: those without access to electricity, who do not own a car, and who have never taken a flight; precisely those who have contributed so little to its causes.

Should global warming exceed 2°C, we are looking at an increasing likelihood of large-scale, irreversible environmental changes that are more than what many regions, and in particular the most vulnerable and poorest people living there, are able to cope with. To limit global warming to well below 2°C we would have to switch from coal, oil and gas to energy efficiency and renewables by approximately 2050. The cost of electricity from renewable sources has been slashed recently, which gives us greater scope for action. However, even if we make this leap forward, we still need to adapt effectively to climate change in order to deal with the temperature increases that are already inevitable. Adaptation, though, has its limits. The greater the temperature increase, the more likely that, no matter what we do, we will not be able to prevent significant climate-related loss and damage. We need a clear consensus on how to deal with the consequences and this must form an integral part of the new

climate agreement. This is mainly for two reasons. First, it would ensure that we do not leave those most affected and the poor to deal with the risks of climate change alone. Second, such an agreement would demonstrate to the main culprits of climate change that they will be increasingly held to account for rising damage and costs.

All participating nations at the December 2015 Paris conference share the responsibility to contribute constructively towards a global climate agreement that provides the world with a realistic roadmap to achieving the 2°C climate goal. At the same time, nations also have the responsibility to set out a climate agreement that spells out how individual states can develop strategies over the coming years to ensure that all nations can exit coal, oil and gas by the middle of the century. Solving this problem is urgent; otherwise the situation will only deteriorate. Our generation is the last one that is capable of preventing highly dangerous changes to the climate. Should we fail, then all future generations will bear the consequences.

This publication discusses the second necessary focus for Paris: the need for the agreement to show solidarity with the most vulnerable and to support them in dealing with the associated damage and loss. It would be fatal if the countries currently suffering the greatest negative impacts left the conference feeling that they were on their own to deal with the existential challenges posed by climate change.

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Summary



Typhoon Haiyan in 2013 was one of the most devastating storms to ever hit the Philippines. Over 6,000 people died and more than a million homes were destroyed.

The last decades have seen a constant increase in climate-related loss and damage as a result of global warming. According to estimates by the United Nations Office for Disaster Risk Reduction (UNISDR), climate-related events caused and contributed to the death of 559,000 people between 1992 and 2012. According to data from the insurance company Munich Re, economic losses related to extreme weather events have quadrupled since 1992. In the IPCC special report titled *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, climate researchers warn that the frequency of extreme events will continue to rise.

Loss and damage associated with climate change has a disproportionate impact on developing countries. Two factors help explain this higher risk faced by many developing countries. First, geography makes them more susceptible to climate-related natural disasters such as storms and droughts, and the second factor is their greater general vulnerability. The link between poverty and vulnerability to the impacts of climate extremes can be seen in the high numbers of victims of extreme events, the fact that proportionally the greatest economic damage occurs in low-income countries, and in the great number of people displaced by climate-related natural disasters. Including the internally and the temporarily displaced, the Nansen Initiative estimates this affected 140 million people between 2008 and 2013. The potential disappearance of island nations such as Tuvalu and Kiribati is

another extreme case. Countries like Fiji, Kiribati or Salvador have since made improved climate risk management their top priority; they have implemented diverse measures, yet still require further support.

At the level of international politics, climate change-related loss and damage has been an issue for the past twenty years, in particular under the aegis of the Framework Convention on Climate Change. However, fearing damage claims, the industrialised nations have long managed to delay negotiations. It is only since 2010, and in particular since the establishment of the Warsaw International Mechanism for Loss and Damage in 2013, that negotiations have clearly gained momentum. For the poorest nations and the small island states in particular, this question will be a top priority during the climate conference in Paris at the end of 2015.

Progress in Paris is possible. Based on the results of an enquiry among experts, four central demands and the cornerstone of a possible compromise for Paris have been developed. The conference has the potential to finally anchor this politically controversial issue in the UNFCCC, which would make it possible to envisage and begin implementing technical solutions.

In the face of ongoing climate change, improving climate risk management is an ethical imperative and a key political challenge far beyond the UNFCCC. This document concludes with seven concise political demands.

Introduction

In August 2015 an unusually intense monsoon caused devastating floods and landslides leading to the death of many people across Asia. Particularly in Myanmar, the rain destroyed hundreds of thousands of homes and streets and flooded rice paddies. In its most recent report, the Intergovernmental Panel on Climate Change (IPCC) warns that climate change will increase the duration and intensity of such and similar extreme weather events (IPCC 2014b). This will also lead to an increase in climate-related loss and damage (L&D), either as a result of extreme weather events or associated with slow-onset climate change, when glaciers melt, permafrost thaws and sea levels rise.

The extent of adverse impacts will depend on two factors: successful emissions reductions and successful climate adaptation and climate risk management. These two aspects are at the heart of the 1992 United Nations Framework Convention on Climate Change (UNFCCC), which aims for a ‘stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent

dangerous anthropogenic interference with the climate system’ (UNFCCC 1992). By inducing climate change, past and present emissions have already caused a certain degree of adverse impacts (see Warner/Zakieldeen 2012); cutting emissions alone, therefore, is not a sufficient response. In future, too, even if it was possible to reduce greenhouse gas emissions rapidly and significantly, it would not be possible to avoid the negative consequences of climate change completely. As our capacity to adapt to climate change is limited by natural, technical and economic constraints (see IPCC 2007, chapter 17.4.2), the result is L&D.

Estimates on the future geographic distribution and extent of L&D associated with climate change, based for example on IPCC climate models, remain highly uncertain. The first chapter of this publication therefore deals with current trends, scientific findings and risk factors.

Increasing numbers of people in particularly vulnerable regions such as Oceania, Southeast Asia, Central America and the southern Sahel are likely to be faced with



Due to climate change, rains repeatedly fail in southern parts of Ethiopia.

unsolvable problems as a result of climate change. In Mali it is increasing droughts and in Kiribati rising sea levels that drive people to leave their homes. The second chapter therefore describes the minimal support they have received so far and pinpoints the political challenges.

However, climate-induced migration is not the only taboo issue. L&D related to climate change is generally a hard nut for international climate policy. Why this is so, where the lines of conflict run, the progress that has nonetheless been made, and what to expect for the future, are the questions discussed in the third chapter.

Alongside the international negotiations within the framework of the UNFCCC, there are further international policy panels within and outside of the UN dedicated to mitigating climate risks, improving insurance against L&D, providing protection to migrants and asserting human rights-based principles. Chapter four deals with these questions.

However, because international instruments have so far had very little impact, the affected countries are more or less left to themselves to deal with climate risks. How do the most vulnerable states cope with these challenges? What positive examples are there and what can we learn from these experiences? These are the questions chapter five analyses, with a special focus on the South Sea island nation of Fiji and the country of El Salvador in Central America.

After the initial chapters present the challenges related to increasing climate risks and analyse the capacity of current international and national instruments to provide solutions, the sixth chapter, in the form of an interim conclusion, considers the existing and potentially widening climate risk gap caused by the inability of approaches so far to offer satisfactory solutions. The chapter goes on to focus on options to close this gap.

At this point, the methodology changes. In principle, the first five chapters are based on an analysis of the available international specialist literature and relevant political documents, as well as on own experiences and the experiences of partner organisations. The sixth and subsequent chapter base their findings on interviews with fifteen climate change experts, each with an extensive track record in senior positions in either government, specialist organisations, academia or NGOs. All interviews were conducted in the early summer of 2015. Results have been anonymised as agreed with the participants. The picture is being completed by own analysis.

Referencing the political UNFCCC process docu-

Damage refers to reversible economic damage.

Loss refers to the irreversible consequences associated with climate change such as the loss of sweet water reservoirs due to the melting of glaciers or the loss of land through rising sea levels.

ments available as of the beginning of September, the seventh chapter looks at the expectations and demands of individual states vis-à-vis the politically controversial issue of climate-related L&D for the Paris climate conference in December 2015. Based on this analysis, the chapter then discusses options on how this issue and in particular the Warsaw International Mechanism for Loss and Damage can be anchored in the Paris agreement to enable the world to gradually close the climate risk gap over the coming years.

The eighth and final chapter summarises the most important results and seven political recommendations for action. These set out the measures that are required to minimise climate risks, deal with L&D and better cope with migration, guided by the principles of polluter pays, solidarity and justice.

Chapter 1

Climate-related L&D – facts, trends and perspectives

Extreme weather events such as heat waves and droughts, torrential rainfall and storms are nothing new, but over the last thirty years their frequency and intensity has increased. Global warming is causing this: when temperatures rise, more energy is available in the climate system and this affects atmospheric circulation. Extreme weather events have consequences: as natural disasters, they cause great destruction, economic damage and the loss of human life. The probability of falling victim to climate extremes, however, is distributed unequally across the globe: droughts, which frequently lead to famines and claim many lives, mainly affect the countries on the southern fringes of the Sahara desert. Heat waves, such as in 2003 in Europe, 2010 in Russia or 2015 in India, can

kill tens of thousands of people, trigger forest wildfires and cause immense damage. Storms usually inflict the greatest economic damage. Particularly, they wreak havoc on the islands and coastal regions falling in the path of tropical and subtropical storms in South Asia and the Southern Pacific (cyclones), in Southeast and East Asia (typhoons) and in Central America, the Caribbean and the east coast of North America (hurricanes). Yet even in temperate Europe, storms can greatly damage the infrastructure and adversely impact agriculture in particular. Torrential rain can also cause great damage and kill many people, especially when it leads to landslides in mountainous regions such as during the once-in-a-hundred-years floods in Pakistan in 2010.



In 2010, floods in Pakistan affected millions of people and one fifth of the country was under water.

Climate-related damages has quadrupled since 1992

Whereas the damage caused by earthquakes and volcanic eruptions has remained relatively constant, the damage caused by climate-related natural disasters has continuously increased over the past decades. The United Nations Office for Disaster Risk Reduction (UNISDR) reckons that between 1992 and 2012 climate-related natural disasters globally claimed 559,000 lives and caused losses worth 1.36 billion US dollars (UNISDR 2012). According to global reinsurer Munich Re's NatCatService, one of the best relevant databases, climate-related loss and damage has quadrupled since 1992. In 2014, 900 weather-related events caused 100 billion US dollars in loss and damage, with 60 per cent of the damage occurring in developing nations (munichre.com/natcatservice). These kinds of data from insurance companies are in line with the findings of climate researchers. In the 2012 IPCC Special Report on Extreme Events (SREX), scientists confirmed a global trend towards increasingly frequent and intense extreme weather events.

Figures provided by the World Meteorological Organization (WMO) show that between 1970 and 2012 Asia suffered both the greatest number of climate-related natural disasters (2,681) and the largest number of victims (915,389), whereas North and Central America suffered the greatest economic losses (one billion US dollars). Climate-related natural disasters forced 140 million people to flee their homes at least temporarily

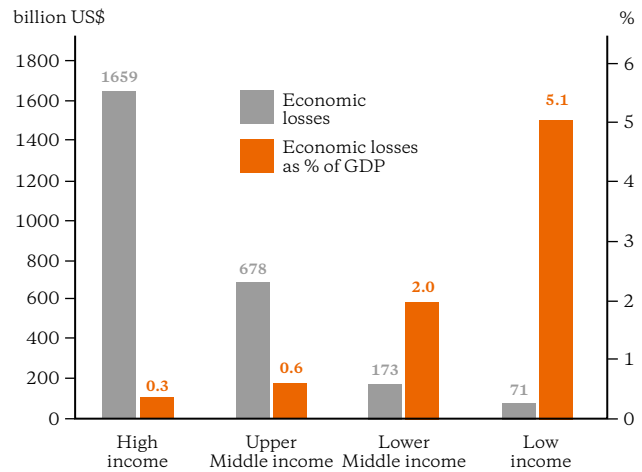


Table 1: Climate-related economic losses in absolute values and compared to GDP. *Source: CRED 2015, p. 40*

between 2008 and 2013, representing 85 per cent of all displacements (Nansen Initiative 2015) and equal to the total combined populations of Germany and Italy.

