Flood Resilience Alliance

Report
July 2020

AT WHAT COST?

How chronic gaps in adaptation finance expose the world's poorest people to climate chaos

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Harvest time, Nepal
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Zurich Flood Resilience Alliance

The Zurich Flood Resilience Alliance (ZFRA) is a multi-sectoral partnership focusing on finding practical ways to help communities in developed and developing countries strengthen their resilience to flood risk.

Originally five organizations working together, the Zurich Flood Resilience Alliance now comprises nine members – Zurich Insurance Group working with the NGOs Concern Worldwide, Mercy Corps, Plan International, and Practical Action, as well as the International Federation of Red Cross and Red Crescent Societies (IFRC) and research partners the International Institute for Applied Systems and Analysis (IIASA), the London School of Economics (LSE), and the Institute for Social and Environmental Transition-International (ISET).

At the 2019 United Nations Climate Action Summit, ZFRA committed to:

- Scaling up our work in climate action, including advocating for the generation of an additional US$1 bn from public and private sources in climate-smart, risk-informed development, which builds resilience.
- Helping make 2 million people more resilient to flooding with our programming and advocacy efforts. We will elevate community voices and research findings with international donors and all levels of government to show why increased investment in flood resilience is urgently needed.
- Engaging with other initiatives, including the Risk Informed Early Action Partnership and other initiatives of the Resilience and Adaptation workstream.

This report is funded by the Z Zurich Foundation as part of its support for members of the Zurich Flood Resilience Alliance. Sally Tyldesley of Concern Worldwide and Ann Vaughan of Mercy Corps were key partners in the formulation of this report. Sarala Duckworth helped significantly with the data collection in the early stages of this project. We would like to extend a special thanks to our advisory group who provided considerable and thoughtful guidance and input into the report and included: Colin McQuistan and Sunil Acharya of Practical Action, Kirsten Hagon of IFRC, Adrianna Hardaway of Mercy Corps, Teresa Deubelli of IIASA and Kanmani Venkateswaran of ISET.

Glossary

Climate change adaptation: The process of adjustment to actual or expected climate change and its effects. In human systems, adaptation seeks to moderate harm or exploit beneficial opportunities. In natural systems, human intervention may facilitate adjustment to expected climate and its effects *(Noble et al., 2014).*

Adaptation finance: Finance with the aim of improving preparation and reducing climate-related risk and damage, for both human and natural systems, as short-term climate impacts will continue to exact economic, social, and environmental costs even if appropriate mitigation actions are taken *(CPI, 2019a).*

Affected: People who are affected, either directly or indirectly by a hazardous event. Directly affected people are those who have suffered injury, illness, or other health effects; who were evacuated, displaced, relocated, or have suffered direct damage to their livelihoods, economic, physical, social, cultural, and/or environmental assets. Indirectly affected people suffer consequences, over time, due to disruption or changes in economy, critical infrastructure, basic services, commerce or work, or who suffer social, health, and psychological consequences.

Climate change mitigation: A human intervention to reduce the sources or enhance the sinks of greenhouse gases (GHGs) *(IPCC).*

Climate vulnerable countries: Defined here as the countries which score > 0.5 on the ND-GAIN Vulnerability Index.

Direct impact: The impacts through a direct interaction between a shock or stress and a physical, economic, social, or political component. In the case of flooding, this includes people injured or killed and homes and infrastructure destroyed by floodwaters.

'Disaster Preparedness' also 'multi hazard response preparedness' (OECD's Creditor Reporting System definition): Building the responsiveness, capability and capacity of international, regional, and national humanitarian actors to disasters. Support to the institutional capacities of national and local government, specialized humanitarian bodies, and civil society organizations to anticipate, respond and recover from the impact of potential, imminent, and current hazardous events and emergency situations that pose humanitarian threats and could call for a humanitarian response. This includes risk analysis and assessment, mitigation, preparedness, such as stockpiling of emergency items, and training and capacity building aimed to increase the speed and effectiveness of lifesaving assistance delivered due to a crisis.

Disaster risk: The potential loss of life, injury, destroyed or damaged assets which could occur to a system, society, or a community in a specific period of time, determined probabilistically as a function of hazard, exposure, and vulnerability.

Disaster risk management (DRM) cycle: The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies, and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of a disaster occurring. Disaster risk management aims to avoid, lessen, or transfer the adverse effects of hazards. The cyclical nature of the DRM cycle means that the stages of the cycle blend into one another. We define five stages of the DRM cycle: preparedness, response, recovery, prospective risk reduction, and corrective risk reduction.

Disaster risk reduction (DRR): The concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reducing exposure to hazards, lessening vulnerability of people and property, wise management of land and the environment, and improving preparedness for adverse events.

'Disaster risk reduction' (OECD's CRS definition): Disaster risk reduction activities if not sector specific. Comprises risk assessments, structural prevention measures (e.g. flood prevention infrastructure), preparedness measures (e.g. early warning systems), normative prevention measures (e.g. building codes, land-use planning), and risk transfer systems (e.g. insurance schemes, risk funds). Also includes building local and national capacities and supporting the establishment of efficient and sustainable national structures able to promote disaster risk reduction.

Dual finance: Finance which has both mitigation and adaptation activities.

Exposure: The situation of people, infrastructure, housing, production capacities, and other tangible human assets located in hazard-prone areas. Exposure refers to humans and their assets being located in harm's way; i.e. a flood zone.

Flood resilience: The ability of a community to pursue its development and growth objectives while managing its flood risk over time in a mutually reinforcing way.

Hazard: A substance, object or situation that can give rise to injury or damage. Hazard is the potential for threat to life or property. In order to create (flood) risk, a (natural flood) hazard, for example from rivers, the sea, or from surface water runoff after intense storms, needs to be present first. Flood hazard can be expressed as the probability of occurrence at a given location and can be modelled or mapped using flood maps. Hazards can be natural or non-natural. Natural hazards are caused by weather, climate, and geophysical drivers; non-natural hazards are caused by social, political, economic, and technological failures.

Indirect impact: An impact due to an indirect, or secondary, interaction between a shock or stress and a physical, economic, social, or political component, or an impact resulting from a complex pathway of impacts. In the aftermath of disaster, indirect impacts could include business losses arising from customers spending less money as they recover from the disaster, or indirect physical consequences from a flood due to water contamination (not effects that the floodwaters caused directly).

Mitigation finance: Finance with the aim to reduce greenhouse gas emissions, or to remove GHGs already in the atmosphere or ocean, in order to slow warming and stabilize the climate in the long term *(CPI, 2019a).*

Official development assistance (ODA): Relates to financial flows to countries and territories on the Development Assistance Committee (DAC) List of ODA Recipients and to multilateral institutions which are:

- provided by official agencies, including state and local governments, or by their executive agencies; and
- each transaction of which:
  - is administered with the promotion of the economic development and welfare of developing countries as its main objective; and
  - is concessional in character and conveys a grant element of at least 25 per cent.

Preparedness: The precautionary actions taken prior to hazard events. At the household level this could include understanding your risk and knowing what resources you have and preparatory actions you can take to avoid or reduce loss (such as getting papers and equipment raised off the ground when you receive a flood warning). At the community level this could include establishing evacuation routes. At the district or national levels this could include humanitarian agencies prepositioning emergency relief supplies.

OECD's Principal classification: When the objective (climate change mitigation, climate change adaptation, biodiversity, combating desertification) is explicitly stated as fundamental in the design of, or the motivation for, the activity. Promoting the objective will therefore be stated in the activity documentation to be one of the principal reasons for undertaking the activity. In other words, the activity would not have been funded (or designed that way) but for that objective.

Rio Markers 'Adaptation–related': ODA intended to reduce the vulnerability of human or natural systems to the current and expected impacts of climate change, including climate variability, by maintaining or increasing resilience, through increased ability to adapt to, or absorb, climate change stresses, shocks, and variability, and/or by helping reduce exposure to them. This encompasses a range of activities from information and knowledge generation to capacity development, planning, and the implementation of climate change adaptation actions. Donors use these markers when reporting to OECD.

Underlying disaster risk drivers: Processes or conditions, often development-related, that influence the level of disaster risk by increasing levels of exposure and vulnerability or reducing capacity.

EXECUTIVE SUMMARY

Little girl playing in her neighbourhood in Piura, Peru after flooding caused by el Niño Costero in 2017 © Rodrigo Rodrich

On 7 May 2020, the United Nations released an urgent appeal for US$6.7 bn in humanitarian assistance for low-income countries facing challenges in managing the COVID-19 pandemic. It is estimated that the effects of COVID-19 could push 265 million people into acute food insecurity by the end of this year. That is almost double last year's total.

Yet the global pandemic of COVID-19 is not happening in isolation. The start of this year saw an estimated 168 million people already in need of humanitarian assistance. This number – the highest in decades – is driven by conflict, climate extremes, and economic shocks.

For many people COVID-19 is just one of the many challenges they face. In East Africa for example, people are currently facing a brutal combination of locust swarms, flooding, and COVID-19. Disasters like floods and droughts do not stop because there is a global pandemic. Climate change remains a major global threat. Considering only floods, which affect more people globally than any other type of natural hazard, the number of people exposed to flood risk is projected to grow to 150 million by 2030 – more than double the number today.

Unless there is significant global action, the climate crisis has the potential to trigger a future of rolling crises, magnifying other global challenges.

This report

The impacts of these climate challenges are not inevitable. This report deals with the financing of two existing measures – climate change adaptation (CCA) and disaster risk reduction (DRR) – to better manage and reduce the risk of climate-related disasters and enable people to cope with multiple shocks and stresses.

In 2009, wealthy countries committed to mobilize $100 bn in annual climate finance to assist low-income countries to address climate change by 2020. To mark the deadline of this commitment, this report assesses the last decade of global official development assistance (ODA) invested in building people's resilience to climate change. We ask two questions:

1. Is the international community meeting the commitments it has made?
2. Is funding for climate change adaptation and disaster risk reduction going to those people and countries that need it most?

What did we find?

The findings of our analysis were shocking and yet unsurprising; there is insufficient investment in preparing for the impacts of climate change and money is not going to the countries and people that need it most.

Insufficient investment. To date both climate change adaptation and disaster risk reduction have received insufficient financing. Within the $100 bn per year committed by the international community, a balance was supposed to be reached between funding for climate change mitigation and adaptation. This has not been delivered. Global adaptation financing only reached $30 bn in 2017/2018; much less than the 50 per cent that would represent a balance. Even these figures may be an overestimation.

Leaving the most vulnerable behind. Using publicly available data to compare climate change adaptation and disaster risk reduction finance per capita of those living in extreme poverty and climate vulnerability (ND-GAIN index), we found that:

- Climate vulnerable countries[1] are not receiving preferential targeting from donors. Only a quarter of bilateral financing and less than half of the major multilateral financing has targeted the most climate vulnerable countries with climate change adaptation funding from 2010–2017.
- There is no correlation between the amount of money received for climate change adaptation and disaster risk reduction by people living in extreme poverty and climate-vulnerability of a given country. This means funds are not being targeted according to need.
- The majority of the most climate vulnerable countries received less than $20 per person per year in climate change adaptation financing from 2010–2017.
- The average equivalent value of DRR financing per capita of the extreme poor (excluding outliers) was 66 cents per year over the period 2010–2018.

Implications and recommendations

By 2030, climate change adaptation costs are expected to range between $140 bn and $300 bn a year, and rise to between $280 bn and $500 bn per year by 2050. For more severe scenarios of global warming these figures are expected to be much greater. The longer adaptation and risk reduction efforts are put off by chronic underfunding in CCA and DRR, the more difficult and expensive it will be to manage adaptation needs and the harder it will be to save lives and mitigate suffering.

The gap in CCA and DRR financing must be closed if the global community is serious about protecting the future wellbeing of those people most at risk from climate change. We risk leaving people behind if we do not better target funding according to need.

