

STUDY

Climate Risk Financing

A Brief Analysis of Financial Coping Instruments and Approaches to Close the Protection Gap

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Published by
Brot für die Welt Evangelisches Werk für Diakonie und Entwicklung e. V.
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Layout Katja Tränkner (Write Now)
Printed by Poppen & Ortmann KG, Freiburg
Art. Nr. 129 700 520
Donations
Brot für die Welt
BAILS 101 1006 1006 0500 5005 00
BIC: GENODED1KDB
March 2019

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Content

support of developing partners, should work towards	• Climate vulnerable countries should establish climate	struments. Ex-ante disaster financing instruments, like
Assessment & Financing Initiative (PCRAFI), with the		whether they are ex-ante disaster or ex-post disaster in-
Facility (CCRIF-SPC) and Pacific Catastrophe Risk	COP ₂₅ .	national/international/risk transfer to third parties) and
CCRIF-SPC Caribbean Catastrophe Risk Insurance	climate-induced loss and damage, by no later than	categorized according to their sources (i.e. regional/
 Regional risk pools like African Risk Capacity (ARC), 	multilateral development banks for the offsetting of	Risk financing instruments are, in the narrow sense,
	from the main polluters, industrialized countries and	tion capacity.
most vulnerable.	developed, especially with regard to sourcing financing	and people from losses that go beyond their risk absorp-
protection provided by climate risk insurance to the •	• Options on how to mobilize new finance should be	reduce these risks and to protect vulnerable countries
improving the accessibility and the affordability of		ment strategies, with risk financing its core pillar, to
as well as other institutions, should focus heavily on	ment banks.	It is the role of comprehensive climate risk manage-
 The InsuResilience Global Partnership and its partners, 	mits and regular meetings held by multilateral develop-	indebtedness and, ultimately, lowered adaptive capacity.
	Convention on Climate Change, UNFCCC), G20 sum-	structure investments, worsening credit ratings, higher
such as a CCF, should be designed and tested.	of the Parties to the United Nations Framework	increasing the risk of lower investments, stranded infra-
New, innovative climate risk financing instruments,	national climate conferences (COPs – Conferences	(LDCs), is being hampered by recurrent damages, thus
	listed as a permanent agenda item, for instance at inter-	veloping states (SIDS) and least developed countries
	higher priority in international policy forums and	mate vulnerable countries, particularly small island de-
	and countries. Thus, it should be given significantly	As a consequence, sustainable development in cli-
are most vulnerable to climate change.	the climate protection gap faced by vulnerable people	nomic risks.
When Typhoon Haiyan hit the Philippines in November 2013, thou initial Mare than one million records for their barrow. The Philippines	gement approaches is a crucial prerequisite to closing	and the South Pacific facing the highest macro-eco-
	ing in the context of comprehensive climate risk mana-	America, South and Southeast Asia, Sub-Saharan Africa
the state of the second in the	 The mobilization and provision of climate risk financ- 	1998 and 2017 alone, with the Caribbean, Central
していていたいです。		weather events amounted to US\$ 3.47 trillion between
くしていていていていていた。	how to move risk financing forward:	cumulated economic losses as a result of extreme
	This paper concludes with eight recommendations on	against the backdrop of unhindered global warming. The
and the second sec		Climate-induced loss and damage are accelerating
	with the priority being on letting polluters pay.	the end of 2019.
and the second of the second o	that at least partially compensates for loss and damage,	sais will be presented in a policy paper to be released at
	that at loast portially comparator for loss and domoro	well as the polluter pays principle. Respective propo-
	mobilized to operationalize these instants in a way	wall as the "nolluter nave" principle. Despective propo-
	important approaches given that sufficient finance is	follows the principles of equity and climate justice. as
	indebtedness of vulnerable countries, are considered	mate-induced loss and damage that recognizes and
	cessional finance (CCF) that does not lead to the further	or a new mechanism designed to compensate for cli-
	gent multilateral debt facility providing convertible con-	(Brot für die Welt) supports the development of a fund
	climate risk financing instruments, for instance a contin-	In terms of recommendations, Bread for the World
	climate risk insurance and the introduction of innovative	it is not a policy paper.
	vulnerable people against climate risks. Affordability of	and some recommendations derived from research, but
	protection gap and increasing the resilience of poor and	ments. It is an analytical paper, presenting fact-findings
	This paper identifies key challenges to closing the	and what cannot be expected from risk financing instru-
	considerable.	gaps and misconceptions about what can be expected
	However, analysis shows that the protection gap remains	climate justice. A further aim is to address knowledge
	different instruments for their risk financing strategies.	loss and damage following the principles of equity and
	and takes more time. Countries usually combine a mix of	financing solutions to compensate climate-induced
	disaster resources contains an element of uncertainty	makers who are engaged in the broader debate on finding
	advance planning. However, the mobilization of post-	new ideas to civil society organizations and policy-
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	tax increase or credits, are sources that do not require	gap in vulnerable countries. It provides information and
	ments, such as donor assistance, budget reallocation,	now they could better contribute to closing the protection
	and upironic investments. Fost-disaster infancing instru-	culliate risk infaticing instruments and approaches and
	coping instruments, require proactive advance planning	I his paper presents and discusses new and established
		This paper property and discussion portrand actablished

Regulatory harmonization towards one Vulnerable 20 (V20) market for financial services and products should be strengthened to enable effective bundling and diversification across geographical areas to reduce costs such as premiums.