Improved disaster control has reduced fatalities in most countries. However, extreme weather events cause a disproportionate number of fatalities in particularly poor

Rural regions and mega-cities suffer damage from the long-term adverse impacts of climate change

Precipitation variability is increasing across the world and primarily this negatively impacts the harvests from rain-fed agriculture. One such affected country is Tanzania, where agriculture, like in most sub-Saharan African countries, depends nearly entirely on rain. Without rain, famine strikes. The Indian metropolis of Mumbai shows that coastal mega-cities are also at great risk from long-term climate change. Increasingly frequent torrential rainfall during the monsoon, as

well as increasing floods due to rising sea levels had repeatedly led to huge floods during the last fifteen years, inflicting damage on up to 2.8 million citizens. Combined with the catastrophic sanitary conditions, this also leads to the spread of infectious diseases. The number of leptospirosis cases, for example, increased eightfold in the wake of the great 2005 floods (IPCC 2012, p. 510).

countries such as Bangladesh, Haiti, Myanmar or the Philippines. People are most vulnerable in countries without a functioning government such as Somalia or South Sudan; in the event of a natural disaster, they cannot count on getting the help they need. The connection between poverty and vulnerability to climate extremes can also be seen in the fact that, proportionally, the greatest economic and climate-related loss and damage occurs, as the table below shows, in low-income countries.

Whereas in absolute terms the damage is higher in rich countries, the risk of an extreme weather event aborting a whole country's development is greater in poorer countries. And what is true for states is also true for communities, population segments and households: the poorer, the more vulnerable to extreme weather events.

Climate risk index: Poor countries suffer the greatest climate-related risks and losses

Based on the data from Munich Re's NatCatService, Germanwatch publishes its yearly climate risk index providing information on the countries worst affected by climate-related extreme weather events. The Global Climate Risk Index for 2015, spanning 1994 to 2013, ranks Honduras, Myanmar and Haiti as the top three countries, followed by another six low-income countries and only one middle-income country (Vietnam). Since the index was first published ten years ago, low-income countries have always ranked highest; further proof that climate change causes heavy human casualties and significant economic losses in poor countries in particular. Only two industrialised countries, namely Italy and Portugal, rank among the current top twenty countries, compared with sixteen countries with a yearly per capita income of 4,125 dollars or less. The two regions of South/Southeast Asia and Central America/the Caribbean each have five countries in the top ten. Both regions are threatened particularly frequently by extreme storms and torrential rainfall. Countries such as Bangladesh, the Philippines, Myanmar and Honduras are on the list because they regularly suffer from extreme weather events, whereas others such as Pakistan and Haiti are ranked among the top ten because they have suffered a small number of disasters that were particularly catastrophic in scale.

Small island nations – frequently threatened by extreme weather events and long-term climate risks

Based on case studies, the IPCC special report on climate risks (SREX) describes the multiple threats faced by nations such as the Marshall Islands or Vanuatu from cyclones, storm-surge floods and droughts, as well as from rising sea levels, coastal erosion, groundwater salinity and dying coral reefs. These threats affect the entire population, all sectors of the economy and endanger the long-term survival of these nations and their cultures. The hopelessness of the situation explains why these countries before all others push for political solutions and demand that polluters assume responsibility.

The challenge of quantifying climate-related loss and damage

Whereas the loss of human life and economic losses caused by extreme weather events is still relatively easy to quantify, calculating and assigning the damage caused by slow-onset climate change, such as changes in agricultural productivity through higher temperatures, increased precipitation variability, or salinization through rising sea levels, proves far more difficult. Experience in Indonesia, for example, shows that a 1°C increase in median night-time temperatures on the island of Java leads to a ten per cent drop in harvests of the type of rice usually grown there. The same is true for damage caused by ocean acidification or water shortages caused by the melting of glaciers.

Accounting for non-economic damage, such as the loss of a homeland (for example, when island dwellers are forced to leave their atolls), biodiversity and ecosystems (for example, mangrove forests), cultural goods (such as cult and burial sites that cannot be relocated for religious reasons) or the increased spread of certain diseases associated with higher temperatures and/or precipitation, is even more complicated.

Climate damage – problems of definition and attribution

There is empirical evidence of the increase in extreme weather events and long-term changes to climate parameters. Scientifically, a correlation with the increase in anthropogenic greenhouse gases in the atmosphere is also beyond doubt. It is therefore safe to conclude that climate change leads to loss and damage beyond normal climate-related damage, i.e. damage that has always occurred. Globally, ten 100-year meteorological events took place in 2010/2011, killing thousands of people and producing billions of dollars' worth of damage (Coumou/Rahmstorf 2012, p. 496ff). However, attributing a single event such as the unprecedented flood in Pakistan 2010 solely to climate change would be scientifically dubious. Disaster damage is a second problem of definition. Even if it was possible to attribute the measured sea level increases in Mumbai completely to climate change, it would nonetheless hardly be possible to attribute the resulting damage solely to climate change. Failure to comply with the building codes applicable to areas threatened by floods and other factors bear at least part of the responsibility. A third difficult problem of attribution arises from the question as to whether a causal linkage for loss and damage exists: are individual polluters, such

as large-scale power plants, particular branches of industry or individual states that currently or historically belong to the greatest polluters, liable according to the polluter-pays principle, which is recognised generally in environmental policy? If yes: which institutions would need to investigate, recognise and enforce claims? If no: does the loss and damage victims suffer then remain unrecognised and without compensation? These are complex, politically sensitive and so far unresolved questions. This does not mean, however, that we can continue to ignore these issues, postpone them and ultimately leave them unanswered.

Risk factors, vulnerability and resilience

The global risk report 2012, compiled by the University of the United Nations at the request of *Bündnis Entwicklung Hilft* (an umbrella organisation consisting of Bread for the World and six other German aid organisations), analyses the risk factors that can turn an extreme event into a disaster (Bündnis Entwicklung Hilft 2012). One determining climate risk factor is geographic exposure, i.e. the probability and intensity of extreme weather

Climate damage according to sector

Agriculture and fisheries are the most affected sectors of the economy, suffering 25 per cent of all damage (FAO 2015, p. 2 ff), whereby droughts cause the greatest damage (44 per cent), even before floods (39 per cent) and storms, and economically often entail humanitarian catastrophes.

Buildings and public infrastructure (roads, railroads, harbours, bridges etc.), in particular in coastal regions, the Arctic and high mountain regions, also suffer great damage. The four mega-storms Mitch (Central America), Haiyan (the Philippines), Sandy (US and Caribbean) and Nargis (Myanmar) alone caused over 100 billion US dollars in damage to buildings and other infrastructure that even years later has still not

been completely repaired. In Europe, too, 30 - 50 per cent of road maintenance costs go into repairing weather-related damage, about one billion euros goes into repairing damage caused by storms (EU 2012, p. 5ff).

Third comes energy generation: increasingly dry summers in Europe mean that a lack of cooling water increasingly leads to large-scale power plants being switched off, whilst heat waves in the mega-cities of developing nations lead the overstrained energy grid to collapse when too many people switch the air conditioning on. Electricity lines and pipelines are susceptible to damage by storms, forest fires and thawing permafrost.



The rapid retreat of glaciers in the Peruvian Andes caused floods and in the long term threatens the water supply.

events and/or long-term changes in a particular place. Further factors are vulnerability (for example, building code quality, compliance with this code, susceptibility of the public infrastructure or robustness of the built environment), disaster management capacities (early warning times, quality of disaster protection, rebuild capacities, degree of insurance coverage) and capacity to adapt in general (risk awareness and environmental consciousness, level of education, institutional stability, economic and financial strength and existence of adaptation strategies) (See also: <http://www.oecd.org/gov/risk/g20oecd-frameworkfordisasterriskmanagement.htm>). As a result, faced with the same extreme event, different levels of resilience will lead to very different levels of damage, which means that in principle resilience and damage can be influenced. To limit climate-related damage and enable fast reconstruction, requires measures to reduce risks. Decisive here is whether and to what extent those potentially affected have access to such measures, and this differs considerably. Poor countries and poor segments of the

population are most vulnerable. If they also find themselves in geographic risk zones, i.e. they are exposed to a potentially higher risk of natural disaster, they then bear the highest climate risk and suffer the greatest loss and damage. This applies in particular to densely populated, poor or extremely poor coastal areas in the tropics and subtropics, which have only basic infrastructure and barely diversified economies. As well as small island nations, this concerns regions in South Asia (countries such as Bangladesh, Myanmar and Cambodia) as well as parts of Central America. Moreover, highly vulnerable are small-scale farmers, nomads and the landless in remote high mountain regions (for example Nepal) or in very dry areas (mainly south of the Sahara). Within these groups, minority groups, women, children, the elderly and people with disabilities are particularly at risk. Households headed by a single woman are the epitome of vulnerability. Poor and socially excluded people suffer disproportionately frequently from climate-related loss and damage.

Minimising risks and insuring damage

In 2014 natural catastrophes caused 110 billion US dollars in losses, of which only 31 billion (28 per cent) was insured (Munich Re 2015). Risk transfer through insurance is thereby limited nearly exclusively to high-income countries. In countries with low or very low income, insurance is practically unknown (see table 2). As illustrated by the Climate Risk Index, it is precisely the people in these countries who need insurance, yet are unable to afford it.

A rapid expansion of insurance against climate-related losses in developing countries would be an important response to increasing risks. The G7's new Climate Risk Insurance Initiative, basically a Germany initiative (see p. 23), is a good start in this sense. Its success will depend to a great degree on whether intelligent public-private-partnership arrangements can extend insurance to the poor, which as a group cannot afford insurance and are not a primary target group for insurance companies.

Even insurance, however, has its limits. Damage that is almost certain to occur is uninsurable. This applies, for example, to damage from rising sea levels. Such inevitable losses require other compensation instruments.

Developing these is a pressing issue because a 2°C increase in average temperatures would lead to a drastic increase in damage and a rise of 4°C would lead to inconceivable damage (see IPCC 2014, p. 13ff).

Risk reduction strategies to increase resilience and mitigate damage are possible. They would complement strategies to reduce greenhouse gas emissions, but cannot replace them. To be successful, they must build on local knowledge. Frequently, though, local strategies have their limits, as case studies by the Institute for Environment and Human Security of the United Nations University show. Often, their success in preventing damage is limited; they are too expensive or have too great long-term negative side effects (Warner et al 2012). Here, international cooperation is required, alongside extensive research and investment. This applies in particular to support for the most vulnerable countries and populations.

Overall losses* US\$ 3,700bn

Insured losses* US\$ 970bn

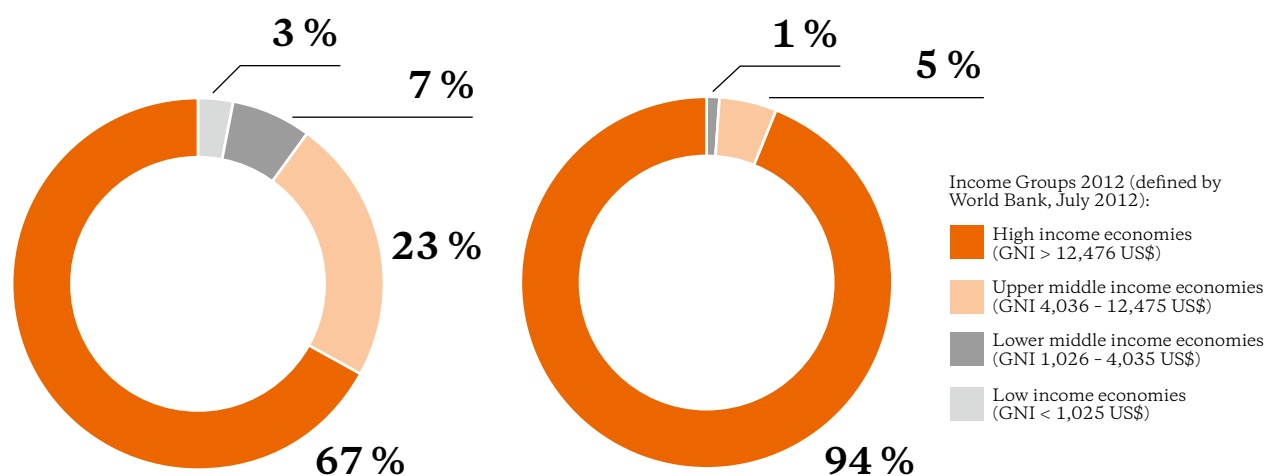


Table 2: Natural catastrophes worldwide 1980 - 2012

Source: Munich Re (2013)

Chapter 2

When homes are lost – climate-induced migration and displacement



Because their hometown of Patharghata in Bangladesh is constantly inundated, these families have fled to the capital, Dhaka.