1 Defined here as scoring >0.5 on the ND-GAIN Climate Vulnerability Index.

Mainstreaming disaster risk reduction and adaptation throughout our response to COVID-19

At this moment in time, at the forefront of governments' minds will be response to and recovery from COVID-19. The benefits of building resilience to shocks has been made very clear in the COVID-19 pandemic. As governments work to protect their citizens and recover it is essential that climate change is addressed at the same time. This will require:

1. Mainstreaming of DRR and CCA into COVID-19 response and recovery. All COVID-19 funding needs to be flexible, spent strategically, and work towards multi-hazard resilience.
2. Recovery packages should endeavour to advance climate-smart, risk informed development and donors should screen funding for potential areas to 'dual-purpose' funding to build resilience to more than one risk. The World Bank's Sustainability Checklist for Assessing Economic Recovery Interventions is a helpful start for policymakers.

Close the adaptation funding gap

While we recognise the current COVID-19 pandemic and the demand for financial resources it will require, it is essential that existing climate finance commitments are met. Investing in climate change adaptation will build resilience to future crises – be they health or climate related. There is a 'triple dividend' of investing in resilience, which ensures scarce resources are creating the widest benefits including reducing disaster losses, unlocking development potential, and fostering wider social and environmental co-benefits. We therefore ask that:

3. Wealthy countries make all efforts to meet the existing commitment of providing at least $50 bn in public finance for CCA by the end of 2020.
4. Countries should use the existing opportunities under the UN climate change process to agree at the next UN climate conference (COP 26) to dramatically increase their climate ambition and set targets for the next five years that meet growing needs. This must include increasing financial pledges in countries' Nationally Determined Contributions and increasing commitments to the Green Climate Fund (GCF) and other funds. Importantly, new sources of public financing for adaptation must be identified.

The costs of climate change are dramatically increasing, including loss and damage; irreversible impacts that go beyond the ability of communities to adapt. The longer the delay on allocating adequate investment to cover DRR and CCA needs, the greater the loss and damage costs will become. Loss and damage should be funded additionally without cutting or shifting funding from CCA or DRR.

5. At COP 26 an adequate high level political commitment must be made to progress discussions on the establishment of the Santiago Network on how to address loss and damage, and identify new and additional funding that will complement existing humanitarian and development funding to collectively build resilience.

Reaching the furthest behind first

The solutions not only require more funding but also better targeting at the most climate-vulnerable countries according to poverty and need.

6. At COP 26, within climate finance targets for the next five years, donors should commit to doubling the assistance provided to the most climate vulnerable Least Developed Countries (LDCs) by 2025. This would necessitate a re-examination of donor practices to add additional funding to countries neglected by existing climate and DRR finance. Where it is not possible to directly fund governments, civil society and local initiatives working on DRR and CCA can be supported.
7. The Standing Committee on Finance (SCF) of the United Nations Framework Convention on Climate Change (UNFCCC) should report on how donor funds overlap with climate vulnerability of those most in need and present findings annually at COPs to increase attention and pressure on donors to meet their commitments and the intent of the Paris Agreement.
8. Multilateral and bilateral donors need to take a long-term and holistic approach to fragile and vulnerable countries to support them with adaptation as this will simultaneously help other development goals. Consider developing 'Adaptation Compacts' with particularly climate vulnerable countries to prioritize building capacity. This should include long-term commitment and support for strengthening institutions at national and local levels to absorb and implement adaptation and DRR finance.
9. Financing mechanisms need to be reformed to strengthen decision-making power of affected people, particularly marginalized groups. They should aim to strengthen local structures, processes, and institutions, working with civil society actors and existing networks.
10. The commitments by bilateral and multilateral donors, including the Green Climate Fund, and by national governments should include detailed plans for increasing funding for local level authorities, organizations, and communities and how funds will reach the most vulnerable populations.

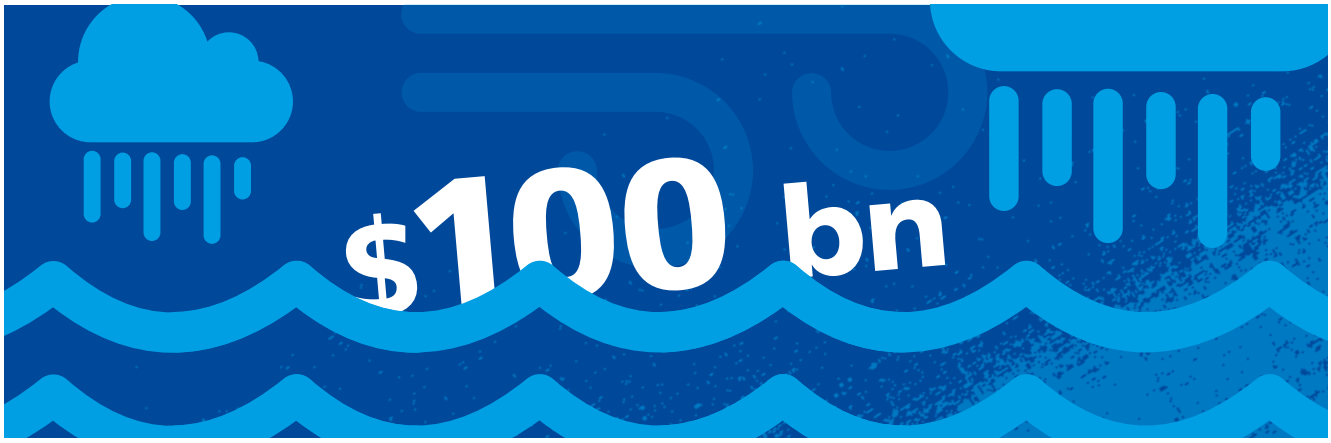
Understanding gaps

To understand the impact of funding and to ensure we use limited resources most effectively we must understand both the quantity and quality of climate change adaptation and disaster risk reduction funding. This report has highlighted the limitations of existing reporting mechanisms. Better tracking of adaptation and DRR financing is needed to gain a more accurate assessment of funding and impact.

11. Reporting should include improvements in how donors track 'mainstreaming' of climate finance and the quality of such interventions.
12. As of 2018 a new Organization for Economic Co-operation and Development (OECD) DRR policy marker was introduced; countries should immediately apply this rigorously in their reporting and continue to review the effectiveness of the policy marker over time.
13. Within the UNFCCC process, parties (i.e. governments) must improve transparency, develop operational definitions, and improve the data reported. This should include clarification and international agreement on what is meant by 'new and additional' financing.

INTRODUCTION: WHAT IS THIS REPORT ABOUT?

Chobi Rani, a Bangladeshi small scale farmer, and her sheep
© Plaban Ganguly, Practical Action



This year $100 bn in annual climate finance to assist lower-income countries was due to be delivered by wealthier countries *(UNFCCC, 2009).*

This target was not going to be met even before the COVID-19 pandemic and the resulting acute disruption to society and the economy has further shifted priorities while major international negotiations, such as COP 26, have been postponed. The core challenge however, of building resilience to shocks and stresses globally and holistically, remains a priority for those countries suffering the most from climate crises.

This report assesses the last decade of public funding for climate change adaptation and disaster risk reduction for lower income countries. We ask two questions:

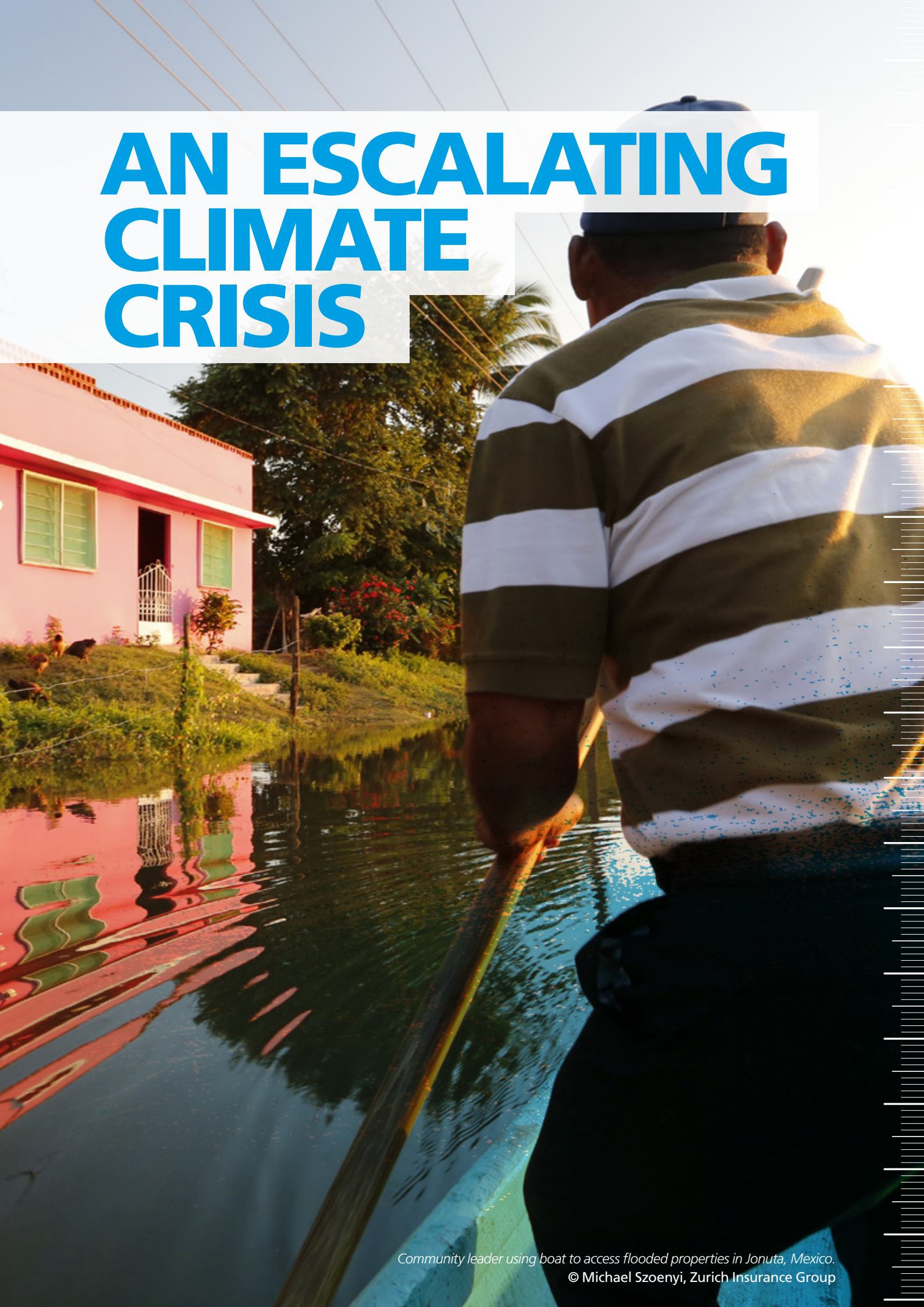
1. Is the international community meeting the commitments it has made?
2. Is funding for climate change adaptation and disaster risk reduction going to those people and countries that need it most?

ODA accounts for only a part of total financing towards CCA and DRR in low-income countries (LICs) and lower-middle income countries (LMICs), where domestic resources are often the largest source; the flows of ODA are nevertheless important. ODA should support countries, regions, and activities that other flows cannot, especially extremely poor countries with limited domestic resource mobilization.

A better understanding of the levels of CCA and DRR finance flowing[2] to the most climate vulnerable countries[3] is important for two reasons.[4] First, to track if the commitments and ambitions made in the UN climate change negotiations are being met and second, to help understand whether the distribution of financing is well targeted. Put simply, is existing global CCA and DRR funding being distributed according to need and preparing countries for the impacts of climate change?

2 Data on DRR funding from OECD-DAC represents one source of available data, which has limitations in terms of the granularity of data provided. This report provides a non-exhaustive analysis of DRR data, using only publicly available data from OECD-DAC databases. Forthcoming research in the World Disasters Report (WDR) is expected to use multiple DRR data sources to exhaustively analyse DRR data.
3 A number of indices for climate vulnerability exist. In this report the most climate vulnerable countries are defined as countries which scored >0.5 on the ND-GAIN Climate Vulnerability Index. See Annex for the full list of countries, their ND-GAIN score, and World Bank income categorization.
4 Mainstreaming of adaptation and DRR funding into development programmes is also an important trend to encourage, but currently is extremely hard to quantify across ODA and is outside the scope of this paper.