 NGOs should increase their engagement with climate risk financing by carrying out policy analysis and research, and engaging with decision makers.

calamity funds, catastrophe bonds or other climate risk

risk financing strategies.

the formation of broader, more diversified risk pools.

**Executive Summary** 

Ś

## and the Relevance of Risk Financing Introduction **Climate-Induced Economic Risks**

tion capacity. Three main dimensions of socio-economic substantial socio-economic and financial risks that A widening range of disastrous, climate change-related, be identified risk related to a rising number of climate disasters can and people from losses that go beyond their risk absorpreduce these risks and to protect vulnerable countries management and disaster risk financing strategies to and damage. It is the role of comprehensive climate risk undermine sustainable development and provoke loss sudden and slow onset events are increasingly causing

#### adaptive capacity economic development and lowered Loss and damage leading to reduced

to as much as US\$ 340 billion of extreme weather events between 1998 and 2017 ding to data provided by the Munich Re NatCatService amounted to US\$ 3.47 trillion, and those for the year 2017 (see figure 1), the cumulated economic losses as a result catastrophes and the extent of economic losses. Accorthe rise since the 1980s, both in terms of the number of meteorological and hydrological extremes have been on Economic losses and damage due to climatological,

disasters has reached average levels of about 0.4-0.7 are also included, the total losses would have amounted, percent. the loss in global GDP growth caused by climate-induced the last decade (World Bank Group 2017). Accordingly, on average, to as much as US\$ 520 billion annually over If indirect damages such as dropping consumption

are in either of these world regions or in Africa. Only South Asia. Eight of the next ten most-at-risk countries and the Caribbean, three in Southeast Asia and two in the ten most affected countries lie in Central America for the period between 1998 and 2017, we see that five of 2018), if we examine the effects of extreme weather events ding to the latest global climate risk index (Germanwatch and financial capacity (to resist and to recover). Accormic vulnerability (see glossary), and a lower technical in the tropics and subtropics), have a higher socio-econo posed to climate-induced hazards (being mostly located uted. Disasters have a much more disruptive impact on Developing countries are usually more geographically exless advanced economies (World Bank Group 2012). Climate change impacts are very unevenly distrib-

> better preparedness and more robust resilience, backed crease, the less a country can afford to disregard disaster strategies an urgent necessity. Until recently, risk awaremuch more pressing topic, and disaster risk financing Vietnam and Haiti. According to the latest scientific reone - France - is an industrialized country (see figure 2). threshold, which is now being considered by the IPCC become particularly relevant if the 1.5°C temperature damage is likely to continue. The more climate risks inestablished to withstand a major disaster event. Unless scenario, are, in most countries, not yet well enough glossary) to compensate for losses in the worst-case tries. Despite climate-induced loss and damage inness has not been adequately cultivated in most counthat disaster risk prevention and reduction will become a countries have been recurrently hit by climate extreme had very severe and long-lasting economic implications income or lower middle-income developing countries Increasing risk of stranded assets caused by change, becomes reality. (2018) as the new limit to avoid unmanageable climate attitudes shift, the trend of increasing economic loss and financing and climate risk management, which leads to creasing year upon year, comprehensive disaster risk is very likely to increase sharply with rising temperatures have in common is that their exposure to climate hazards events in recent decades, for example the Philippines, (e.g. Puerto Rico), an increasing number of high-risk climate risk index because single extreme disasters have While some of these countries rank high in the long-term Most of these countries belong to the group of lowrisk financing options to improve its protection. This will up by risk insurance and other forms of risk transfer (see come a more recurrent one-in-50-year event, implying for instance a massive cyclone, flood or drought, may be-What is more, a very rare one-in-250-year extreme event, Change (IPCC), what all climate vulnerable countries port from the Intergovernmental Panel on Climate

# climate extremes in vulnerable countries

ties or been subjected to unanticipated or premature their value – the mere risk of potential damage being worthless because they have lost value, become liabili-Such "stranded assets" are investments that have become caused by future climate extremes can lead to value loss Assets must be protected from damage in order to retain