Climate-induced migration: between adaptation and means of last resort

Migration is an umbrella term for different categories of human mobility. It is possible to distinguish between international cross-border migration and migration within the limits of a country, referred to as internal migration.

For decades, international migrants as a group have made up a relatively constant percentage of the global population, at around three per cent. People mainly migrate to improve their living conditions. The great differences in income and wealth, degrees of respect for human rights, access to basic services and (legal) security all turn migration into a development option.

Migration is not always a decision taken freely; it often results from extreme pressures and existential threats

such as violent conflicts, a lack of employment opportunities, persecution and discrimination, as well as environmental factors and climate change.

The United Nations estimates that there are around 232 million cross-border migrants. Adding internal migrants, however, would take the figure to around one billion (DGVN 2009, p. 27). This figure includes 20 million people classed as displaced persons under international law, two million asylum seekers and 38 million internally displaced persons (see UNHCR 2014a).

According to a study by the Norwegian Refugee Council, 22 million people lost their homes due to natural disasters in 2013, which is three times more than as a result of conflicts. Climate migration, therefore, is by no means a far off future scenario; even today it is already a reality on a massive scale (see NRC 2014).

People in the poorest regions in the world in particular see themselves forced to leave their homes, because

climate change destroys the basis of their livelihood. Nonetheless, it is extremely difficult to clearly define climate-induced migration, because the forms and causes of migration differ greatly depending on each region. Migration can be permanent or temporary, depending on whether there is a realistic return option and opportunity to make a fresh start after a natural disaster.

Displacement occurs when sudden natural disasters such as storms or floods force people to leave their homes. Incremental and slow-onset events such as persistent droughts or rising sea levels frequently lead people to gradually decide to migrate, and further factors besides climate change can play into such a decision. Although such migration is prophylactic, there is often nonetheless no alternative.

Solid forecasts on the extent to which climate change will in future force people to leave their homes, as well as regions where this will occur, do not exist. Whether and how people are driven to migrate or become displaced depends to a great degree on their capacity to adapt to climate change, as well as on the kind of support they receive.

In extreme cases of climate-induced migration, people need to be resettled. In fortunate cases, this is a planned process that gives people time to adapt and provides the necessary support. In less fortunate cases, they are forced to give up their homes, are left to themselves and do not know where to go. This mostly happens to people already living under precarious conditions in areas associated with high climate risks.

Bangladesh – The migrants’ exodus to nowhere

Bangladesh is a densely populated, poor country with 70 per cent of its population living on less than two dollars a day. The precarious situation of so many is getting worse at an alarming rate as adverse impacts of climate change force many to migrate from threatened areas of land.

Kutubdia, once an island of 250 km², has been reduced to 37 km² as a result of severe tidal erosion and rising sea levels. Over the last few years, 20,000 have left the island. Abdul Alim, 75, has relocated his house three times due to the rising sea levels. Now he has no other place to go. ‘The sea has intruded around 10 kilometres inland over the last 20 years. We know the end is coming, but we

cannot move away and leave our ancestral land,’ he says. Many of his neighbours have already left Kutubdia and other islands such as Bhola, Dhalchar, Hatiya, and Sanvip. They took shelter in the hundreds of slums on the outskirts of coastal cities, such as Cox’s Bazar, Chittagong or Khulna, and are now living in misery.

If temperatures increase by 2°C and the sea level rises by one metre – a likely scenario for the second half of this century according to scientists – up to 18 per cent of the country’s land area and 11 per cent of its population – 35 million people – will be threatened with inundation.

But sea level rise is not the only climate risk: Bangladesh is heavily affected by tropical cyclones, which have become more frequent and stronger. Extreme wind speeds and waves bring death and destruction to a flat and poorly protected country. Cyclones Sidr and Aila hit the country in 2007 and 2009, displacing tens of thousands of people, destroying villages and fields, and flooding the ground with salt water, making drinking water scarce for many years. Rezaul Kha of Gabura Union in Southern Bangladesh, for example, lost his entire homestead in Cyclone Aila. He was forced to migrate to India with his wife and three sons. Before taking the difficult decision to illegally cross the border, Rezaul had tried to resettle in his ancestral homeland. He had managed to acquire a loan of 4,000 US dollars for housing and business rehabilitation, but his struggle for survival failed.

Cross-border migration plays a less significant role compared with internal migration. Following Cyclone Aila, around 100,000 people, primarily men, migrated



The only protection these families find from the floods is in tents further inland.

from four subdistricts alone, namely Upazilas Koyra, Paikgacha, Dacope and Batiaghata. Women, children, elderly, the disabled and the poorest of the poor have much fewer job opportunities as migrant workers. This is why they are often forced to stay in vulnerable and unsafe locations. An effect of this is that female-headed households have sharply increased, particularly in this very poor climate change hot spot (see ECHO 2009).

Carteret Islands – Sailing over the waves alone

The rhythm of life hadn't changed much for generations of Carteret islanders on their six atolls belonging to Papua New Guinea. The five clans lived in peace, spear-fished on the outer reef, caught shellfish of all kinds, planted cassava, taro and bananas, and produced all sorts of things from the coconut tree. Occasionally they would sail in their dugout canoes to Bougainville or the Solomon Islands, following the stars by night or the ocean currents during day. The ocean was their source of life, and their land divine. Since the late seventies, things have started to change: The sea has transformed into a threat and their land is being taken away, step by step, due to rising sea levels. Resettlement has already become a reality for part of the community, and the coming years will see the rest forced to leave their island homes and scattered in all directions. For many it will be their first



Rising sea levels in the South Pacific have led individual islands of the Carteret atoll to break apart. Year by year inhabitants lose more of their land to the floods.

time to leave their small atolls, and they are scared. Where will they go? How will they find a supportive host community providing land and livelihood?

With its thousands of islands, the Pacific is particularly vulnerable and the very survival of some low-lying states, such as Kiribati, Tuvalu, Tokelau and the Marshall Islands, is under threat. By 2050, in the worst-case scenario, 600,000 people will face resettlement associated with climate change across the region.

The Carteret atoll chain consists of six small, low-lying islands, located 86 km northeast of the larger island of Bougainville in the far eastern part of Papua New Guinea. The islands are formed on a raised coral reef and have a maximum elevation of 1 or 2 m above sea level. They have a remaining land area of 0.6 km² and are arranged around the oval-shaped Tulun lagoon. Since 1994, almost 50 per cent of the land area of the islands has been lost as a result of rising sea levels. Huene Island, one of the original six islands, was split into two. A recent report indicates that the division of the main Han Island is also likely in the near future. Salty water has already intruded into the islands' sweet water stocks, the soil has become salty, the reef is eroding, and the islands are flooded in their entirety during king tides, leaving no other escape for the families than to climb the coconut trees and wait it out.

In light of the acute situation in the Carteret Islands, in 2007 the Bougainville government took the decision to resettle the entire Carteret population of 2,700 people. However, since this process has not yet delivered tangible results, the Council of Elders for the Carterets has formed a non-profit organization called Tulele Peisa. The local name translates as 'sailing the waves alone', and reflects the islanders' desire to remain strong and independent, without having to live off government handouts. After several years of close partnership between Tulele Peisa and the Catholic Church of Bougainville, the Diocese gifted 71 hectares of church land. Development cooperation agencies granted financial support for the construction of the first houses at the new location - called Tinutz - and the first five selected families moved in May 2009. 83 families have since signed up to be resettled under the Tulele Peisa scheme.

Other atolls in the region are also threatened, including 50 islands of the Fead atoll, the Tasman group, and the 20 islands that make up the Mortlocks. The people of these islands are also facing an insecure future, not knowing if, when and where they may have to relocate.

Chapter 3

Sinking island nations – loss of statehood as a precedent



There used to be palm trees and fishermen's huts on the South Pacific island of Viketawa, but now only seagulls and crabs live here.

Rising sea levels are a slow-onset impact of climate change. In extreme cases, for example in the Pacific, entire island nations could literally sink. Nations would relocate their populations and lose their territory, and the state in question would cease to exist. Such a loss of statehood that is not a result of prior conflict, cessation of territory, unification or inheritance of rule over a territory would set a precedent in international law. The population of such a nation would become stateless. However, these islands would become uninhabitable long before they actually disappear, because, as the example of the Carteret Islands shows, drinking water and arable land would become scarce resources. If the entire population is driven into exile, this would leave behind a state without a population (McAdam 2010).

For many people living in island nations, fishing and other maritime resources are their basis of subsistence and these resources are at the same time the state's greatest economic assets. Should an island actually sink, it would lose its territorial waters and therefore also its fishing and other rights of use. To prevent this from happening, the Maldives began to build an artificial island, but had to halt the project due to a lack of funds (Coren-dea 2008).

Moreover, without a homeland, the cultures of these people are at risk. Traditionally the Pacific islanders see their islands as the homes of their ancestors' souls, a feel-

ing which creates an additional and very deep bond with their land. A pronounced awareness of the distinctiveness of their culture is an integral element of the identity of Pacific islanders, which is reflected in the cultural diversity of the Pacific islands. Climate-induced migration and resettlement will therefore entail not only material but also immaterial losses.

To compensate at least partially for the loss of territory, the government of Kiribati has already bought a large plot of land on Vanua Levu, an island belonging to Fiji. With agricultural produce from this island, Kiribati aims to improve supplies on the home island, as well as create an additional source of income, which would also bolster Kiribati's resilience. At some point in the future, Kiribati could potentially relocate a part of its population to this area. Such a project, however, has already met with strong reservations among the local population. Creating a state on foreign, bought land – the logical next step – would be a novelty in international law. International experts are already discussing whether the cessation of territory or acceptance of a new citizenship could provide solutions to the loss of statehood that climate change potentially entails (UNHCR 2009).

Chapter 4

Loss & Damage in international climate politics

Climate-related loss and damage in UNFCCC negotiations

The 1992 United Nations Framework Convention on Climate Change (UNFCCC) has two focuses: protection of and adaptation to the climate. The extent to which extreme weather events and gradual climate change will lead to loss and damage will depend decisively on the success of both protection and adaptation strategies.

Already in 2007, the 13th United Nations Climate Change Conference adopted the Bali Action Plan (decision 1/CP.13), which calls on contracting states to consider strategies and approaches to deal with L&D.

At the follow-up conference one year later, the Alliance of Small Island States, AOSIS, proposed a mechanism to deal with loss and damage (AOSIS 2008), which, however, was not included in the negotiation process. In 2010, the politically sensitive question of the adverse impacts associated with climate change finally became part of the Cancun Adaptation Framework, firmly anchoring it within the UNFCCC process. At the same time, the conference agreed on a loss and damage work programme (decision 1/CP.16, paragraph 26), with the goal of providing a better understanding of L&D through expert meetings.

The 18th yearly Conference of the Parties (COP 18) in Doha in 2012 decided that, politically, climate change-related loss and damage should come under the aegis of the UNFCCC. This included a mandate to drive the im-

plementation of approaches to deal with loss and damage and to incorporate the issue into politically relevant processes. In particular, through the parties' decision to establish an international mechanism to address loss and damage associated with climate change with clearly defined functions and modalities during the following COP (decision 3/CP.18, paragraph 9), Doha paved the way for an institutional anchoring of the issue within the UNFCCC.

Considered a milestone in years of political discussions (Warner 2013), the Warsaw International Mechanism for Loss and Damage Associated with Climate Change Impacts (WIM) was adopted a year later under the Cancun Adaptation Framework to address the question of loss and damage in developing nations. The associated decision 2/CP.19 also recognises what some states, fearing international claims for damage associated with climate change, had so far denied: that loss and damage could in some cases go beyond what can be prevented by adaptation.