AN ESCALATING CLIMATE CRISIS



Community leader using boat to access flooded properties in Jonuta, Mexico.

The escalating climate crisis acts as a 'threat multiplier', deepening global inequalities, with the poorest and most vulnerable countries disproportionately affected. Profound environmental, social, and economic challenges lie ahead – challenges that have the potential to trigger a future of rolling crises – unless there is immediate and serious global action.

- Under scenarios where global warming remains below 2°C, adaptation costs are expected to range between $140 bn and $300 bn per year by 2030, and rise to between $280 bn and $500 bn per year by 2050. For more severe scenarios of global warming these figures are expected to be much greater *(UNEP, 2016).*
- An additional 50 million people[5] (the current population of Colombia) per year will be in need of humanitarian aid (an increase of 66 per cent compared with 2019) by 2030; and by 2050 an estimated 200 million people[6] each year (the population of Nigeria, the seventh most populous country in the world) will need humanitarian aid (an increase of 85 per cent compared with 2019) *(IFRC, 2019).*
- By 2030, the cost of humanitarian aid (excluding conflict) is expected to increase to $20 bn a year, increasing present humanitarian needs by 35 per cent; and by 2050 would be 50 per cent higher than present *(IFRC, 2019).*
- Floods already affect more people globally than any other type of natural hazard and cause some of the largest economic, social, and humanitarian losses. By 2030, an estimated 15 million people and $177 bn in urban property will be impacted annually by coastal flooding, while 132 million people and $535 bn in urban property will be impacted annually due to riverine flooding (approximately double the number of people compared to 2020) *(WRI, 2020).*

While we cannot prevent the 'new normal' of increasing annual risk from floods, storms, cyclones, heat waves, and other weather- and climate-related hazards that global warming to date has locked-in, we can do something about the impacts they have.

This report deals with the financing of two measures – climate change adaptation (CCA) and disaster risk reduction (DRR) – that can be used to make development more inclusive, and to better manage and reduce the risk of climate-related disasters.

CCA and DRR are conceptually and practically distinct approaches, yet they overlap in that they both seek to reduce vulnerability, including exposure, to risk. CCA aims to reduce vulnerability to the expected impacts of climate change *(IPCC, 2014).* DRR tackles all three components of risk (hazard, exposure, and vulnerability) including prevention, preparedness, and part of the recovery process *(Schipper and Pelling, 2006; Dias et al., 2018)* (see Figure 1).

5 Excluding conflict-affected populations
6 Excluding conflict-affected populations

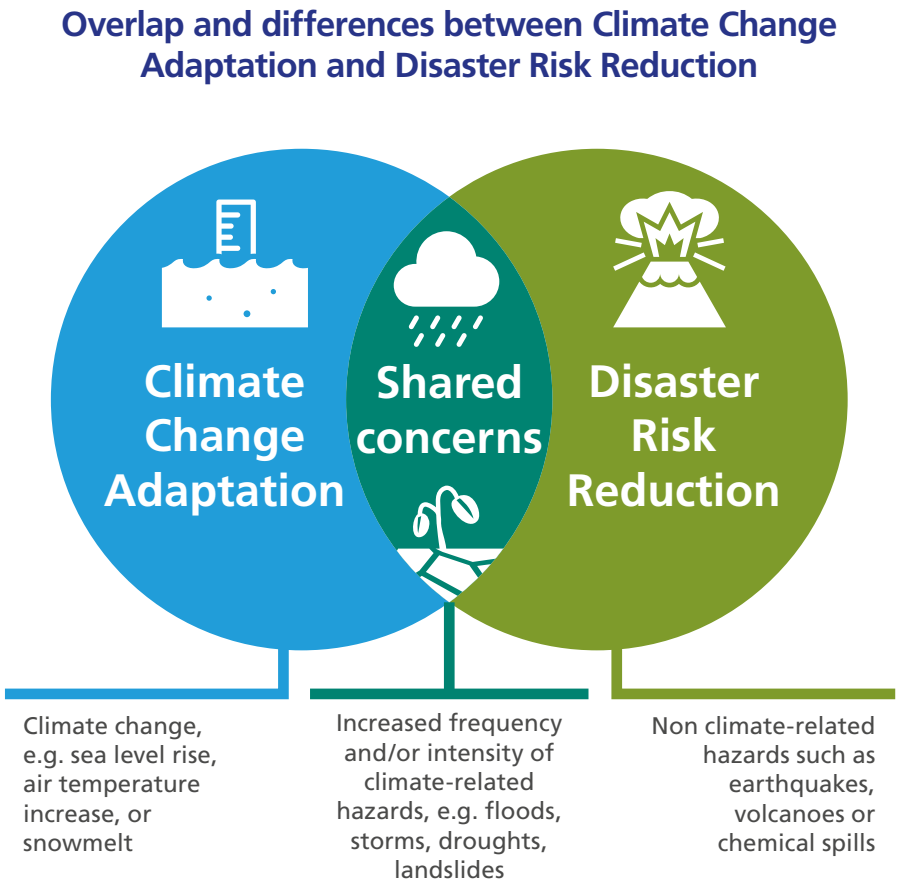


Figure 1 Adaptation to climate change requires a broader set of activities than DRR, and DRR also deals with reducing risk to non-climate-related hazards such as earthquakes and volcanos. Certain DRR measures, especially those related to prevention of and preparedness for a disaster are needed to safeguard lives, livelihoods, secure development gains, help eradicate poverty, and are a crucial aspect of adaptation. *(Turnbull, Sterrett, Hilleboe, 2013).*

The climate crisis is increasingly disrupting our highly interconnected global system and the COVID-19 pandemic has acutely revealed how a major disruption can cause rapid and significant worldwide repercussions. As with the climate crisis, the pandemic is an issue of global importance in which some countries have been – and will continue to be – affected more than others. The pandemic is illustrating the need to make sufficient finance available before a crisis happens, i.e. for risk reduction and preparedness and for contingency funds. It has also demonstrated how quickly and dramatically governments *can* change business as usual, delivering whole society behavioural change almost instantaneously when they finally recognize an emergency.

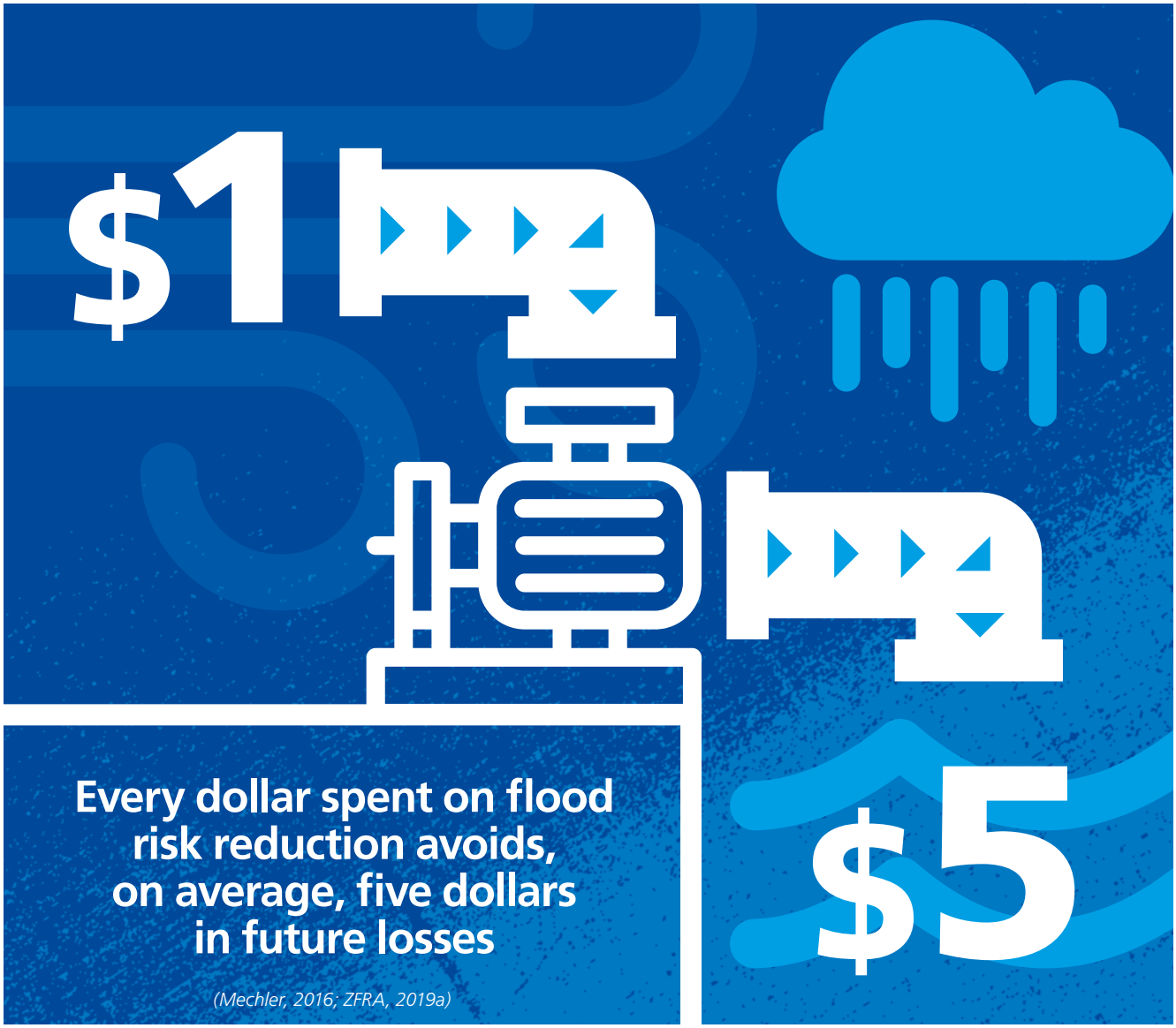
THE CASE FOR INVESTMENT

Accessing community by boat, Bangladesh
© Amy Rose McGovern, Concern Worldwide

DRR and CCA measures, especially those related to disaster prevention and preparedness, are known to save money and to save lives *(UNISDR, 2015b).*

Estimates are that every dollar spent on flood risk reduction avoids, on average, five dollars in future losses *(Mechler, 2016; ZFRA, 2019a).* Adaptation and disaster risk reduction measures also serve multiple purposes beyond saving lives and preventing losses *(Tanner et al., 2015; Hallegatte et al., 2016).* Boxes 1-3 highlight a series of examples that illustrate some of these multiple benefits.

The fact that these multiple benefits of investing in CCA and DRR are not yet fully understood often results in chronic underinvestment. There is a common perception that investing in adaptation or DRR only pays in terms of saving lives and preventing losses in the event of a disaster *(Tanner et al., 2015).* So, while the costs are immediate and measurable, the benefits are distant and uncertain.



BOX 1: How the Flood Resilience Measurement for Communities (FRMC) tool demonstrates the multiple and holistic benefits from improving resilience


© Mercy Corps

ZFRA has developed a Flood Resilience Measurement for Communities (FRMC) tool which holistically measures community flood resilience by assessing five capitals – financial, human, natural, social, and physical – that combine and interact to create or undermine resilience. The FRMC is a decision-support tool that enables organizations working with communities to understand the system driving both development and flood risk, analyse flood resilience strengths and weaknesses before a flood strikes, and help identify solutions.

The first version of FRMC was used in over 110 communities in 13 programmes in nine countries, generating over 1.25 million data points. This is the first resilience measurement framework to systematically collect the data needed to generate an evidence base for what pre-flood actions help build resilience to floods.

In Indonesia, Mercy Corps Indonesia worked to improve the flood resilience of 16 highly flood-prone communities living along one of the 21 rivers crisscrossing the coastal city of Semarang. In the last 10 years, the communities had suffered several small flood events. Mercy Corps Indonesia, together with local NGO Initiative for Urban Climate Change and Environment, worked with the communities to establish community-based disaster risk management (DRM) documents and develop community flood resilience implementation plans. The FRMC data was a critical input into the community action plans and for the intervention prioritization process. Between baseline and endline measurements there were improvements in the financial, human, physical, and social capitals, demonstrating how holistically assessing and managing risks can reap multiple benefits.

BOX 2: Practical Action shows how investing in CCA and DRR saves lives

Since 2008, Alliance member Practical Action has worked with local, regional, and national stakeholders to implement an early warning system (EWS) on the Karnali and Babai rivers in Nepal. In August 2014, western Nepal experienced 500 mm (1.64 feet) of rain in 24 hours which led to one of the worst flooding events ever recorded, exceeding the previous largest flood by nearly a metre. Along the Karnali River, 7 people died and 767 people were displaced from their homes. In contrast, along the Babai River, 31 people died and 4,056 people were displaced from their homes[7] – more than a fourfold increase on both measures. The difference was so stark because the communities along the Karnali River had taken their risk seriously, had understood how to use and respond to their early warning system, and heeded the calls to prepare and safeguard vulnerable populations and protect their homes.

© Archana Gurung, Practical Action

BOX 3: Red Cross and Red Crescent National Societies implement locally driven micro-projects which contribute to climate change resilience

Red Cross teams in Mexico, Nepal, and Indonesia implemented community-driven micro-projects to reduce disaster risks based on locally identified needs and priorities. Through these projects, waste management centres were constructed to recycle rubbish and information campaigns persuaded the public to reduce waste and prevent garbage from entering rivers and drains, thereby decreasing the risk of floods; 12,000 trees were planted in three major reforestation campaigns; four multi-purpose evacuation and community centres were built to provide shelter during floods; and 275 hydroponics projects provided food for 20 communities during and after floods and have potential to offer income-generating opportunities for community members in the longer term. Proper waste management helps keep rivers and drains unclogged, meaning they are less likely to burst their banks or cause surface flooding. It can also reduce the spread of a disease after a flood and help improve public health and the wellbeing of a community *(ADB, 2019).*

© Michael Szoenyi, Zurich Insurance Group

7 Find out more in the Post Event Review Capability (PERC) report from the event: https://floodresilience.net/resources/item/urgent-case-of-recovery-what-we-can-learn-from-the-august-2014-karnali-river-floods-in-nepal

METHODOLOGY

Effects of el Niño Costero in the community Polvorines in Piura, Peru ©
Rodrigo Rodrich for Practical Action

In 2009 the international community committed to jointly mobilize at least US$100 bn per year by 2020 *(UNFCCC, 2009).*

The Paris Agreement (2015) stipulates that wealthier countries should provide financial resources to assist poorer countries with respect to both mitigation and adaptation, aiming to achieve a balance between adaptation and mitigation financing from which it can be assumed that at least 50 per cent of the $100 bn should go to adaptation *(ZRFA, 2019b).* The Paris Agreement also stipulates that countries particularly vulnerable to the effects of climate change should be prioritized *(UNFCCC, 2015).*

BOX 4: What are the challenges of tracking CCA and DRR financing?


© Rodrigo Rodrich

Tracking ODA flowing towards CCA and DRR poses several challenges. First, CCA and DRR investments are context-dependent, with outcomes depending on the specific regional or local vulnerability *(MDB IDFC, 2018, in CPI, 2018; UNEP, 2018).*

Second, there is no standard format or language to report on climate – let alone adaptation – finance in the OECD Creditor Reporting System (the official system utilized by donors and recipients) *(UNFCCC, 2016; CPI, 2019b).* Some respondents therefore end up providing more granular calculations of how much money flows to the specific CCA or DRR activities of a project, while others end up reporting only on the overall amount of money flowing to the entire project *(CPI, 2019b).* This challenge arises because adaptation measures are often mainstreamed in development activities. A tension therefore arises in how to classify and quantify adaptation because of a lack of standardization of labels *(CPI, 2018).*

In accounting for the $100 bn commitment an additional challenge lies in how different actors account for public and private finance; many high-income countries include private finance that has been 'leveraged' by public finance investments. However, there is no agreed upon approach and the result can be inflation of climate finance numbers.

There remain different interpretations and approaches to accounting for money put towards these commitments which makes tracking finance flows difficult (see Box 4). One major area of contention remains around the 'new and additional' aspect of the commitment *(UNFCCC, 2015).* There is no agreed definition of what 'new and additional' means *(Oxfam International, 2018),* but the LDCs, small island developing states (SIDS), and African groups within the UNFCCC suggest that this should mean aid which is beyond the UN target to provide 0.7 per cent of gross national income (GNI). Climate change will make it more expensive to develop and reduce poverty. Wealthier countries – with greater responsibility for causing climate change and with more resources – should cover these additional costs. However, in 2018 only five countries[8] met their commitment to keep ODA at or above 0.7 per cent of GNI and none met the 'new and additional' aspect of the climate negotiations.

8 Denmark, Luxembourg, Norway, Sweden, United Kingdom

The second concerns loss and damage (Box 5). Loss and damage results from inadequate action on climate change mitigation, as well as a lack of CCA and DRR. There is a direct inverse correlation between the losses and damages which are likely to be suffered and the degree of mitigation and adaptation action taken *(Byrnes and Surminski, 2019).* The longer the delay and inadequacy of investment in DRR and CCA the greater the loss and damage costs will become. Ultimately however, funds will need to be mobilized to address loss and damage and these funds will need to be additional to existing humanitarian and development funding. Though a critical discussion for the climate negotiations, loss and damage is not considered further in this paper *(see Burnes and Surminski, 2019 for a detailed discussion).*

BOX 5: Loss and damage overview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Climate change impacts that are permanent are categorized as 'loss', while impacts where reparation and restoration are possible are referred to as 'damage'. They arise where adaptation and mitigation efforts are not sufficient, or where adaptation efforts are simply unaffordable or unpragmatic *(Morrison and Pickering, 2013).* Loss and damage can be caused by both extreme weather (typhoons, floods) as well as slow-onset phenomena (sea level rise, salinization, desertification, loss of biodiversity), both of which impact poorer countries more heavily *(IPCC, 2018; Byrnes and Surminski, 2019; EM-DAT, n.d.).*

This report therefore uses publicly available data on ODA to analyse how it is spent on CCA and DRR and to determine where finance is flowing compared to need. Analyses included correlations between CCA/DRR finance (per capita of those living in extreme poverty) and climate vulnerability (ND-GAIN Index), as well as calculations of average financing received per capita of those living in extreme poverty.

Within global financial flows of ODA, DRR is generally incorporated into CCA, although significant challenges exist in terms of reporting.[9] While the concepts of CCA and DRR are distinct, under OECD classification of funding, DRR is considered a component of CCA financing.

9 The differences and commonalities between CCA and DRR are not standardized with regards to reporting, leading to the possibility of double-counting. This will be further explored in the forthcoming IFRC World Disasters Report. Some DRR financing does fund non-CCA work (e.g. for natural hazards such as volcanoes or earthquakes); however, it was outside the scope of this study to assess DRR financing at the project-level and only aggregated information was analysed.

Data sources

Climate vulnerability data was taken from the Notre Dame Global Adaption Initiative which ranks 181 countries annually based on their vulnerability, according to a number of indicators.[10] Fifty-two countries ranking above 0.5 were considered highly vulnerable and are the focus of this report, referred to as 'the most climate vulnerable countries'. The latest annual data was from 2017 (data extracted on 25 March 2020). Data available from ND-GAIN (2019).

Poverty data was taken from the World Bank PovCalNet calculator. A daily poverty line was set for all countries at the internationally agreed extreme poverty line of $1.90/day.[11] The percentage of the population living below the poverty line was identified, based on the most recent data available from 2010–2018 (data extracted on 25 March 2020). Data available from World Bank (n.d.).

CCA and DRR finance data for the 52 most climate vulnerable countries were extracted from the OECD Creditor Reporting System (CRS). Data on adaptation was analysed for the period 2010–2017 (adjusted to 2016 constant price) and data on DRR was analysed for the period 2010–2018, according to data availability in the system. Both include all entries into the CRS tagged with the climate 'Rio Marker' and from all official donors.

- Adaptation data for partner countries included only disbursements tagged as 'Adaptation Related Development Finance', in which only 'Lower bound' data was collected. 'Lower bound' includes only activities marked as 'principal', defined when the objective (climate change adaptation) is explicitly stated as fundamental in the design of, or the motivation for the activity (data extracted on 25 March 2020). Data available from OECD (n.d.). There is another tag, 'upper bound,' which includes financing that has adaptation stated as an objective, but is not the fundamental driver or motivation for undertaking a project. While this tag can include important funding for adaptation and examples of mainstreaming adaptation, it was excluded from this analysis.
- Adaptation data for bilateral donor countries included only disbursements tagged as 'Adaptation Related Development Finance', in which only 'Lower bound' data was collected for the 52 most climate vulnerable countries (data extracted on 25 March 2020). Data available from OECD (n.d.).
- DRR data included gross disbursements at constant prices specifically from the marker 'Disaster Risk Reduction'. This marker (definition provided in the Glossary) is different from the newly added DRR policy marker from 2018 which has not been in use long enough to collate sufficient data to analyse in this paper (data extracted on 25 March 2020). Data available at: https://stats.oecd.org/qwids

Adaptation finance from Multilateral funds was retrieved from the Climate Update Funds database, collecting data from the period 2010–2018, targeting the most climate vulnerable countries, and labelled as 'Adaptation' or 'Multipurpose' (data extracted on 21 April 2020). Data available from Climate Funds Update (2019).

Population data was taken from the World Bank for figures in 2018 (data extracted on 25 March 2020). Data available from World Bank (2019).

10 Ecosystem services, food, health, human habitat, infrastructure, water, adaptive capacity, exposure, sensitivity.
11 Though data was also collected for the ethical poverty line suggestions of $10/day and $7.40/day

CCA AND DRR FINANCING: WHAT ARE THE SHORTFALLS AND IS FUNDING DISTRIBUTED ACCORDING TO NEED?

Aftermath of flash flood in Chosica, Peru
© Practical Action

This section presents the findings from previous reports, updated calculations on the shortfalls in CCA and DRR financing, and whether countries at the frontline of climate impacts are being preferentially targeted to receive CCA and DRR financing.

Progress towards reaching $50 bn in annual adaptation finance

Global adaptation financing has increased over the years but to date has been insufficient *(GCA, 2019).* In 2018, global adaptation financing reached $30 bn of the $50 bn minimum committed to be delivered by 2020 (Figure 2) *(CPI, 2018; UNEP, 2018).* Low and lower-middle income countries received only an estimated $15 bn of the $30 bn *(CPI, 2018; UNEP, 2018).* As higher costs are inevitable under higher emissions scenarios, these countries could end up needing more than $300 bn annually by 2030 *(UNEP, 2016)* – 20 times higher than the amount they are currently receiving.