It was mainly pressure from developing nations that led to the establishment of the mechanism, in particular from the group of the Least Developed Countries (LDC) and AOSIS. Many industrialised countries, among them the US and the EU, were at first opposed to creating a new institution. A compromise was finally possible after negotiators watered down financial support commitments and developing nations agreed to establish the mechanism under the Cancun Adaptation Framework rather than as an independent institution.



Many of those with no alternative but to give up struggling against climate change end up in the slums of Dhaka.

Climate-induced migration and forced displacement under the UNFCCC

With the Cancun Adaptation Framework (CAF), climate-induced migration and forced displacement became a negotiated issue under the UNFCCC in 2010. Paragraph 14(f) considers the joint but individually specific responsibilities of nations and invites the parties to the convention to take measures to enhance understanding, coordination and cooperation with regard to climate-related displacement, migration and planned relocation at the national, regional and international levels. This important breakthrough laid the foundation for action by various UN agencies, such as the UNHCR and the IOM, as well as for the Nansen Initiative, which was founded in 2012.

At the COP 19 in 2013 in Warsaw, migration and displacement became a field of action within the Warsaw mechanism in the context of loss and damage. By 2016, a better understanding of climate-induced migration and forced displacement, as well as of the potentially affected vulnerable segments of the population, is to be promoted. Moreover, an overview of 'lessons learnt' and 'good practice' is to be provided and possible follow-up measures identified.

The Warsaw International Mechanism

The Warsaw International Mechanism was established to achieve an 'implementation of approaches to address loss and damage associated with the adverse effects of climate change, [...] in a comprehensive, integrated and coherent manner'. The mechanism addresses loss and damage caused by extreme weather events, as well as slow-onset events. Paragraph 5 of the Warsaw decision describes the functions that will allow the mechanism to fulfil its role (2/CP.19):

- a. Enhancing knowledge and understanding of comprehensive risk management approaches, including those to address slow onset events;
- b. Strengthening dialogue, coordination, coherence and synergies among different stakeholders;
- c. Enhancing the mobilization of action and means of implementation, including the provision of financial support and technical assistance.

To implement these functions, a provisional executive committee (ExCom) was established that is accountable to the COP and reports to the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Sub-

subsidiary Body for Implementation SBI (decision 2/CP.19, paragraph 3) on an annual basis. One year later, the Lima conference decided on the permanent structure of the executive committee. Of the twenty members, ten are from industrialised nations ('Annex I Parties' in UNFCCC terminology) and ten from developing nations ('non-Annex I Parties'). In the second group, the different regions are represented as follows: two members from African states, two from the Asia-Pacific states, and two from the Latin American and Caribbean states, one from Small Island Developing States (SIDS), one from the Least Developed Parties (LDC), plus two further members (decision 2/CP.20). In June 2015, after a six-month nomination process, the members were announced. These include a representative of the German Ministry for Economic Cooperation and Development (BMZ) (See: http://unfccc.int/adaptation/cancun_adaptation_framework/loss_and_damage/items/8806.php). In future, the executive committee may delegate tasks to experts.

In December 2004, the UNFCCC adopted a two-year workplan containing nine action areas (See <http://unfccc.int/resource/docs/2014/sb/eng/04.pdf>). Thematically, the focus was clearly on broadening the information basis and generating greater awareness of climate-related loss and damage. So far, however, the workplan

still says very little with regard to the financing and implementation of instruments to address loss and damaged related to climate change.

Most of the action areas aim at broadening the knowledge basis, for example concerning the effects of climate change-associated loss and damage on particularly vulnerable developing countries and poor segments of the population; the risks of slow-onset changes and their effects; the non-economic losses (for example of culture); or climate-induced migration and forced displacement. A further action area is concerned with the question of improving climate risk management. This includes instruments such as risk pooling (combining (different-sized) risks to achieve a risk structure balance), risk transfer (transferring risks from, for example, an insured to an insurer) and cat bonds (bonds issued by insurance companies to compensate for loss and damage resulting from natural disasters). Building on the results of this first phase, COP 22 will establish and adopt a five-year workplan.

Analysis and outlook

The UNFCCC offers a framework to identify, analyse and implement effective approaches to address climate-related loss and damage, in particular with regard to the most vulnerable countries. In this respect, the establishment of the Warsaw International Mechanism and the two-year workplan are two important steps.

Although superficial in parts, the current workplan nonetheless discusses a broad set of relevant questions. In particular, the workplan could lead to a systematic documentation of available knowledge on climate-related loss and damage and climate risk management, including on questions so far not analysed in depth, such as loss and damage related to slow-onset processes. This will help encourage corresponding research and reduce uncertainties that could otherwise hinder decisions. Such a knowledge accumulation process should include an analysis of the resilience of vulnerable segments of the population, as this could help develop and promote specific measures directed at individual target groups. At the same time, this would ensure compliance with the human rights demand to provide support foremost to particularly vulnerable groups.

The workplan also operationalises the leadership role of the WIM - to strengthen dialogue, coordination,

coherence and synergies - to a certain degree. The establishment of the workplan was characterised by the involvement of experts and civil society and it aims to maintain and expand participation by these sectors.

However, the Warsaw International Mechanism was supposed to be more than just a forum for dialogue and a knowledge platform. According to the Warsaw founding document, the mechanism aims to mobilise and drive support and action to reduce climate risks and compensate for loss and damage. In this respect, identifying options to mobilise financial means represents a particular challenge. For the future, it will be important to expand the scope of the WIM to include the development and implementation of further approaches to address climate-related loss and damage. This is particularly relevant concerning the impacts of slow-onset climate change, and if the world hits major tipping points. Developing countries have made it clear that they expect the WIM to implement concrete measures, by expanding climate risk insurance in all regions, in the same vein as, for example, the Caribbean Catastrophe Risk Insurance Facility (CCRIF).

To manage these tasks, however, the WIM needs to expand its institutional structure and grow beyond its current single executive committee structure. First steps in this direction have been taken. An expert group on climate risk management and another on non-economic losses have been established. Starting in 2016, the Warsaw International Mechanism's institutional structure will need to be further bolstered if the mechanism is to become the effective instrument described in its founding charter. According to this document, the mechanism should systematically inform the conference of the parties on systemic climate risks and loss and damage, and effectively contribute to solving these problems. It would also be important for the WIM to implement processes, possibly in cooperation with the IPCC, that would act as a kind of early warning system and document the available knowledge on the most important tipping points that would have at least continental effects.

At the end of 2016, an evaluation of the work of the WIM will take place. Implementing as much of the agreed workplan as possible will remain the greatest challenge until then.

Chapter 5

Further initiatives and policies concerning climate risk management and climate-induced migration

Politically, climate-related loss and damage is primarily addressed in the UNFCCC context. Other multilateral agreements, forums, initiatives and instruments from related policy fields such as climate risk management and disaster prevention, as well as migration policy, provide important contributions.

Multilateral framework agreements

Beside the climate conference, the so-called climate year 2015 comes with three further UN summits.

In May 2015, the international community adopted the Sendai Framework for Disaster Risk Reduction 2015-2030. The agreement aims to prevent natural disasters from developing into humanitarian disasters. It defines seven global targets for 2030 and defines four priority areas

as for action. Sendai emphasises that the primary responsibility for addressing climate change rests with the UNFCCC. However, two elements of the Sendai framework for disaster risk reduction are highly important with regard to loss and damage. First, it underlines the importance of early warning systems for disaster risk reduction and the need to deploy such systems globally. Second, the agreement sets out plans for a rapid and efficient mechanism to support states that become overwhelmed by a natural disaster. Both elements could greatly help limit climate-related loss and damage by offering improved protection measures and a more rapid aid response.

In July 2015, the Third International Conference on Financing for Development in Addis Ababa adopted a new framework for global development financing. Regarding climate-related loss and damage, the agreement is significant because it aims to lower transfer fees for payments sent by migrants to their families back home. The volume of these payments is greater than funding for development cooperation, and these transfers contribute import-



With the support of Bread for the World's partner organisation CCDB, people in Morrelganj organise themselves into catastrophe-prevention teams or single-handedly repair dykes and paths.

antly to subsistence and can be decisive particularly during disasters. The final statement of the conference reads: ‘We recognize that international migration is a multidimensional reality of major relevance for the development of origin, transit and destination countries that must be addressed in a coherent, comprehensive and balanced manner. We will cooperate internationally to ensure safe, orderly and regular migration, with full respect for human rights’.

The United Nations Sustainable Development Goals (SDGs) adopted in New York in September 2015 also make clear reference to climate-related loss and damage. Out of the seventeen goals, which are applicable to all states and which will significantly shape future development cooperation, the thirteenth goal addresses the struggle against climate change and its impacts. The goal describes the need to strengthen climate resilience and adaptation capacities, promote education and awareness, as well as climate risk-related planning and management processes in the least developed countries.

International forums

International and UN organisations offer important forums to develop strategies to address climate-related loss and damage, as well as migration and forced displacement.

The fact that ‘climate refugees’ do not have their own legal status that protects them is a great problem: people who justifiably fear persecution and therefore flee across borders can claim asylum in other states based on the 1951 Geneva Refugee Convention and are protected by the UN refugee agency (UNHCR). People fleeing from climate-related environmental impacts, however, do not enjoy such protection. At this point, an expansion of the UNHCR mandate to include this group is unlikely, which leaves a gap in international law. Nonetheless, the UNHCR understands that climate change and natural disasters can trigger migration and displacement and therefore favours a human rights-based approach that takes the needs of these people for protection into account. Operatively and politically, the UNHCR advises the UNFCCC process and the Nansen Initiative (see below).

Already during the 1990s, the International Organisation for Migration (IOM) recognised that environmental changes and the impacts of climate change can trig-

ger migration and has contributed corresponding projects, publications and discussions, and this knowledge feeds into the relevant political processes. Like the UNHCR, the IOM reports to the parties to the UNFCCC and Nansen Initiative member states.

Since 2007, alerted by the calls from Pacific island countries facing displacement due to climate-related water and food shortages, the UN Security Council has discussed the security implications of climate change on three occasions. The Security Council has not taken a decision, but security and stability concerns related to climate risks and climate-related loss and damage will in future most likely become a focus of greater importance.

At its 28th regular session in March 2015, the UN Human Rights Council (UNHRC) emphasised that the adverse impacts of global warming threaten the full exercising of human rights. The council concluded that climate change threatens in particular the human rights to life, water, food, health, housing, self-determination, culture and development. In 2007, the UNHRC adopted its first resolution devoted to human rights and climate change (http://ap.ohchr.org/documents/E/HRC/resolutions/A_HRC_RES_7_23.pdf).

Initiatives and instruments

A number of initiatives and instruments aim at mitigating loss and damage related to climate change and limit the adverse effects on people, in particular vulnerable countries.

In the field of climate-induced migration and displacement, particularly worth mentioning is the Nansen Initiative. The initiative, founded in 2012 by Norway and Switzerland, focuses on disaster-induced cross-border migration and forced displacement, yet also takes into account related fields, such as disaster prevention, internal displacement, as well as migration as an adaptation strategy. The initiative upholds the goal of establishing an intergovernmental agreement on principles and approaches for the protection of people fleeing climate-related natural disasters. The initiative aims to establish a global protection agenda by October 2015 covering all phases of migration: preparedness, protection and assistance during displacement, and transition to permanent solutions. The process is governed by a

steering group, which includes members from the two founding nations, as well as from Australia, Bangladesh, Costa Rica, Germany, Kenya, Mexico and the Philippines. Different stakeholders are involved and participate through regional consultations, which seek to broaden the knowledge base and help spread best practice examples. The Nansen Initiative is pioneering in that it is the first intergovernmental process to develop political instruments to address cross-border migration. Its protection agenda will not include concrete regulations; it promises, however, to create a stable basis for further political processes.

Although insurance is an effective risk transfer instrument, it is far too seldom used in developing nations. Schemes can offer victims compensation in the case of loss. This is particularly important for the poorest and most vulnerable countries and people, because extreme weather events such as hurricanes or droughts can threaten their very existence.