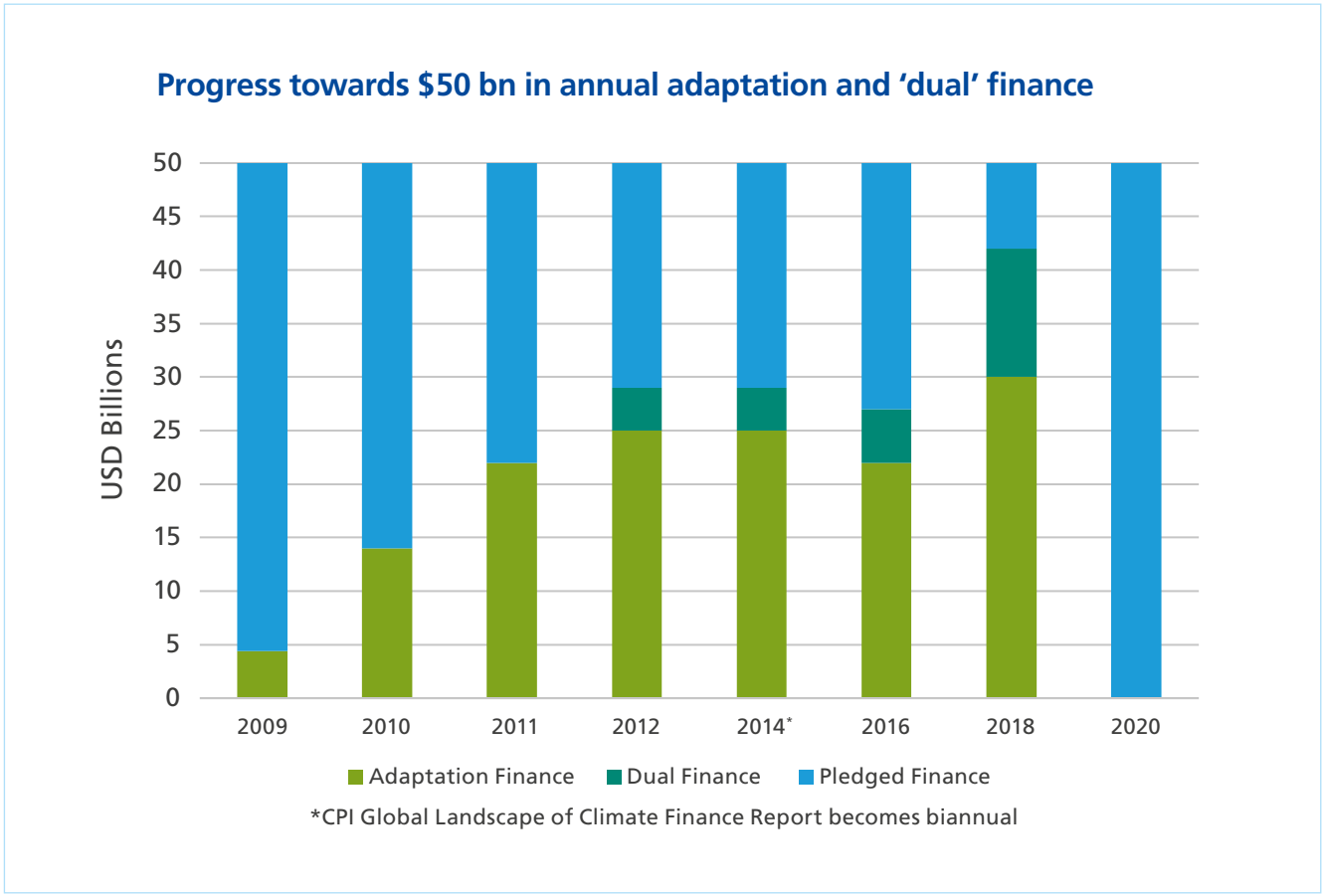

Figure 2 'Dual' finance is finance that has both mitigation and adaptation objectives combined. *Source: CPI*

Even the figures cited ($15 bn and $30 bn) may be an overestimation of what is actually reaching countries. Overestimations of adaptation figures happen because donor countries may report the full costs of projects in which mitigation or adaptation is not the primary objective, but one of many objectives in a broader development project. Oxfam's Climate Finance Shadow Report assesses the progress towards the $100 bn goal and finds that estimated net-climate specific assistance (i.e. the grant element of concessional loans or other non-grant instruments, not their face value), loans, and the climate relevance of bilateral funding are being over-reported. Net-climate specific assistance, for instance, may be just $16–21 bn instead of donor estimates of $48 bn, when financing that was not grant or grant-equivalent was excluded *(Oxfam International, 2018).*

As reported figures may be an overestimation, LICs and LMICs – who are on the frontline of climate impacts – have not received anywhere near the adaptation funding they require. Global adaptation finance is falling short of current global goals and need, and will require substantial increases in order to meet future needs (See Box 6).

BOX 6: Private sector opportunities to invest in CCA


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Climate change presents both risks and opportunities for the private sector. While assets, operations, and supply chains are at risk from climate change and threaten companies' revenue and costs, there will also be opportunities to mitigate such risks and develop new goods and services *(ACC, 2016).* Given that the private sector accounts for 85 per cent of all investments worldwide and that 90 per cent of people in poorer countries depend on private sector generated income, a focus on the private sector in financing climate change adaptation is wholly relevant *(CAN, 2019).*

Yet most investments from the private sector to address climate change have been for mitigation initiatives rather than adaptation. Private finance continues to account for the majority of climate finance, at around 56 per cent. Of this quantity, 85 per cent flowed to renewable energy, 14 per cent to low-carbon transport, and under 1 per cent to all adaptation subsectors *(CPI, 2019a).* According to UNEP Financial Initiative's 2016 study, the three key barriers to the private sector investing in adaptation are: positive externalities (benefits of investments that do not generate additional cash flows and are not reflected in financial returns); imperfect capital markets (when markets are unable to provide long-term credit for investments that would otherwise be able to cope with longer-term climate shifts); and incomplete or asymmetric information *(UNEPFI, 2016).* These must be systematically addressed by the private sector, policymakers, and practitioners alike to create a better enabling environment for private sector investments into climate change adaptation. Efforts in addressing these barriers are under way as is demonstrated by the launch of the Climate Resilience Principles *(CBI, 2019),* but there is still a long way to go before private sector funding can help close the adaptation financing gap.

How much money is going to DRR?

Previous calculations showed that for every $100 spent on total development aid over 20 years (from 1991 to 2010), DRR received as little as 40 cents *(Kellet and Caravani, 2013).* Our calculations show that for every $100 spent on total development aid over the period 2010–2018, DRR has received just an incremental increase to 47 cents.[12]

Inadequate funding of DRR means more must be spent on humanitarian aid. Between 2010-2018, an average of $12.4 bn was provided by donor countries for humanitarian assistance, of this an annual average of $11.1 bn was spent on emergency response and an annual average of $536.2 m ($0.54 bn) was spent on disaster preparedness.[13] In continuing to wait until a disaster happens, the international community is spending much more money and losing too many lives compared with investing in pre-event DRR at a fraction of that cost. Not only does investing in DRR make economic sense but as well-established in triple-dividend research, there are humanitarian, development, and climate benefits. Given the increasing global, regional, and local risks of climate- or weather-related disasters, DRR financing remains insufficient.

Existing funding gaps

Several funding gaps have persisted over the years, meaning that there are insufficient resources for DRR and CCA. A summary of a large body of prior research is given below:

Implementing National Adaptation Programmes of Action (NAPAs) through Least Developed Countries Fund (LDCF) – out of 500 projects identified by LDCs only 280 projects have been funded (amounting to just over $1.3 bn as of 2017) *(Global Environment Facility, n.d.).* These projects support the implementation of urgent adaptation measures laid out in NAPAs and the formulation of National Adaptation Plans to help countries identify medium and long-term adaptation needs.

Numerous projects have not been approved as not enough money has been pledged to the Adaptation Fund. The Adaptation Fund (established under the Kyoto Protocol) has, since 2010, been financing projects and programmes that help vulnerable communities adapt to climate change. The Adaptation Fund has a long list of active pipeline projects submitted by countries which have not been approved because wealthier countries have not pledged enough money to the Adaptation Fund (see Adaptation Fund, n.d. for more information).

The Green Climate Fund (GCF) is the world's largest dedicated fund for helping developing countries reduce their greenhouse gas emissions and enhance their ability to respond to climate change. It was set up by the UNFCCC in 2010 and following the GCF's first replenishment for the period of 2020–2023, $9.8 bn was pledged by donors. While the GCF aims for a balanced portfolio of mitigation and adaptation investments this has not been the case. Sixty three percent of GCF funding has gone to mitigation projects, while only 37 per cent has gone to adaptation projects.

12 There have been changes in how DRR funds have been tracked over the decade, which could cause variance in numbers. Author's calculations used the DRR CRS OECD marker (see Glossary) whilst Kellett and Caravani 2013 used a marker of "Disaster Prevention and Preparedness" (see page 5, Kellett and Caravani 2013) and these numbers may not be directly comparable.
13 OECD-DAC Creditor Reporting System (CRS) has two distinct labels: 'Disaster Risk Reduction' (code 43060) which sits under the 'Other Multisector' category, and 'Disaster Prevention & Preparedness' (which is defined by its code 'Multi-hazard response preparedness' 74020) which sits under the 'Humanitarian Aid' category. In this calculation which deals with Humanitarian Aid, the code 'Disaster Prevention & Preparedness' was used. For all other calculations in the report, the broader 'Disaster Risk Reduction' code was used. Both definitions can be found in the glossary.

Local gaps. It is difficult to establish how much CCA and DRR financing is being directed to community-led activities. Previous research has shown that only 10 per cent ($1.5 bn) of climate finance (including both mitigation and adaptation) from international, regional, and national climate funds was channelled to local community-led climate activities between 2003 and 2016 *(Soanes et al., 2019).* From ZFRA's experience, communities need increased decision-making power and more funding to empower them to manage changing risks and to ensure that longer-term resilience is built (see Box 7).

Fragile states. Fragile states receive significantly less CCA financing via ODA than more stable countries. Across the 10 most fragile states[14] according to the Fragile States Index (which includes countries with some of the highest scores of climate vulnerability), less than $400 m in adaptation financing was provided in 2017 (less than $40 m per country on average). Research by ODI has shown that there is a severe lack of funding for DRR in fragile and conflict-affected countries: countries with the highest reported disaster deaths between 2005 and 2010 were not among the top recipients of DRR ODA *(Peters, 2017).* Fragile contexts are missing out when it comes to support from the international community to build resilience to climate change, even when those funds are specifically mandated to support the most vulnerable to climate change *(Mercy Corps, 2020).*

Vulnerability (LDCs and climate vulnerability). The most vulnerable nations are least likely to be selected as climate finance recipients by both multilateral and bilateral donors *(Saunders, 2019),* and their share of aid from OECD-DAC donors has fallen from one-third in 2011 to just over a quarter in 2017 *(Manuel et al., 2019).*

14 Yemen, Somalia, South Sudan, Syria, Democratic Republic of the Congo, Central African Republic, Chad, Sudan, Afghanistan, Zimbabwe.

BOX 7: Localization and building flood resilience

A continued lack of funding at the local level is problematic as the impacts of floods, for example, are felt most immediately at the local level, and communities and local authorities hold important knowledge on where and how to build resilience. In Peru, Practical Action worked with communities in the Piura region to monitor their flood hazard and to support their response plan to protect lives and belongings. This work enabled communities to respond effectively to reduce losses during the devastating El Niño floods in 2017. There was no loss of life in the programme areas and communities managed to leverage additional funding of $1.5 m to be invested to further reduce their flood risks, and most recently a further $13 m has been harnessed for early warning systems (EWS).

Alliance Member IFRC, via the National Societies in Mexico, Nepal, and Indonesia, helped communities generate the knowledge and skills required to prepare for and cope with flood events. Over the course of five years, ZFRA country programmes coordinated a wide range of community-based education initiatives. The teams:

1. Developed community-based emergency and evacuation plans for 67 communities, including emergency family plans for more than 15,300 families.
2. Delivered community-wide flood preparedness and prevention modules. These school-based courses on disaster and health adopted innovative approaches, such as puppet theatres, to raise flood awareness; 596 community education trainings were held in 42 communities.
3. Designed and implemented an EWS system tracking and alerting application that serves over 40 million people with key alert and action messages.

Since 2007, Mercy Corps has worked in Nepal, an LDC where total annual flooding damage amounts to nearly 2 per cent of national GDP. As part of the ZFRA, Mercy Corps researched investment amounts and governance systems for integrating DRR and CCA in municipal budgets. Mercy Corps and Alliance partners Practical Action and IFRC utilized the findings to support the government of Sudurpaschim Province (one of 7 provinces in Nepal) to develop their Province Disaster Management Plan to include a clause on allocating at least 5 per cent of the total budget to DRR/CCA. Alliance members are also working with sub-national and municipal governments to integrate DRR/CCA into development programming.

Are donors targeting the most vulnerable countries with adaptation financing?