In 2010 the African Union founded the African Risk Capacity (ARC). It is specifically designed to meet regional needs and insures African states against the impacts of drought. The underlying principle is simple: a precipitation index registers rainfall and, in the case of a drought in the region, automatic pay-outs are made to the governments where loss and damage has occurred. The only condition is that recipient countries must specify emergency plans beforehand, detailing how they plan to use funds, i.e. to provide food aid or to support local farmers.



Food security is highly threatened in the Ethiopian region of Lalibela. Insurance schemes could protect farmers from the consequences of crop failure.

The G7 climate risk insurance initiative

During the G7 summit in July 2015 in Elmau, the G7 nations announced that they would contribute towards climate risk management and transfer. The G7 climate risk insurance initiative is to provide people from particularly vulnerable developing countries with improved protection against climate risks. By 2020 the initiative strives to increase the number of people holding climate risk insurance in developing countries from 100 to 500 million. The initiative will expand on existing insurance instruments such as ARC and CCRIF and aims to exploit synergies with the UNFCCC and/or the Sendai Framework Agreement. Germany has pledged to commit at least 150 million euros.

The Caribbean Catastrophe Risk Insurance Facility (CCRIF) insures sixteen Caribbean countries against extreme weather events and helps improve their capacity to maintain public services during a disaster and repair infrastructure damage to streets, bridges, schools and hospitals.

Under the HARITA (Horn of Africa Risk Transfer for Adaptation)/R4 Rural Resilience Initiative, farmers can insure themselves against crop failure. Poor farmers who cannot afford the premiums can opt to pay by working in projects designed to increase resilience in the face of climate change.

Chapter 6

Loss & Damage in national politics

Apart from at the international policy level, climate risk management has an important role to play at the national level as a targeted approach to limiting economic and non-economic loss and damage. In most states it falls under the authority of the home ministry, specialized agencies for disaster risk reduction, or subsidiary bodies at provincial or communal levels.

The traditional focus of risk management, however, is more on extreme events, whereas adverse effects of slow-onset events, e.g. sea level rises or agricultural losses due to worsening agro-meteorological conditions, receive very little attention. Similarly, risk reduction and emergency aid are usually prioritized over risk mitigation.

Compared with industrialized countries, most developing countries lack the institutional structures, trained personnel, technical resources and other means to effectively address climate risks. As a result, the loss and damage from extreme events as well as slow-onset events are disproportionately higher. In addition, the capability to recover from a loss or disaster is usually significantly lower due to a lack of risk transfer schemes (e.g. insurance or social protection programs), limited financial re-

serves, and less diversified sources of income. Accordingly, the climate vulnerability of developing countries is higher, in particular that of the least developed countries, small developing island states and sub-Saharan African countries. Within these countries, the risk exposure is also usually highest among the poorest and socially most excluded populations in remote rural areas.

To address their needs effectively, a holistic risk management approach is necessary, starting with comprehensive risk assessments. While all LDCs have undertaken National Adaptation Programs of Action (NAPAs) and an increasing number of countries has started to develop National Adaptation Plans (NAPs), so far only a very small number are basing plans and programs on risk assessments that provide the full picture of short, mid- and long-term risks, and that are designed to precisely identify the economic sectors, infrastructures, geographical locations, populations and even households that are most threatened by climate risks. Experts argue that such comprehensive risk assessments are the best instrument to identify priorities for action and thereby lay the foundation for targeted and effective adaptation and climate risk reduction, reducing climate-induced loss and damage as much as possible. Without such assessments risk reduction and adaptation measures are more likely to remain fragmented, and support will not necessarily be provided first to those at highest risk. This in turn increases the likelihood of further loss and damage, not only of livelihoods but also of lives. The following examples illustrate potential targeted approaches and lessons that can be drawn from them.



Catastrophe prevention and early warning systems are particularly effective when organised at the community level.

Fiji - Systematic climate risk mapping and relocation of communities

For the South-Pacific Island state of Fiji, comprising two bigger islands and hundreds of smaller islands, many of them coral atolls not more than one metre above sea level, solid climate data is available going back to the 1950s, showing increasing unpredictability and changing weather patterns over the last 30 years. Amongst others, sea level rises have doubled from 1 - 1.5 mm per year before 1990 to 3 mm today. According to the 5th IPCC Assessment Report, the sea level in Fiji could rise

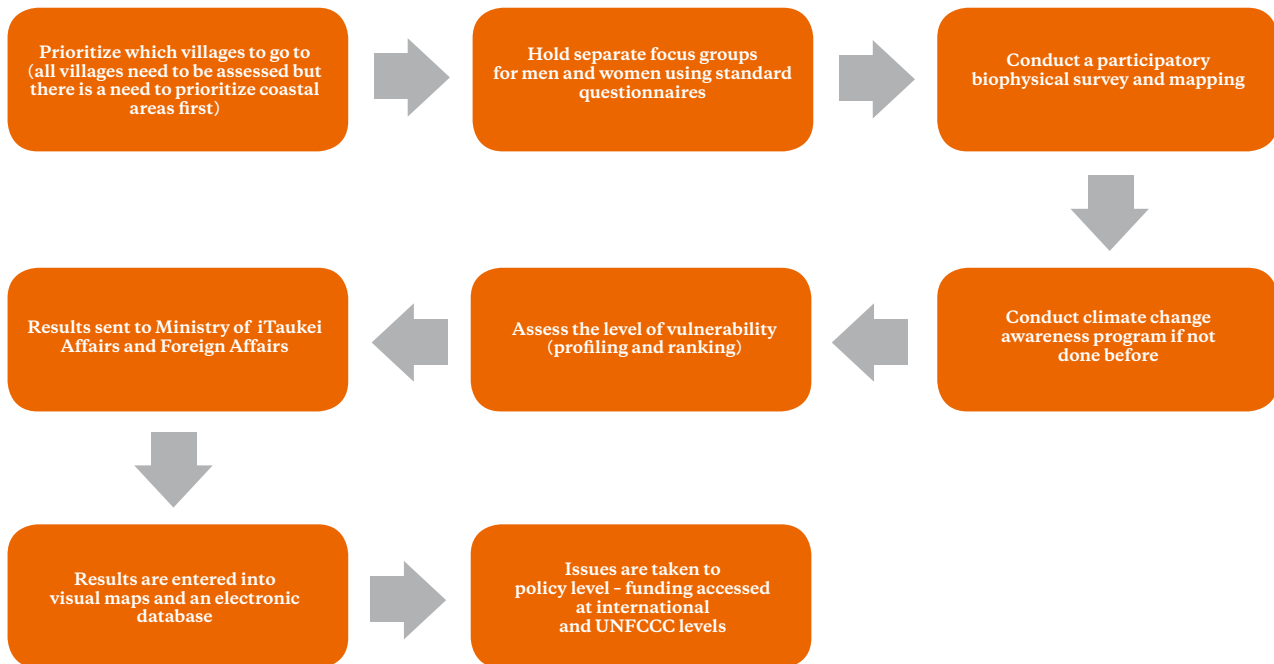


Table 3: Climate risk assessment approach applied by the Fijian government covering all communities

by 50-120cm by 2100, leaving huge parts of Fiji uninhabitable, be it through coastal erosion, flooding or saltwater intrusion into groundwater reserves and soils. Apart from sea level rises, coral bleaching, changing rainfall patterns (with more floods and droughts), and more intense cyclones are the biggest climate risks to Fiji.

In view of these risks, Fiji established a National Climate Change Policy in 2008, and set up a Climate Change Framework, identifying strategies and the respective roles and responsibilities of the Fijian ministries. In 2012, the first national climate change summit concluded by defining increased climate awareness and resilience of communities as the top priority. The huge existing gaps in the overview of the various degrees of vulnerability of Fiji's communities led to the government's decision to undertake a nationwide community risk mapping, covering all communities, under the leadership of the Climate Change Division, and guided by the provincial environmental offices. With technical support of the German 'Gesellschaft für Internationale Zusammenar-

beit' (GIZ), a Vulnerability and Adaptation (V&A) Assessment Tool was developed, functioning as a user-friendly guide, and drawing on various tools that already existed, including NGO assessment practices and other sector-specific tools. The systematic information gathered by implementing this assessment in all of Fiji's communities, starting with those considered to be exposed to the highest risks (mainly communities in low-lying coastal areas or on coral atolls), will provide the government with accurate information on climate risks and already occurring loss and damage, laying the foundation for targeted and prioritized adaptation measures, and for Fiji's positioning in UNFCCC climate talks as well as towards international donors.

The tool is designed to enable trained communal representatives, who know their communities best, to carry out the assessment themselves. Roko Tuis (district officers) and Mata-ni-Tikinas (district representatives) collect the data in discussion with the communities and use a standardized scoring procedure. Once the information is

passed on to the ministry level, it is further verified before the data is entered into maps and a national database.

Thanks to the personal commitment of many environmental officers and the formal involvement of local authorities, it is expected that most of Fiji's 1,171 rural communities will have undergone the climate risk assessment by the end of 2015, including almost all coastal settlements. The climate change division of the Foreign Ministry and the environmental officers meet regularly to assess the assessment results and the methods applied. With regard to the latter, further improvements are possible and likely to be introduced: In the design phase, relatively few specialized agencies actively took part in the peer review and the tool was intentionally kept very simple to allow relatively unexperienced people to employ the method with minimal training. As a result, the information collected mainly consists of observations, and lacks scientific meteorological data for specific locations as well as robust forecasts on future trends. There is great interest, however, in further improving the assessments over time. The perhaps biggest bottleneck in terms of process is the lack of trainers to build up the capacity of the people who have to conduct the assessments. In terms of results, the Fijian risk map already gives a good overview on the country's climate risk zones and provides an accurate basis for adaptation measures.

The relocation of Vunidogoloa Village, Cakaudrove Province

The climate risk assessment has so far also helped to identify numerous villages that are severely affected by rising sea levels. 45 have been designated for relocation in the next five to ten years. The question is where to, at what cost, and how and from whom to mobilize the resources needed for these climate-induced relocations.

A precedent for relocation is the Vunidogoloa Village in Cakaudrove Province, situated on Fiji's second largest island, Vanua Levu. Supported by the government and accompanied by the Pacific Conference of Churches (PCC), the 156 villagers have relocated their entire community two kilometres inland, on their own land. Initial consultations with the government had already started in 2006, when the old village was becoming increasingly flooded during high tide. The government gave its permission and agreed to the relocation, which finally took place in 2014 on the condition that the community covered a part of the relocation costs. The community did so by cutting down parts of its forest and selling the timber.

A group of national and international experts that visited Vunidogoloa in 2015 identified the following factors as key to the success of the relocation: availability of land and resources, unity and trust of the villagers, strong leadership, participatory process, improved living conditions at the new site, and support of the government (Bread for the World/PCC 2015).

Building on the experience with Vunidogoloa and the Carteret Islands, where relocation has turned out to be much more difficult (see page 16), participants in a workshop for experts and affected parties, which was co-hosted by PCC and Bread for the World in Fiji in 2015, agreed on the following principles as a first attempt to provide guidance for climate-induced relocation (Bread for the World/PCC 2015):

10 Guiding Principles for Climate-Induced Relocation

1. Create prior informed consent for voluntary relocation
2. Ensure broad, culturally sensitive, non-discriminatory participation and community leadership involvement throughout the whole process
3. Trustful cooperation between government and community through shared responsibility
4. Ensure due preparedness of hosting communities
5. Ensure availability of secure and uncontested land
6. Guarantee adequate financing and fair burden-sharing between government and communities
7. Avoid livelihood uprooting and if necessary provide skills and support to adapt to the new environment and living conditions
8. Ensure development co-benefits for all
9. Maintain the geographical unity of the relocated community as much as possible
10. Apply a human rights-based approach to relocation

The Fiji national government will take these principles into account when formulating its relocation guidelines, to be completed by the end of 2015. These guidelines will be one of the first of their kind. The Papua New Guinean national government has also committed to preparing a relocation policy in 2016.