Bilateral donors. The climate crisis is already unfolding and yet, as things currently stand, climate vulnerable countries are not receiving preferential targeting from bilateral donors. The majority of bilateral donors (18 out of 26)[15] have never provided more than half of their ODA labelled as CCA to the most climate vulnerable countries (Table 1).

Running yearly average of the percentage of bilateral donor adaptation funding targeting the most climate vulnerable countries (according to ND-GAIN index), sorted by highest percentage in 2017

Donor	2011	2012	2013	2014	2015	2016	2017*	Trend
Czech Republic	0.00	43.24	76.50	89.00	99.85	99.89	99.90	
Portugal	66.60	99.90	94.63	83.90	80.58	79.35	85.18	
Netherlands	10.73	18.88	52.33	47.41	65.49	38.95	49.70	
Norway	32.23	38.52	52.31	62.08	64.46	52.34	41.05	
Germany	26.25	24.52	20.25	17.91	28.77	33.41	34.46	
United Kingdom	27.61	38.59	28.02	15.99	19.61	22.87	32.25	
Ireland	52.75	78.11	89.10	89.00	67.75	52.22	31.89	
Denmark	29.54	13.42	16.46	47.84	46.15	54.23	31.40	
Poland	N/A	N/A	N/A	15.63	15.57	26.18	25.94	
France	9.36	9.86	10.56	16.75	21.78	25.97	25.41	
Belgium	58.38	64.72	54.62	37.64	44.41	22.50	21.45	
Spain	19.49	19.86	24.94	17.97	24.43	15.19	12.44	
United States	20.64	26.74	27.56	27.43	19.63	16.17	12.08	
Finland	9.41	7.37	20.43	19.21	16.03	6.29	6.71	

15 This excludes countries which have reported 0 or for which data was not available.

Some countries, such as the Czech Republic and Portugal, have reported an increase in their adaptation financing or have given a high fraction of this financing to the most climate vulnerable countries (Table 1). However, their budgets are modest (Czech Republic had the highest with $968,025 in 2017) in comparison with some of the major donors, such as Germany, France, Japan, UK, and the US.

Donor	2011	2012	2013	2014	2015	2016	2017*	Trend
Sweden	29.85	20.59	35.09	22.88	20.64	4.28	6.43	
Austria	25.24	30.37	18.18	15.38	4.24	6.88	5.57	
Switzerland	29.17	31.45	19.42	19.91	15.06	14.74	5.38	
Korea	3.71	13.16	18.22	18.28	10.40	3.71	4.88	
Australia	17.62	28.57	27.22	22.88	14.14	7.03	4.16	
Japan	34.70	39.41	26.76	25.42	10.77	9.37	3.50	
Canada	35.13	50.88	28.04	29.31	14.01	4.47	1.61	
Italy	30.63	32.92	15.58	10.99	9.00	4.94	0.87	
Greece	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Hungary	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Iceland	N/A	N/A	5.12	0.00	0.00	0.00	0.00	
Luxembourg	49.59	63.76	64.55	69.26	48.01	27.24	0.00	
New Zealand	0.08	0.03	0.00	10.55	10.55	10.55	0.00	
Slovak Republic	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
Slovenia	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Table 1 Highlighted cells show that the countries have provided more than half of that year's funding to the most climate vulnerable countries. *Source: OECD-DAC Rio Markers.*

Contrary to Article 9 of UNFCCC, which stipulates that countries 'that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints' should be prioritized,[16] aggregated bilateral financing shows that the most climate vulnerable countries have only ever received between 20 and 32 per cent of total bilateral CCA disbursed (Figure 3). While the percentage of CCA targeting the most climate vulnerable countries appears to decrease after 2014 (Figure 3), the annual average for the time period 2011–2013 remained the same as the annual average for the time period 2014–2016, at 28 per cent (author's calculations).[17]

Running year average of CCA finance to the most climate vulnerable countries for all OECD-DAC donors combined

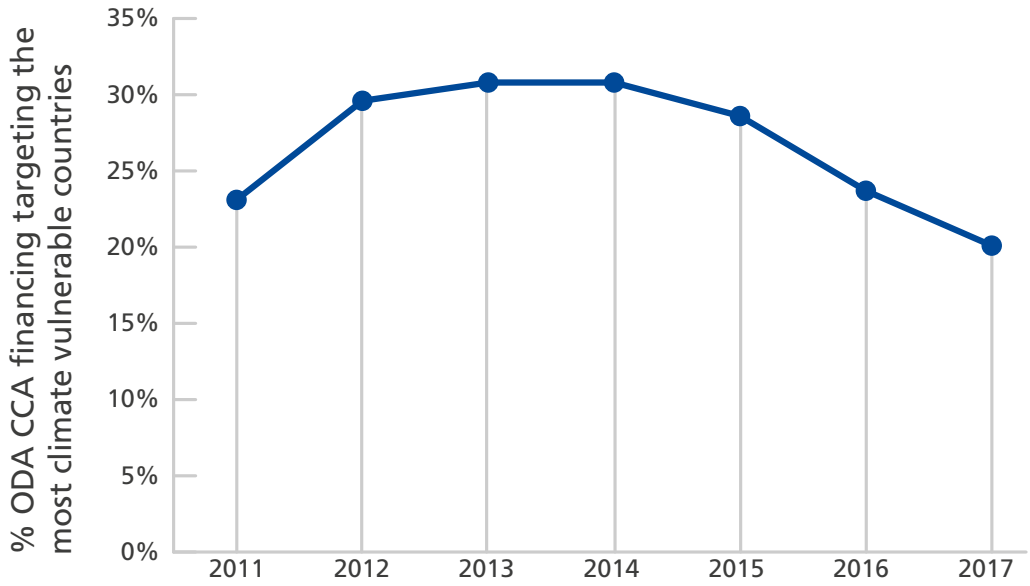


Figure 3 *Source: OECD-DAC Rio Markers*

Multilateral funds and donors. Less than 50 per cent of approved and disbursed adaptation financing from the main multilateral climate funds – the Green Climate Fund (GCF), Adaptation Fund (AF), Global Environment Facility (GEF) – targets the most climate vulnerable countries. These major multilateral funds are not preferentially targeting countries according to climate vulnerability (Figure 4).

The percentage of disbursed adaptation financing also lags behind that which has been approved for the most climate vulnerable countries (Figure 4). The Adaptation Fund has disbursed the most (66 per cent); however, as highlighted previously, numerous projects are in the pipeline to be approved, but currently lack financing.

16 The exact language provided in Article 9 is 'The provision of scaled-up financial resources should aim to achieve a balance between adaptation and mitigation, taking into account country-driven strategies, and the priorities and needs of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as the least developed countries and small island developing states, considering the need for public and grant-based resources for adaptation' (UNFCCC, 2015).
17 See Methodology for all data sources. The percentage of CCA finance targeting the 52 most vulnerable countries (as listed in the Annex) from the total CCA finance disbursed was calculated for each bilateral donor across the years 2010–2017 (OECD-DAC). The total average percentage for all donors calculated for each year 2010–2017 followed an annual average for 2011–13 and 2014–16.

In summary, financing actions of bilateral and multilateral donors contradict pledges made on the international stage to support the most climate vulnerable countries (see 'Why are the most climate vulnerable countries not being prioritized?', below).

Percentage of CCA financing disbursed to the most climate vulnerable countries (2010-2018)

Figure 4 *Source: Climate Funds Update (2019)*

How is CCA financing distributed among the most climate vulnerable countries?

Previous research has shown that CCA finance increases in line with vulnerability up to a point and then rapidly declines *(Saunders, 2019)* – meaning that the most vulnerable nations are the least likely to be selected as finance recipients. Our findings confirm this and add further weight to the body of evidence that existing CCA funding is not being well targeted.

Per capita financing provides a comparable means to measure how much assistance vulnerable countries receive as there is a huge range in population size between, for example, India and the Federated States of Micronesia. Our findings show there is no correlation between the amount of money received for CCA by people living in extreme poverty (less than $1.90/day) and climate-vulnerability of a given country (Figure 5).

Scatterplot of CCA financing for the period 2010–2017 per capita of those living in extreme poverty and climate vulnerability

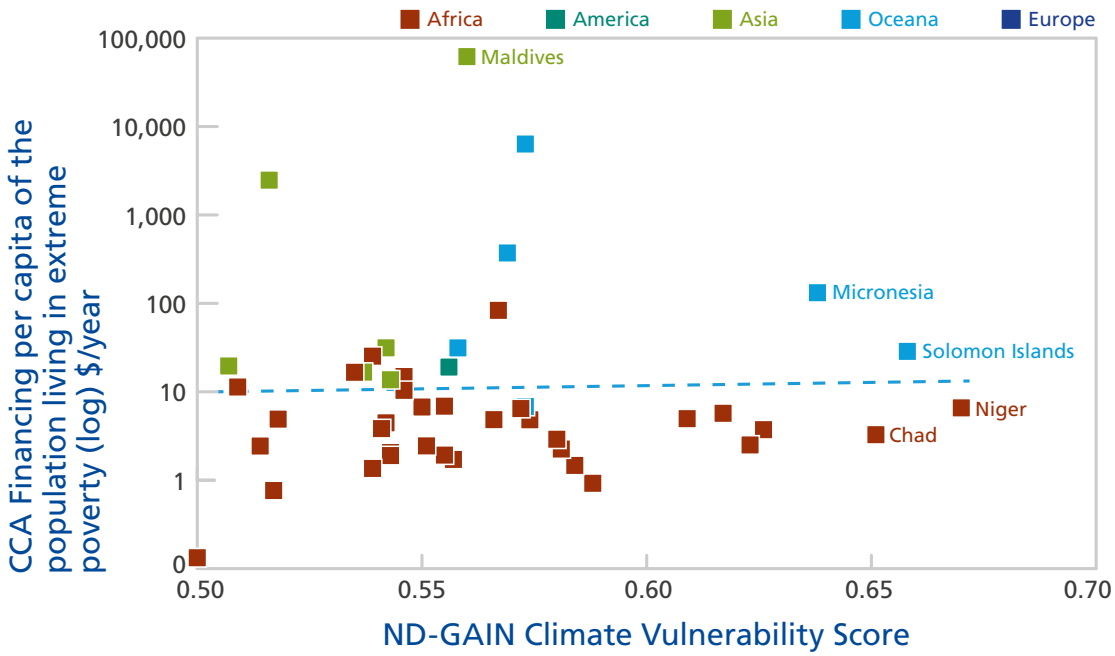


Figure 5 Data missing for Somalia, Eritrea, Afghanistan, Central African Republic, Cambodia, India.
Source: ND-GAIN, OECD, World Bank

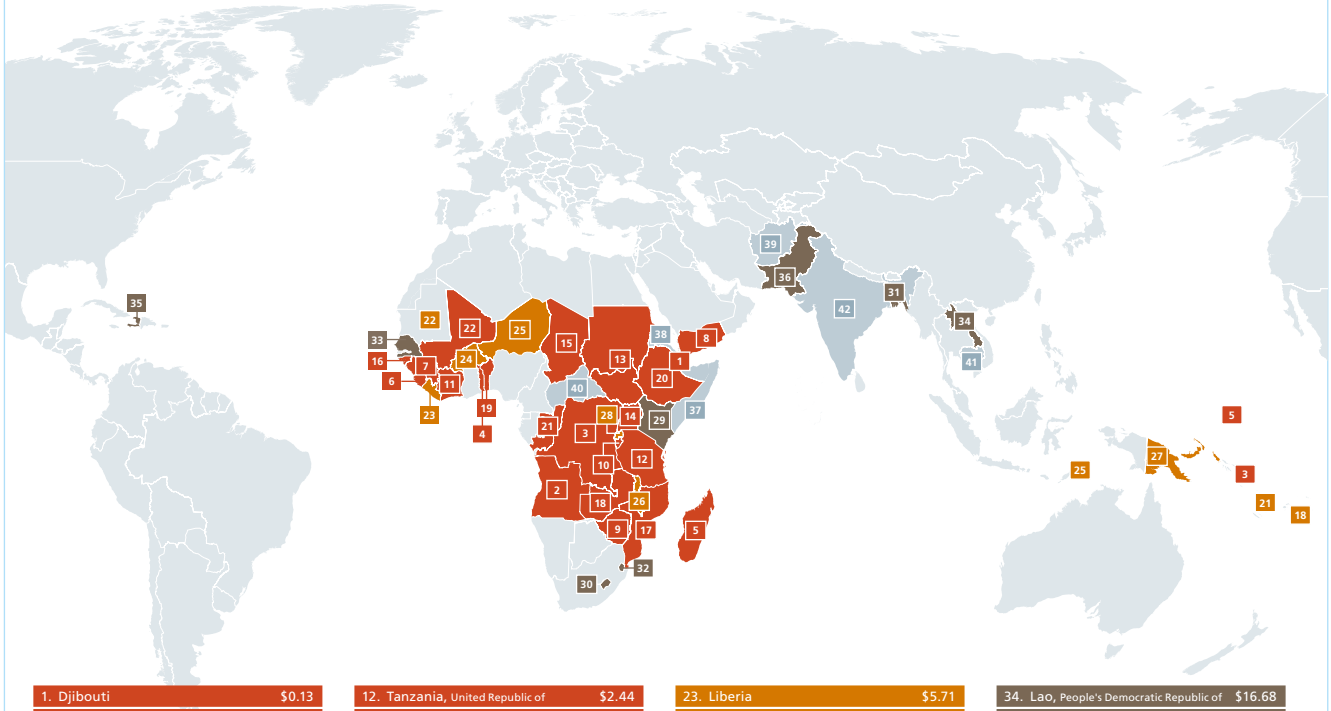
No correlation is a serious indication that funds are not being targeted according to need. Climate change is not an equalizer; entire island nations are at risk of disappearing, some countries are already being more impacted than others, and poorer countries will struggle more with the future challenges of the climate crisis. The majority of the most climate vulnerable countries received less than $20 per person per year in CCA financing during the period 2010–2017 (Figure 6). Some countries received as little as 13 cents per person per year (Djibouti), while the maximum was $83 per person per year (Mauritania) (excluding SIDS and outliers). The large disconnect between the reality of climate change impacts and the evidence across the humanitarian and climate literature that CCA financing is not being targeted according to need – whether climate vulnerability or extreme poverty – signifies a serious issue that needs urgent action *(Oxfam International, 2018; Saunders, 2019; WaterAid, 2020).*

Climate vulnerable countries receiving less than $20, $10, or $5 per capita of those living in extreme poverty per year (average 2010-2017)

$20 Less than $20 per person per year

$10 Less than $10 per person per year

$5 Less than $5 per person per year



1. Djibouti	$0.13	12. Tanzania, United Republic of	$2.44	23. Liberia	$5.71	34. Lao, People's Democratic Republic of	$16.68
2. Angola	$0.76	13. Sudan	$2.50	24. Burkina Faso	$6.46	35. Haiti	$19.04
3. Congo, the Democratic Republic of	$0.92	14. Uganda	$2.91	25. Niger	$6.58	36. Pakistan	$19.59
4. Togo	$1.36	15. Chad	$3.27	26. Malawi	$6.73	37. Somalia	N/A
5. Madagascar	$1.47	16. Guinea-Bissau	$3.73	27. Papua New Guinea	$6.82	38. Eritrea	N/A
6. Sierra Leone	$1.72	17. Mozambique	$3.84	28. Rwanda	$6.87	39. Afghanistan	N/A
7. Guinea	$1.90	18. Zambia	$4.46	29. Kenya	$10.38	40. Central African Republic	N/A
8. Yemen	$1.92	19. Benin	$4.82	30. Lesotho	$11.32	41. Cambodia	N/A
9. Zimbabwe	$2.05	20. Ethiopia	$4.84	31. Bangladesh	$13.69	42. India	N/A
10. Burundi	$2.25	21. Congo	$4.91	32. Eswatini	$14.88		
11. Cote d'Ivoire	$2.44	22. Mali	$4.97	33. Senegal	$16.61		

Figure 6 Eight of the most climate vulnerable countries received less than $20 per person per year in CCA financing, six received less than $10 and 22 countries received less than $5.

How is DRR financing distributed among the most climate vulnerable countries?

Despite being a key line of defence against disasters, DRR is consistently underfunded in countries where there are regular disaster responses *(Kellet and Caravani, 2013; Peters, 2017).* Our calculations estimate that for every $100 spent on total ODA, the maximum a vulnerable country received for DRR was $1.30 (Togo). Many countries received less than one cent, including highly vulnerable countries such as Liberia, Zambia, DRC, Uganda, the Solomon Islands, and Timor-Leste.[18]

The average DRR financing provided by ODA per capita of the extreme poor (excluding outliers) was 66 cents per year over the period 2010–2018. This varied by country, with some countries receiving significantly less, for example Niger (38 cents), Burundi (15 cents), Burkina Faso (13 cents), and Chad (3 cents). Each of these countries is ranked in the top 20 most vulnerable to climate change, yet these vulnerable populations have received very little.

As with CCA financing, there is no correlation between per capita DRR financing of those living in extreme poverty and the climate vulnerability of the country. DRR funds are not being targeted according to need (Figure 7).

Scatterplot of DRR financing for the period 2010–2018 per capita of those living in extreme poverty and climate vulnerability

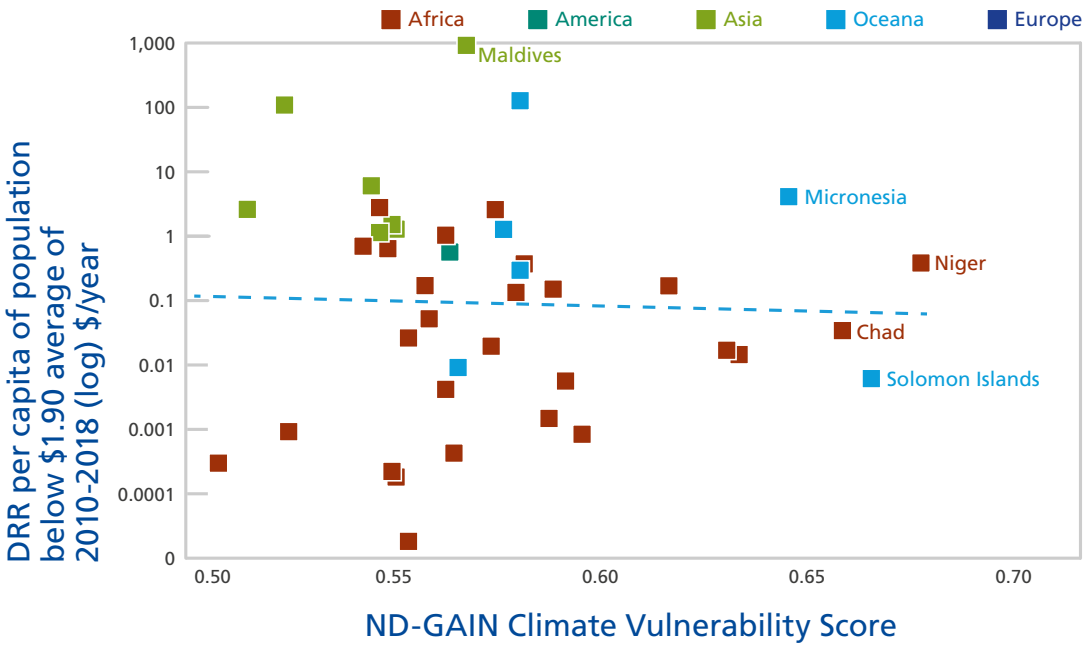


Figure 7 Data missing for Somalia, Liberia, Eritrea, Afghanistan, Central African Republic, Guinea, Congo, Cambodia, Cote d'Ivoire, Lesotho, India. *Source: ND-GAIN, OECD, World Bank*

18 This analysis took aggregate DRR financing data and total aggregate ODA flows from the OECD-DAC database (2010–2018), and divided DRR financing by total ODA to calculate the percentage of finance flowing towards DRR, which was then translated into dollar amounts.

As proactive investment in DRR remains insufficient in poor and climate vulnerable countries, the financial costs of response and recovery to crises in these countries are growing. This problem is exemplified by the large humanitarian appeals for Cyclones Idai and Kenneth which in spring 2019 were the costliest extreme weather events to hit the Southern Africa region in years, especially impacting Zimbabwe and Mozambique ($467.9 m and $527.3 m in Humanitarian Appeals 2019 respectively) *(ZFRA 2019c).* The World Bank and the governments of Zimbabwe and Mozambique jointly estimated the total cost of recovery to be about $640 m in Zimbabwe and $3.2 bn in Mozambique due to damage from both events *(ZFRA 2019c).*

Between 2010-2018 (prior to Cyclones Idai and Kenneth), Zimbabwe had received a total (not annual average) of $43.3 m in disaster preparedness (related to increasing the speed and effectiveness of lifesaving assistance, see Glossary) and $0.008 m ($8,025) in DRR (non-sector specific disaster risk reduction activities, see Glossary). Across this same time period, a total of $797.7 m had to be spent on emergency response – 19 times higher than what had been spent proactively to prevent or reduce the impacts of disasters. The Revised Appeal for the Humanitarian Response Plan 2019 to Cyclones Idai and Kenneth ($467.9 m) was 11 times higher in one year than what had been spent on disaster preparedness and DRR over the previous nine years. Waiting for major shocks is costly and devastatingly disruptive to people's lives. Six months after Cyclones Idai and Kenneth struck the revised appeal in Zimbabwe was underfunded by 49 percent *(ZFRA, 2019c).*

Mozambique, however, had received comparable totals (not annual average) of disaster preparedness ($102.8 m), DRR ($106.9 m) and emergency response ($158.0 m) across 2010-2018. In the face of extreme events such as Cyclones Idai and Kenneth, these sums, however, have not been enough to prevent the $527.3 m needed for the emergency response in the Humanitarian Appeal 2019 and subsequent $3.2 bn needed for recovery. There are now huge opportunities to support affected countries and communities to 'build back better', integrating broader DRR, risk-informed, climate-smart development practices and programmes (See Box 8 and *ZFRA, 2019c* for an in-depth review of lessons learnt in the aftermath of the Cyclones).

Box 8: Findings from ZFRA's Post-Event Review Capability (PERC) in the aftermath of large flooding from Cyclones Idai and Kenneth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In the event of large floods, such as those caused by Cyclones Idai and Kenneth, ZFRA partners ISET, IFRC, Zurich, Practical Action and Mercy Corps conduct independent research called a Post-Event Review Capability, or PERC, to answer questions related to improving aspects of flood resilience, flood risk management, and catastrophe intervention. Lessons from this research in Zimbabwe, Malawi, and Mozambique identified numerous opportunities where proactive incorporation of risk reduction, climate risk information, climate adaptation principles, and nature-based solutions into humanitarian and development programming could have helped mitigate some of the impacts of the disaster. The PERC further makes the case for more investments in DRR and CCA by donors, governments, international humanitarian and development organizations, international and national NGOs, to better prepare communities for a future of increased extreme weather events.

Why are the most climate vulnerable countries not being prioritized?

Donors may not be targeting the most climate vulnerable countries for several reasons. Donors may perceive it is 'too difficult' or not worthwhile enough to invest in low-income or fragile countries as the overall enabling environment is weak: there is low government capacity with a difficulty in demonstrating fund management experience, potentially high staff turnover, and a perception that DRR is a low priority *(Kellet et al., 2014; Peters, 2017; Saunders, 2019).*

From the recipient country perspective, the stringent ODA allocation policies of bilateral and multilateral donors – which are important in order to prevent financial mismanagement – are challenging to navigate for countries with weak institutions as they face challenges in building the enabling environment for adaptation and DRR investments *(Halimanjaya, 2016; Saunders, 2019).* In order to do so they require financial, technological, and capacity-building support to be able to assess, plan, implement, monitor, and evaluate adaptation (see Box 9 for an example of local-level initiatives to build capacity). This has been reported by such countries to the UNFCCC *(UNEP, 2018)* and cannot be overlooked as it creates a Catch-22 situation.