El Salvador – Prioritizing risk reduction and planning for a loss & damage registry

El Salvador is a small, low-middle-income central-American country in a post-conflict situation. After 12 years of

civil war (1980-1992), El Salvador is still in the process of establishing a new and shared long-term vision. In the last decade, extreme weather events have increased in frequency and intensity, causing severe losses: Between 2002 and 2011, eight extreme events hit the country, representing a 400 per cent increase compared with the average over the previous four decades. According to an assessment of the International Monetary Fund from 2013, ‘the slow growth of the Salvadoran economy is a result of low domestic investment and the impact of climate shocks’ (International Monetary Fund (IMF). Misión de Consulta de Artículo IV para El Salvador, 19 de Marzo de 2013. Press release. <https://www.imf.org/external/spanish/np/sec/pr/2013/pr1384s.htm>). One of these extreme events was the Tropical Depression of October 2011, known as 12E, which broke historic records,



Catastrophe prevention can mitigate risks during natural disasters, as during the 2001 earthquake in El Salvador.

Community-based climate risk assessments – A Bread for the World initiative

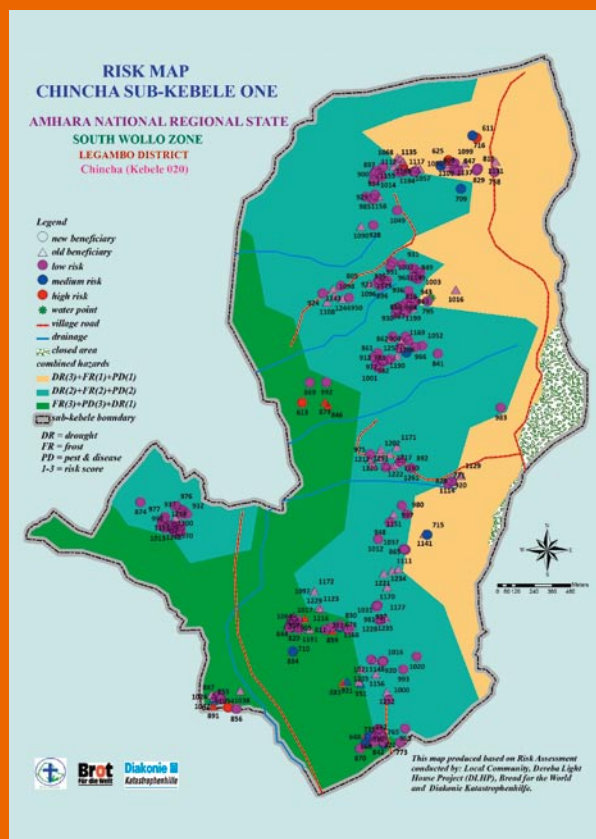
Millions of poor people suffer from climate-induced losses and damage. Most of them lack access to the knowledge, risk reduction technologies and support measures which could reduce future loss and damage significantly. Climate risk assessments enable communities to better understand climate risks and reduce losses through preventive action and risk transfer. They can help to identify households and people who are at highest risk and thereby direct support to those most in need. Such prioritization is required by international human rights standards, obliging states to invest a maximum

of available resources to respecting, protecting and fulfilling human rights, and to start with those who are most vulnerable.

Bread for the World supports so-called lighthouse projects of selected partners in various climate change hot spots to conduct community-based risk assessments and later build climate resilience programs based on the findings.

In the Ethiopian highland province of Dessie, for example, which is severely affected by droughts, the partner EECMY conducted systematic climate risk assessments, covering almost 3,000 households, and classified them according to their climate risks and different types of hazards. All households have been exactly located on risk maps using GPS, counter measures were defined according to risk type and risk level, and the results are monitored regularly.

The Ethiopian government found the chosen approach interesting enough to ask EECMY to build the capacity of governmental officials to conduct similar assessments in other hot spot areas of the country. Bread for the World partners from Bangladesh, Guatemala and Indonesia implemented similar assessments with comparable results.



Climate risk maps for the ward of Chincha, Ethiopia, showing climate risk zones and types.

Source: EECMY - Ethiopian Evangelical Church Mekane Yesus.

causing economic losses exceeding 4 per cent of the country's 2011 GDP. In summer 2014, a drought without historical precedent led to the loss of 25 per cent of the country's staple food production, reducing the bean harvest by 90 per cent and the corn harvest by almost 25 per cent. According to climate modelling, El Salvador will in future be even more affected by droughts, floods and hurricanes, and the average temperature, which has already increased by 1.3°C, will continue to increase well above the global average rate. Already today, El Salvador belongs to the 12 most vulnerable countries according to the Germanwatch Climate Risk Index (Germanwatch 2014), and this vulnerability is likely to increase, in particular threatening the agricultural sector as the economic backbone of the country.

For this reason, climate adaptation has become one of the country's main priorities, with large public investments in systematic observation, early warning systems and the design and partial implementation of adaptation plans in strategic sectors. Climate risk reduction in El Salvador is closely associated with the strategic objectives of development and poverty reduction, and with a particular focus on the most vulnerable social groups. This approach is reflected in the 2012 National Environmental Policy (NEP), which was developed based on broad public consultations (Ministerio de Medio Ambiente y Recursos Naturales, MARN. Política Nacional del Medio Ambiente 2012 (PNMA). www.marn.gob.sv/especiales/pnma2012/Politica_Nacional_MedioAmbiente_2012.pdf).

In 2009, the Salvadoran government agreed on a National Climate Change Strategy, which led to the first National Climate Change Plan and will now be further developed into a Climate Change Framework Law. The president has established a permanent sustainability cabinet to ensure that due attention at the highest governmental levels is given to sustainable development and fostering climate resilience. The government is currently exploring various means to better manage climate risks, including systematic risk assessments, risk prevention and reduction approaches, and risk insurance schemes. Regarding climate-induced loss and damage, experts under guidance of the Ministry for the Environment and Natural Resources have started to explore options as to how to get a comprehensive overview of loss and damage. This would be based on nationwide assessments and data collection, leading to a national registry with regular updates, hopefully on an annual basis. This registry will also help to more precisely identify the main victims, the

most vulnerable regions and sectors, and critical infrastructure, and hence to build a solid basis for deciding where best to invest limited means and how to directly support the most vulnerable groups, in order to limit climate-induced damage.

The government is committed to urgently developing and establishing policies and instruments to reduce and compensate for climate-induced loss and damage – rather than waiting for international frameworks to come in force. While the Second National Communication to the UNFCCC from 2013 focused on the draft National Framework Law on Climate Change, the next communication will specifically address climate adaptation and climate risk prevention.

Apart from maximising the use of its own resources, the government hopes to benefit from international support. It also considers the major emitters to have a political responsibility to contribute their fair share to addressing and minimizing loss and damage. To underline its strong political commitment to working towards the establishment of more enabling international framework conditions to deal with climate-induced loss and damage, El Salvador has become a member of the new executive board of the Warsaw International Mechanism (WIM).

Chapter 7

How can we close the climate risk gap?

The measures taken so far are incapable of effectively reducing climate risks and mitigating damage. On the contrary, the risks and damage threaten to continue increasing over the coming years. This will happen even if the most important measure to limit future loss and damage associated with climate change is successful – namely, halting the current trend of ever-increasing greenhouse gas emissions. Eventually a dangerous climate risk gap could develop that in particular threatens the most vulnerable countries and people in society, endangers successful development to date and undermines the exercising of human rights, including economic, social and cultural human rights.

What can be done to close this gap? What promising approaches do we currently have at our disposal, what are the greatest challenges and what role do the local, national and international decision-makers play? To answer these questions 15 leading experts from the fields of politics, international organisations and NGOs were

interviewed for this publication, and promised to treat information confidentially. Interviewees included representatives from all country groups, top negotiators, the WIM Executive Committee, expert organisations, academia and NGOs. Notwithstanding differences concerning the details of certain aspects, the degree of consensus among these experts was astounding. The following table illustrates the most important results.

Making climate risk analysis an integral part of climate adaptation

Too little attention is given to climate risks: many experts, in particular from developing countries, point to the high degree of uncertainty and ignorance concerning possible climate risks as the greatest obstacles standing in the way of risk conscious planning and investment decisions. To close this gap, they propose systematic climate risk analyses, and advocate turning such analyses into an integral part of climate sensitive planning and development pro-



The river has eroded 95-year-old Ishak Hawladar's land.

Limiting adverse impacts of climate change – concerns the experts shared

1. A generally accepted and precise definition of adverse climate impacts will be required as a basis for developing systematic, institutional, political and technical solutions.
2. The debate surrounding loss and damage associated with climate change has a political and a technical dimension, which, although related, are defined by separate challenges. Progress will depend on a clearer separation of these levels.
3. The greatest political challenge is to further develop this nationally and internationally highly sensitive issue both constructively and in a differentiated manner, and, building on what has been achieved so far, develop a shared political understanding together with instruments that are capable of adequately addressing climate change-related loss and damage.
4. The greatest technical challenge is to set out the immediate and long-term climate risks systematically at the local, national, and supra-regional levels. To minimise risk exposure and vulnerability, the results then need to become the basis of development decisions. The evaluation of risks related to major tipping points and residual damage requires precise answers.
5. In the long term, food security, water supply, protection from extreme weather events and climate-related displacement pose the gravest climate risks.
6. The G7 climate risk insurance initiative, the Nansen Initiative on disaster-induced cross-border displacement, the Sendai Framework for Disaster Risk Reduction as well as initiatives for greater regional cooperation (risk reduction in the South Pacific and the Caribbean climate insurance CCRIF) were all named as initiatives with great potential for the future.
7. Recording climate risks and loss and damage associated with climate change in particular requires action.
8. Expectations of the WIM: implementation of its workplan, advisory function towards governments and the UNFCCC.
9. Expectations of the Paris agreement: recognition of loss and damage associated with climate change as a shared political challenge and a long-term commitment to ensuring the work of the WIM.

cesses. One proposal is to make climate risk analysis an integral part of national adaptation plans (NAP). Such analyses could also become part of urban, regional and national planning, as well as an element in large development and infrastructure projects. To recognise and avoid recognisable risks at an early stage, climate risk analyses should forecast a period of at least twenty to thirty years.

Climate risk analysis is also possible at the community level, and should become part of national climate strategies (see the example of Fiji, p. 25), and make non-state development promotion more climate sensitive (see the example of Ethiopia, p. 28). Experts from specialist organisations in particular point to the fact that measures

taken at the local level are usually the ones that provide the greatest direct impacts and success, and that synergies develop best when the local, national and international levels are optimally integrated.

International collaboration that incorporates specialist organisations and science can help create the necessary institutional and technical conditions, particularly in the most threatened countries and regions. Many expressed their hopes that the WIM could itself initiate pilot projects, promote an exchange of experiences and synthesise and complement the results of national climate risk analyses with proposals as to how they best fit national requirements, including in financial terms. Within

the framework of climate risk analysis, a promising approach from El Salvador (see page 27) foresees continuously and regularly documenting loss and damage associated with climate change in a national database. Establishing a baseline now will allow conclusions to be made in the future on the effectiveness of risk mitigating strategies. Moreover, such data creates a basis to develop risk transfer measures, for example social security networks or insurance instruments.

Strengthening climate risk management in climate adaptation and development promotion

Establishing and expanding effective climate risk management is a second priority for experts aiming to prevent or at least mitigate the damage resulting from climate change. This includes establishing protection regulations (including building and land use restrictions in high-risk zones), early warning systems (up to the last mile), and protection and rehabilitation measures. As ex-

perience shows, such measures can significantly reduce damage, yet it is often the high-risk zones in particular that lack the necessary institutional structures.

Expanding climate risk insurance and networks of social security

Even the best risk prevention strategies cannot nullify climate risks. The experts we interviewed proposed a rapid implementation of climate risk insurance and the creation and expansion of social security networks, in particular in the most vulnerable countries that so far have profited only little or not at all from such schemes. They pointed to the Caribbean Catastrophe Risk Insurance Facility (CCRIF) and plans to expand this mechanism to Central America and the Pacific region as positive examples. This would, however, still entail several difficult problems to be solved. In some regions, no climatological stations exist (Oceania), in others, the population cannot afford insurance premiums and ways must



Villagers on a dam in southern Bangladesh near the town of Gelekhal, which was hit heavily by Cyclone Aila.

be found to nonetheless insure them or offer them support through other instruments such as social security networks. This is what the new G7 climate insurance initiative (see page 23) should aim for. Furthermore, we need compensation mechanisms for cases where damage is so certain to occur that it is not insurable, for example the damage caused by rising sea levels. Such cases would require a form of global solidarity, for example via a compensation fund (see below).

Detabooisation of climate-induced migration and continuation of the work of the Nansen Initiative

Migration and displacement associated with climate change is one of the greatest taboos at the national and international levels in the debate on loss and damage related to climate change. Yet, even today, climate change is driving innumerable people from their homes, affecting in particular people from low-lying coastal areas and islands. Many of the experts interviewed, in particular those from affected regions or relevant specialist organisations, called for a detabooisation of climate-induced migration and displacement and a continuation of the pioneering work of the Nansen Initiative. Displacement is inevitable and a great burden, first and foremost for the people it affects. Respecting their needs and dignity, and protecting their human rights requires forward-looking action and the participation of the people themselves. The resettlement project on Fiji, as well as the aim to develop corresponding guidelines there (see page 25), is worth supporting and could become an example to follow. To help affected states duly and properly implement resettlement processes and rehabilitation measures, a fund similar to the Global Fund to Fight AIDS, Tuberculosis and Malaria should be set up.

Recognition of non-economic loss

When climate change destroys people's homeland and culturally uproots them, they deserve our solidarity and recognition for their loss even if we cannot quantify and financially compensate for it. People often feel such a loss much more intensely than economic losses. There have, however, so far been no concrete initiatives to deal with this problem and develop solutions. This field requires more research and documentation, accompaniment, and the development of a culture of memory. Inhabitants of the Carteret Islands in New Guinea, for example, suggested declaring their doomed islands a nature reserve or a cultural heritage.

Greater research into climate risks resulting from long-term changes

The experts generally agreed that the comparatively low profile long-term impacts of climate change, such as greater precipitation variability, the melting of glaciers and ocean acidification, are potentially the areas that pose the greatest future risks. Frequently, tipping points define the state of a system. Agriculture is already the most adversely affected sector. The future could bring even greater risks for food security and water supply. More research needs to go into these long-term risks; we need regular assessments and have to develop countermeasures.

Strengthening the Warsaw International Mechanism (WIM)

Experts unanimously credit the WIM with infusing the politically conflict-laden UNFCCC discussions with a greater dose of objectivity. They now expect concrete results from the implementation of the agreed work programme, which governments and international organisations could then take up and implement. Related to this is the expectation that the WIM will develop into a panel concentrating on technical questions and with an advisory function vis-à-vis the UNFCCC, financial institutions (for example the GCF) and governments. There is no agreement on whether the WIM will itself become an instrument of implementation, i.e. develop its own projects, count on its own resources and become a mechanism for risk management.

Anchoring the question of loss and damage associated with climate change and the WIM in the Paris agreement

The experts interviewed agreed that the Paris agreement will confirm the WIM and institutionally secure it in the long term. Basically experts agreed that Paris must not only recognise the challenge of loss and damage associated with climate change but needs to also declare the joint and solidarity-based responsibility of the international community. Whether loss and damage associated with climate change is an issue in its own right and therefore requires its own mechanism for compensation, however, remains a hotly debated question.

The following chapter will look in more detail at the expectations towards Paris and the options.

Chapter 8

‘Loss & Damage’ and the Paris climate agreement – expectations, demands and options

The issue of loss and damage remains a highly politicized one. Accordingly, expectations on what Paris should deliver in terms of addressing loss and damage are far ranging. Developing countries in particular have included L&D as a high profile issue in their respective submissions on the 2015 agreement (see e.g. AOSIS 2014, AILAC 2014, LDC Group 2014, LMDC 2014) as well as in their state-

ments during ADP sessions. The table below provides an overview of developing countries’ initial positions.

At the 2.10 session of ADP at the beginning of September, developing countries consolidated their different views on loss and damage into a common position. They suggest the establishment of a new international mechanism on L&D in the agreement, which would take over

Preliminary Position on L&D in the 2015 agreement

LDC

- The WIM and related institutions shall operate under this agreement
- All Parties are encouraged to develop early warning systems
- All Parties are encouraged to develop climate risk management plans
- To establish an international coordination mechanism to support people displaced by climate change
- To establish a clearinghouse for insurance and risk transfer systems to provide a repository of information on available insurance and risk transfer schemes
- To establish a new international mechanism to replace the WIM

AOSIS

- To include L&D as an additional stand-alone core element in the 2015 agreement
- To provide immediate and adequate financial, technical and capacity building support on a timely basis and truly accessible to address loss and damage in SIDS
- To initiate a new mechanism under the new agreement in which the WIM could grow into

AILAC

- The 2015 agreement should explicitly recognize that most countries are already experiencing loss and damage due to the effects of climate change
- The 2015 agreement should recognize the relationship that exists between the level of mitigation ambition, the associated climate change impacts,

the resulting adaptation needs and costs that arise, and L&D created by those impacts

- To explicitly link L&D with the means of implementation: Means of implementation are required to cover the cost of L&D, as well as to identify constraints to adaptive capacities of vulnerable groups, sectors and regions.
- The WIM should continue working and be strengthened

LMDC

- To include L&D as an additional stand-alone core element in the 2015 agreement
- To incorporate the WIM into the 2015 agreed outcome including its operational modalities and institutional arrangements
- Developed country Parties shall make specific commitments regarding the WIM
- Annex II parties to provide financial support to operationalize the WIM

the work of the WIM after 2020 and include a displacement facility. Moreover, a clearinghouse for risk transfer schemes is to be established under the WIM. Developed countries were quite careful in putting forward their views on L&D. At ADP 2.10, countries such as the US, Canada, Switzerland, New Zealand and Norway put forward the following suggestion. They see no space to address L&D in the new agreement, instead they want to include a reference to the importance of L&D in a COP decision in Paris. They propose adding an insurance clearinghouse function to the WIM, and they signalled their assurance for the WIM review in 2016 not to close down the WIM. At the level of NGOs, experts and other observers, initiatives and papers exploring options for the possible Paris outcome are also scarce (e.g. Okereke et al. 2015). This may reflect that L&D is a relatively new issue, with young institutions, which gives little space for analysis and review. However, the lack of a comprehensive engagement by all parties makes it difficult to identify a sensible landing zone for Paris.

Elevating the L&D agenda in Paris: What can it deliver?

The framing questions for this discussion should be ‘What are the functions of an elevated loss and damage agenda?’ as well as ‘How can those functions adequately respond to the needs regarding L&D identified by developing countries?’. We propose four functions that could be fostered as part of an agreement in Paris.

A solidarity signal in a world of increasing climate change impacts

The UNFCCC process aims to avoid dangerous climate change. The international defence-line is the 2° limit of temperature increase, which will, according to the Report on the Structured Expert Dialogue 2013 – 2015 (UNFCCC 2015), already cause dangerous climate change impacts. It is likely, however, that the contributions of countries will fall short in terms of the needed collective ambition and might only be closed over time contingent on effective ratcheting processes anchored in the Paris agreement. Limits to adaptation are already profound today, and the international community will have to build mechanisms to assist countries that will not be able to adapt to the temperature increase. Tempera-

ture increases of 2°C or even 1.5°C will have profound implications for development and for humanitarian affairs but also for the international political system. It is clear that any universal agreement will need the political commitment of the international community that it will address L&D comprehensively and that no country will be left behind.

Systematic climate change risk warning and international risk management

Despite ongoing advances in climate science, climate change represents an iceberg of risks with so far the tip only being identified and managed for. Further and potentially grave risks must be clarified. There is a need to improve risk identification, warning systems and management of climate change impacts. This must include early warning systems concerning continental-scale tipping points, which, once reached, will lead to irreversible and unpredictable shifts. The leadership role of the UNFCCC in addressing loss and damage should therefore be to work on an early warning system for the consequences of climate change on the international system. Part of this function can already be seen in the WIM work program, which envisages applying a ‘climate stress test’ to the humanitarian system. Such functions will have to be further developed and for instance connected with discussions on the future of the IPCC.

Coordination & support of instruments to address loss and damage

Climate-related L&D is already a reality for many countries and communities. Paris must therefore send an unequivocal message of solidarity to those most affected that the development and implementation of concrete programmes to overcome climate-related L&D is supported. Not all initiatives will have to be launched directly by the UNFCCC process, including the work of the WIM, however they should at least be indirectly coordinated and guided by the UNFCCC process. Existing discussions on how to facilitate support for L&D have been highly politicized and the relevant activities under the WIM have been kept very soft touch. At the same time more and more initiatives are being spawned that address aspects of the L&D challenge, including innovative insurance approaches addressing shortcomings in existing safety nets. There is a clear expectation towards Paris that more support will be generated towards countries as a result of the L&D agenda.



Adaptation to climate change: energy efficient adobe stoves are better for the health and help save wood and dung for fire.

Institutionally anchoring and strengthening the Warsaw International Mechanism

Besides providing a commitment to solidarity, systematically driving climate risk management and mobilising further support, Paris needs to institutionally anchor the process of dealing with climate-related L&D in the Framework Convention on Climate Change in the long term. This would also include a commitment to expanding the established mechanisms in line with temperature rises due to a failure to cut emissions. Fundamentally, though, the aim in the first instance would be to anchor the WIM in the Paris agreement, maintaining and strengthening the mechanism beyond its 2016 review.

Coordinates for a L&D landing zone in Paris

Where can we find a landing zone that would allow for compromises on climate-related L&D in Paris if the mentioned functions are fulfilled? They would have to be suspended by four coordinates, whereby it is important to note that the Paris package will not only consist of a long-term legal agreement but will also include binding COP

decisions, timelines for future COP decisions, and a large solution agenda, the so-called Lima-Paris Action Agenda, which will include a set of initiatives by different alliances of actors.

The Paris agreement

A new, universally valid and legally binding climate agreement is to stand at the heart of the Paris climate conference. While its exact legal nature is not yet clarified, it will consist of both general obligations and process commitments for countries. The legal agreement is the appropriate space to send a high-level signal towards affected countries to support them in the challenges of increased climate impacts including L&D. This signal could come in different forms. Firstly, Parties could acknowledge the notion of a continuum from mitigation, adaptation and L&D, possibly as part of the Adaptation Goal. Secondly, they could include an explicit reference to the concept of L&D generally, possibly including the notion that not all L&D can be avoided through emissions reduction and adaptation, combined with a commitment to providing support to affected countries. Thirdly, as demanded by most developing countries, they could devote an entire section to L&D, separate from and on an equal footing with adaptation. Fourthly, they could anchor the WIM directly and independently from institu-

tional adaptation arrangements. This could include providing the mechanism with the financial and technical means and capacity building to support the affected countries. These options are not mutually exclusive and could be combined.

The current negotiations on the treatment of climate-related L&D in the Paris agreement are characterised to a great degree by the question of which options can be ratified by all countries. As important as this aspect is, it is, however, also clear that anchoring L&D in the agreement is most likely the only way to create the necessary trust into the firm commitment of all nations to jointly face this challenge.

Political future of L&D up to 2020

The legal agreement will only come into force by 2020. By COP decision, commitment should be made to advance work on L&D pre 2020. The WIM is under review in 2016 and it would be trust-building to clarify that the review does not aim to abandon the WIM or L&D as such but rather assess its progress and further ways to strengthen it. Generally, advancing activities to address L&D should be a major output of COP 22 and the WIM review.

Advancing the work plan of the Warsaw International Mechanism

Unfortunately, the work of the WIM was delayed in 2015. The initial work plan will have to be subjected to a reality test on what is still achievable by the end of 2016. Nevertheless, COP 21 represents an opportunity to strengthen the work of the WIM, maybe to look afresh at the activities, increasing their coordination, and mobilization of support. There could be an opportunity to engage, coordinate with and facilitate the further implementation of initiatives that will be announced as part of the Paris Lima Solution Agenda.