For CCA and DRR in fragile contexts, where such programming is relatively new, there is a lack of an evidence base to guide policy and programming *(Peters, 2017).* Operational security is a practical consideration and there is a need for greater flexibility in the funds themselves to be able to cover a wide range of oscillating needs *(Alcayna, 2019).* Bilateral donors in particular were found to preferentially allocate finances to countries which have a stable and hospitable business environment, where they expected that the impact of the provided finance would be effective *(Saunders, 2019).*

Donors financing strategies have also been shown to be based on political or historical alliances and geography. Bilateral donors allot a budget share to historical colonies that is, on average, five times larger than the share allotted to other countries; and donors are less likely to select recipients who are further away, with distance from the donor being considered a proxy for strategic interests *(Saunders, 2019).*

In order to make sure that 'no one will be left behind', donors need to question CCA funding strategies which are not pro-poor and are not based on measures of need that prioritize countries where the impacts of the climate crisis is and will be most severe. As the challenges facing the most vulnerable countries in terms of receiving and implementing funding are documented, donors should support capacity building of the governments so they can absorb financing better.

Box 9: Mercy Corps supports local level capacity building to help plan for and fund climate change adaptation

Under the DFID-funded Enhancing Climate Change Resilience project in West Pokot County in Kenya, Mercy Corps identified a lack of capacity among policymakers for implementing policies and best practices to govern natural resources and plan for climate-related shocks. Policymakers face additional challenges in reconciling the competing mandates of national and county-level structures. Increasing frequency of drought and natural resource degradation is also adding pressure to household food security. Recognizing the need for a multi-sector approach to address climate impacts, Mercy Corps supported communities to lead local climate change adaptation and natural resource management processes with locally driven adaptation plans and encouraged ward- and county-level government stakeholders to plan for and fund climate change adaptation.


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CONCLUSION: TAKING CRISES SERIOUSLY BEFORE IT IS TOO LATE

Boat mooring in area affected by Cyclones Idai and Kenneth, Mozambique
© Michael Szoenyi, Zurich Insurance Group

As we are seeing with the current pandemic crisis, priorities shift. But this does not bring a stop to ongoing challenges and crises which continue to unfold. Carbon dioxide in the atmosphere is higher than it has ever been in the past 2 to 5 million years. The effects of climate change are already being felt worldwide, most dramatically and acutely by the poorest in the most climate vulnerable countries who have contributed the least to the problem and are struggling the most to bring their populations out of poverty. Yet they are not receiving the largest shares of the already scarce CCA financing.

DRR financing is also far below where it needs to be. However, when risk reduction is overlooked, when signs are ignored, when lessons from previous events are forgotten, when warnings go unheeded, and when action is slow and indecisive, lives will be lost and everyday life will be immensely and irreparably disrupted. If risk reduction is not factored into our development and where interventions are not taken early, then drastic emergency relief becomes the only option.

The need for committed action on climate change should be renewed as we glimpse what a future with massively destabilized economies, overwhelmed health systems, and exposed populations can look like. While it was right to delay COP 26 until 2021 the pressure to ramp up climate action cannot be overlooked. To date, the quantity of CCA and DRR financing has been too little and untargeted. Rapid action to close the financing gap is desperately needed.

We also risk leaving people behind if we do not better target funding according to need. We need to make sure that the funding is being distributed according to need, targeting the most climate vulnerable countries with the poorest populations. This can reduce the impacts on people's lives and livelihoods, protect development gains, and limit the need for regular and costly humanitarian response in the longer term.

As we head towards a global recession triggered by COVID-19 where aid budgets and donations may decline, investments in adaptation and disaster risk reduction – from prevention to preparedness – are needed now more than ever. At an absolute minimum, the climate financing which already exists must be safeguarded. However, if countries are serious about protecting the future wellbeing of people everywhere then 2020 has taught us that much more money needs to be invested into actions that will reduce risk and recognize an impending crisis before it is too late.

RECOMMENDATIONS

Elevated pump prevents water contamination during floods
© Rakesh Khadka, Practical Action

The gap in CCA and DRR financing must be closed if the global community is serious about protecting the future wellbeing of those people most at risk from climate change. We risk leaving people behind if we do not better target funding according to need.

Mainstreaming disaster risk reduction and adaptation throughout our response to COVID-19

At this moment in time, at the forefront of governments' minds will be response to and recovery from COVID-19. The benefits of building resilience to shocks has been made very clear in the COVID-19 pandemic. As governments work to protect their citizens and recover, it's essential that climate change is addressed at the same time. This will require:

1. Mainstreaming of DRR and CCA into COVID-19 response and recovery. All COVID-19 funding needs to be flexible, spent strategically, and work towards multi-hazard resilience.
2. Recovery packages should endeavour to advance climate-smart, risk informed development and donors should screen funding for potential areas to 'dual-purpose' funding to build resilience to more than one risk. The World Bank's Sustainability Checklist for Assessing Economic Recovery Interventions is a helpful start for policymakers.

Close the adaptation funding gap

While we recognise the current COVID-19 pandemic and the demand for financial resources it will require, it is essential that existing climate finance commitments be met. Investing in climate change adaptation will build resilience to future crises – be they health or climate related. There is a 'triple dividend' of investing in resilience, which ensures scarce resources are creating the widest benefits including reducing disaster losses, unlocking development potential, and fostering wider social and environmental co-benefits. We therefore ask that:

3. Wealthy countries make all efforts to meet the existing commitment of providing at least $50 bn in public finance for CCA by the end of 2020.
4. Countries should use the existing opportunities under the UN climate change process to agree at COP 26 to dramatically increase their climate ambition and set targets for the next five years that meet growing needs. This must include increasing financial pledges in countries' Nationally Determined Contributions and increasing commitments to the GCF and other funds. Importantly, new sources of public financing for adaptation must be identified.

The costs of climate change are dramatically increasing, including loss and damage; irreversible impacts that go beyond the ability of communities to adapt. The longer the delay on allocating adequate investment to cover DRR and CCA needs, the greater the loss and damage costs will become. Loss and damage should be funded additionally without cutting or shifting funding from CCA or DRR.

5. At COP 26 an adequate high level political commitment must be made to progress discussions on the establishment of the Santiago Network on how to address loss and damage, and identify new and additional funding that will complement existing humanitarian and development funding to collectively build resilience.

Reaching the furthest behind first

The solutions do not only require more funding, but also better targeting at the most climate-vulnerable countries according to poverty and need.

6. At COP 26, within climate finance targets for the next five years, donors should commit to doubling the assistance provided to the most climate vulnerable LDCs by 2025. This would necessitate a re-examination of donor practices to add additional funding to countries neglected by existing climate and DRR finance. Where it is not possible to directly fund governments, an alternative is to support civil society and local initiatives working on DRR and CCA.
7. The Standing Committee on Finance (SCF) of the UNFCCC should report on how donor funds overlap with climate vulnerability of those most in need and present findings annually at COPs to increase attention and pressure on donors to meet their commitments and the intent of the Paris Agreement.
8. Multilateral and bilateral donors need to take a long term and holistic approach to fragile and vulnerable countries to support them with adaptation as this will help other development goals simultaneously. Consider developing 'Adaptation Compacts' with particularly climate vulnerable countries to prioritize building capacity. This should include long term commitment and support for strengthening institutions at national and local levels to absorb and implement adaptation and DRR finance.
9. Financing mechanisms need to be reformed to strengthen decision-making power of affected people, particularly marginalized groups. They should aim to strengthen local structures, processes and institutions, and work with civil society actors and existing networks.
10. The commitments by bilateral and multilateral donors, including the Green Climate Fund, and by national governments should include detailed plans for increasing funding for local level authorities, organizations and communities and how funds will reach the most vulnerable populations.

Understanding gaps

To understand the impact of funding and to ensure we use limited resources most effectively we must understand both the quantity and quality of climate change adaptation and disaster risk reduction funding. This report has highlighted the limitations of existing reporting mechanisms. Better tracking of adaptation and DRR financing is needed to gain a more accurate assessment of funding and impact.

11. Reporting should include improvements in how donors track 'mainstreaming' of climate finance and the quality of such interventions.

12. As of 2018 a new OECD DRR policy marker was introduced; countries should immediately apply this rigorously in their reporting and continue to review the effectiveness of the policy marker over time.

13. Within the UNFCCC process, parties (i.e. governments) must improve transparency, develop operational definitions, and improve the data reported. This should include clarification and international agreement on what is meant by 'new and additional' financing.

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APPENDIX

Country	Income categories (World Bank)	Climate Vulnerability Rank (ND GAIN)	ND GAIN Vulnerability Score (2017)	Adaptation per capita of population below $1.90 average over 2010-2017 $/year	DRR per capita of population below $1.90 average of 2010-2018 $/year
Somalia	LIC	1	0.678	n/a	n/a
Niger	LIC	2	0.670	6.58	0.38
Solomon Islands	LMIC	3	0.658	28.64	0.01
Chad	LIC	4	0.651	3.27	0.03
Micronesia, Federated States of	LMIC	5	0.638	132.03	4.11
Guinea-Bissau	LIC	6	0.626	3.73	0.01
Sudan	LMIC	7	0.623	2.50	0.02
Liberia	LIC	8	0.617	5.71	0.00
Mali	LIC	9	0.609	4.97	0.17
Eritrea	LIC	10	0.596	n/a	n/a
Afghanistan	LIC	11	0.595	n/a	n/a
Congo, the Democratic Republic of	LIC	12	0.588	0.92	0.00
Madagascar	LIC	13	0.584	1.47	0.01
Burundi	LIC	14	0.581	2.25	0.15
Uganda	LIC	15	0.580	2.91	0.00
Central African Republic	LIC	16	0.580	n/a	n/a
Benin	LIC	17	0.574	4.82	0.37
Tonga	MIC	18	0.573	6343.26	127.07
Papua New Guinea	LMIC	19	0.573	6.82	0.30
Burkina Faso	LIC	20	0.572	6.46	0.13
Vanuatu	LMIC	21	0.569	371.65	1.28
Mauritania	LMIC	22	0.567	83.37	2.59
Ethiopia	LIC	23	0.566	4.84	0.02
Maldives	MIC	24	0.560	61809.67	918.88
Timor-Leste	LMIC	25	0.558	31.37	0.01
Sierra Leone	LIC	26	0.557	1.72	0.00
Haiti	LIC	27	0.556	19.04	0.57
Rwanda	LIC	28	0.555	6.87	0.00
Yemen	LIC	29	0.555	1.92	1.04
Tanzania, United Republic of	LIC	30	0.551	2.44	0.05
Malawi	LIC	31	0.550	6.73	0.17
Eswatini	LMIC	32	0.546	14.88	0.00
Kenya	LMIC	33	0.546	10.38	0.03
Zimbabwe	LMIC	34	0.543	2.05	0.00
Guinea	LIC	35	0.543	1.90	0.00
Bangladesh	LMIC	36	0.543	13.69	1.29
Zambia	LMIC	37	0.542	4.46	0.00
Myanmar	LMIC	38	0.542	31.43	1.52
Mozambique	LIC	39	0.541	3.84	0.64
Togo	LIC	40	0.539	1.36	1.14
Gambia	LIC	41	0.539	25.29	2.78
Lao People's Democratic Republic	LMIC	42	0.537	16.68	6.06
Senegal	LMIC	43	0.535	16.61	0.70
Congo	LMIC	44	0.518	4.91	0.00
Cambodia	LMIC	45	0.517	n/a	n/a
Angola	LMIC	46	0.517	0.76	0.00
Nepal	LIC	47	0.516	2475.08	108.81
Cote d'Ivoire	LMIC	48	0.514	2.44	0.00
Lesotho	LMIC	49	0.509	11.32	0.00
Pakistan	LMIC	50	0.507	19.59	2.61
India	LMIC	51	0.502	n/a	n/a
Djibouti	LMIC	52	0.500	0.13	0.00

Flood Resilience Alliance

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