Revising the work plan, there could be the decision to shift the review of the WIM to 2017 to allow better implementation of the work plan. Additionally, it would be an important step to provide the WIM with the means to effectively implement its agreed work. For this it is necessary to provide resources for a number of meetings and the appropriate support by the UNFCCC secretariat to make up for the lost working time in 2015. The need to strengthen the WIM was already stressed by some parties, e.g. AOSIS, which proposed establishing a financial and technical facility for the WIM at COP 19 and COP 20.



Supported by the Ethiopian Mekane Yesus church, farmers in the village of Anberbir plant trees to protect against erosion.

Lima-Paris Action Agenda: Initiatives to counter L&D

The Lima-Paris Action Agenda, jointly initiated by the current French and the previous Peruvian COP presidency, will include a set of measures and climate protection initiatives by different actors. This offers an important opportunity to include concrete measures to prevent, mitigate and better deal with climate-related L&D. These could be agreed in areas such as early warning systems and climate risk management, risk transfer and insurance solutions and initiatives to increase climate resilience. It is important that initiatives are not only announced, but that concrete goals, milestones and timelines are also communicated. Bold, new and addi-

tional activities could also serve as a first solidarity signal to vulnerable countries that the subject of L&D is being taken seriously in international cooperation.

Navigating the politics

The above-mentioned functions and different coordinates could represent a viable landing zone for the issue of L&D in Paris (see fig. 1). Successful in the sense that it fulfils the four currently conceivable key functions. It is clear, however, that the discussions on the topic will not

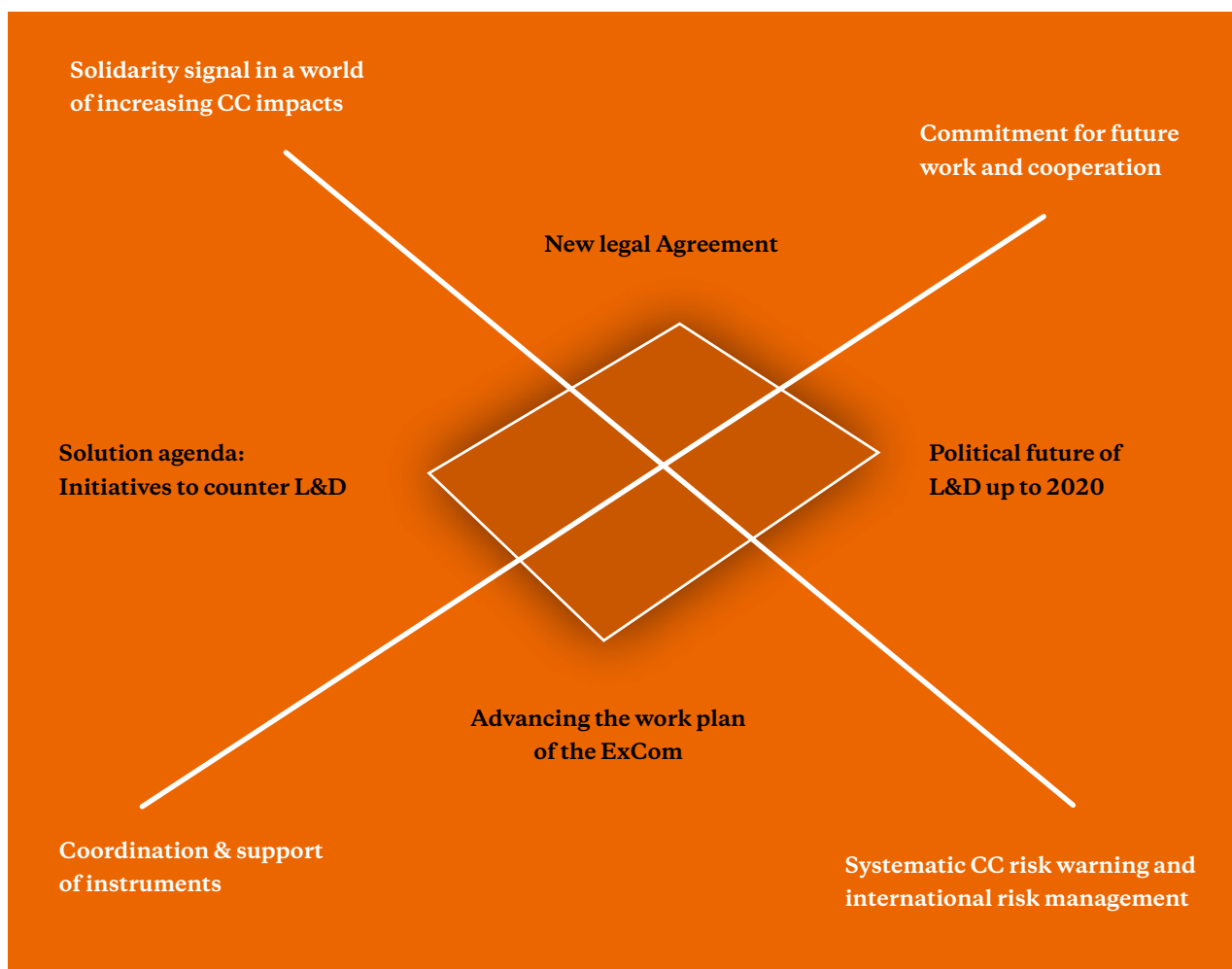


Figure 4: A landing zone for Paris: four functions; four coordinates

be without political controversy. This is particularly true for the issue of compensation. There are other issues of a political nature, for instance the question of whether adaptation and addressing loss and damage ought to be separated from each other in the Paris package. The kind of support that will be provided in case of L&D is also not purely a technical but also a political question. As it has been done before, the success of the negotiations in Paris will depend on the parties involved defining a language of compromise that allows for a multitude of interpretations, therefore satisfying all sides, while nonetheless providing guidance for a meaningful international agenda.

Nevertheless, anchoring and strengthening enhanced international cooperation concerning loss and damage will be one of the bottom lines that many, if not the majority of, vulnerable countries demand from the Paris COP. In fact, the conference could provide an important contribution to finally anchoring this controversial issue under the Framework Convention on Climate Change and pave the way toward conceptually developing and implementing approaches in the coming years to find technical solutions.

Compensation: Advancing the climate justice agenda?

The fact that the impacts of climate change disproportionately affect poor people and countries with little capacity for adaptation is a moral scandal, especially since their contribution to greenhouse gas accumulation is negligible. The relevant international legal norm creates two basic obligations – polluters need to stop creating harm and work to redress the impacts (Verheyen/ Roderick 2008). This is also an important economic principle as markets do not work effectively if risks are socialized but responsibilities for externalities – also extra-territorial ones – are not taken into account by market participants. Such arguments give impetus towards calls for polluter-pays compensation approaches to deal with permanent climate damage.

Another frontline is that of legal actions and litigation court cases. Several such cases are under active consideration, and while the effectiveness of such litigation is yet to be identified, it holds the potential to create a mass tort - similar to what happened in the asbestos or tobacco industry.

The challenges of permanent loss and damage require a political solution. A real political solution could be accelerated if successful litigation cases happen on a widespread scale. It requires engagement in a different sort of discussion on compensation – a cooperative one that develops means of remedy for affected people and that at the same time caps liability risks for polluters. These discussions are very nascent – and will develop in the next decades (see e.g. Kysar 2011)

Until this happens, polluter-pays approaches to permanent climate damage may not be politically viable. However, it serves as a pressure point to advance the L&D discussion and to signal to polluters that the destruction of a safe climate is not acceptable.

Chapter 9

Meeting the challenge – what needs to be done politically

Recognising our shared responsibility to ensure solidarity for climate-related damage in the Paris agreement and send the victims a message of solidarity

The aim of the UNFCCC is to minimise loss and damage associated with climate change by reducing greenhouse gas emissions and promoting adaptation to climate change. However, it remains a fact that already today loss and damage is occurring. A further increase in temperatures will also see damage increase. It would run contrary to all notions of justice if the victims, usually already the most vulnerable and poor, were to not receive support. In the Paris agreement, the international community needs to recognise climate-related loss and damage as a challenge, and commit to a shared responsibility for finding solutions based on the principle of solidarity. Rich countries with high levels of emissions bear a particular responsibility. Related to this should stand a commitment to expand work on climate-related loss and damage under the umbrella of the UNFCCC and in particular to provide support to the least developed countries and small island nations.

Confirming and strengthening the Warsaw International Mechanism (WIM) in Paris

The UNFCCC created the WIM as an instrument to improve our understanding of climate-related loss and damage, overcome damage through enhanced cooperation, and mobilise support in the case of a disaster. The Paris agreement should institutionally anchor the WIM in the long term, confirm and bolster the mechanism's mandate through a COP decision, and secure the financial basis for a faster and broader implementation of its work programme and future work. Based on the results of the WIM evaluation in 2016, a decision should be taken as to whether the current institutional structure can provide adequate solutions.

Organising systematic climate risk analysis and promoting climate risk management

Minimising climate-related loss and damage must become a priority at all levels. Areas at risk should install early warning systems and systematically conduct climate risk analyses. The results should feed into devel-

opment and regional planning, and with risks being mitigated through climate risk management. This would include a review of the current use of space and where necessary stopping development projects and resettling people in high-risk zones. Climate risk analysis and management requires international support.

Implementing the G7 climate insurance initiative and ensuring the poorest have access

Well-designed climate insurance, in particular in the form of public-private partnerships, is a central risk transfer instrument that can provide effective protection from climate-related damage. To expand such protection to poor countries and vulnerable groups in society requires innovative approaches and international support. The G7 initiative is a good first step. Now we must find ways to provide insurance also to the poor and vulnerable groups in society.

A targeted expansion of social security networks

To enhance protection against risks and offer support in the case of climate-related damage, the international community needs to expand and promote social security networks.

Implementing the principles and the Nansen Initiative protection agenda in climate migration

The work of the Nansen Initiative should continue and be expanded to further states. Primarily, the Nansen principles and protection agenda need to be nationally implemented.

Establishing an international fund for resettlement and rehabilitation

A fund similar to the Global Fund to Fight AIDS, Tuberculosis and Malaria should be set up to support necessary resettlements and rehabilitation measures in the event of climate damage.

Abbreviations

ACT	Action by Churches Together
ADP	UNFCCC Ad Hoc Working Group of the Durban Platform on Enhanced Action
AILAC	Association of Independent Latin American Countries
Annex 1	Annex 1 Countries
AOSIS	Association of Small Island States
ARC	African Risk Capacity
BASIC	Group of Brazil, China, India & South Africa
CAF	Cancun Adaptation Framework
CCRIF	Caribbean Catastrophe Risk Insurance Facility
COP	Conference of Parties
CRI	Global Climate Risk Index (Germanwatch)
ExCom	Executive Committee of the WIM
G7	Group of the seven leading industrialized countries
G20	Group of the 20 leading industrialized countries and emerging economies
GHG	Greenhouse gases
HARITA	Horn of Africa Risk Transfer for Adaptation
INDC	Intended Nationally Determined Contribution
IOM	International Organization for Migration
IPCC	Intergovernmental Panel on Climate Change
LDC	Least Developed Countries
LMDC	Like Minded Developing Countries
MRV	Measurement, Reporting & Verification
NAP	National Adaptation Plans
NAPA	National Adaptation Programs of Action
NatCatService	Natural catastrophes database
Non-Annex 1	Non-Annex 1 Countries, UNFCCC members without emissions reduction commitments
ODA	Official Development Assistance
OECD	Organization for Economic Cooperation and Development
SBI	Subsidiary Body for Implementation
SBSTA	Subsidiary Body for Scientific & Technological Assistance
SIDS	Small Island Developing States
SREX	IPCC Special Report on Extreme Events
UNFCCC	UN Framework Convention on Climate Change
UNHCR	United Nations High Commissioner for Refugees
UNHRC	United Nations Human Rights Council
UNISDR	United Nations Office for Disaster Risk Reduction
WIM	Warsaw International Mechanism
WMO	World Meteorological Organization
WS 1 & 2	ADP Workstream 1 & 2

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