**Figure 1:** Direct economic loss and damage caused by extreme events (1980–2017) Source: Munich RE NatCatServiceonline

Geophysical

events, which may affect their operations, e.g. sea level rise. due to the physical risks of sudden or slow onset climate the fossil fuel industries, assets may also become stranded stranded assets are mainly discussed within the context of write-downs. While in the climate change discourse Many low-lying coastlines, e.g. in river deltas, belong

harbors, rail lines, bridges and other private and public in flood barriers are needed to avoid multi-billion assets dard & Poor's has concluded that substantial investments regarding their public and private infrastructure as a reated in Asia and fall under the category of cities. Coastal inhabited by more than one billion people. Most are situto the most densely populated regions on earth, which are becoming stranded due to the flooding of houses, roads, US coastal cities to a sea level rise of 20 cm by 2050. Stan-Poor's has analyzed the exposure of infrastructure in ten sult of sea level rise. The credit rating agency Standard & communities and urban areas face growing financial risks

extra financial burden on these communities make coastal cities and communities climate-resilient, capital. To mobilize the necessary resources to signitor or investors/local banks that are looking to recover passed on to either consumers/tax payers, the public secinfrastructure. The stranded asset risk and cost would be siderable stranded assets, which will impact their entire communities and cities all over the world will face conments in comprehensive climate risk reduction, coastal dard & Poors 2015, p. 67). Without substantial investannual losses totaling US\$ 228,589 million by 2050 (Stansea level rise exceeding 20 cm, would see Miami facing billion for Miami in 2050. The worst-case projection, with the annual average economic losses resulting from a sea infrastructure. Without additional protection measures, high upfront investments are needed, which again put an ficantly reduce the risks caused by climate change, and to level rise of 20 cm would amount to as much as US\$ 4.791

#### Worsening capital market access caused by climate risks leading to higher indebtedness and lower investment

mitigation and of resilience building through adaptation billion and US\$ 168 billion over the next decade (ibid). given that the underlying climate risks will intensify. Acby 1.17 percent – and a further increase is almost certain, vulnerable. Research findings from Buhr and Volz (2018) capital have become another huge concern, particularly additional interest costs are set to rise to between US\$ 146 cordingly, it is estimated that climate change-induced average cost of debt in a sample of developing countries gests that climate vulnerability has already raised the just on government debt. Econometric modelling sughad to pay US\$40 billion in additional interest payments past decade alone, a sample of developing countries have mate vulnerability. The study further shows that over the countries, an additional dollar will be spent due to cliconclude that for every US\$ 10 paid in interest by these are being penalized by the financial markets for being for climate vulnerable countries and SIDS. They feel they Worsening conditions in terms of access to international Recognizing the importance of greenhouse gas

nerability to climate events and gradual climate change ting debt and political stability, but also by including vulman-made climate change, which would impact these lished assessment results, signaling that small islands a share of the economy, and the share of homes in floodinclude the share of economic activity that comes from in order to minimize climate disaster risks, the credit including for climate risk management and adaptation. it difficult to maintain and attract new investments, ready rated below investment grade by Moody's, making trends (Libanda 2018). Many small island states are alcredit profile was determined by not only assessing exiscountries' economies as a whole. For example, Fiji's recent (Climate Analytics 2018) compared to a world with no could have GDP levels four percent lower by 2030 plains and drought-affected areas. In 2016, Moody's pubcoastal areas, hurricane and extreme weather damage as assess the possible climate risks of credit borrowers. They rating agency Moody's has developed six indicators to

Because of the climate risks they face – for which they are not responsible – poor and climate vulnerable countries have to contend with lower credit ratings and are thus forced to make higher interest payments. They are the ones having to cover these additional costs, not



the polluters, which further reduces their financial scope to invest in sustainable development. Simon Zadek, Co-Director of the UN Environment Inquiry into the Design of a Sustainable Financial System, calls it "... blindingly obvious they'll pay more. We've been pushing finance to recognize climate change as a risk. Now it has resulted in increased costs to climate vulnerable countries" (Jackson 2018).

Germanwatch 2018

Jackson (2018) pointed to the fact that climate disasters "can both cause governments to spend more than they ideally should (i.e. more or less as much money as they collect in tax over the long term) but can also reduce growth." He called it a "double-whammy effect on creditworthiness, as debt levels increase and with lower growth, the ability to service that debt decreases" (ibid). He criticized that developing countries would be highly

disadvantaged while developed countries stand to receiwe high ratings on their bonds simply because they are less vulnerable and have the technology, institutions and means to rapidly recover from climate shocks (ibid). The more climate change accelerates, the higher the risk of being downgraded will become for climate vulnerable developing countries. Escalating climate-induced financial risks will eventually erode their ability to attract



at the ultimate risk of either ending up as fragile states or measures, climate change may put vulnerable countries to attract the investments necessary to overcome poverty. climate change, having lost their already limited ability becoming largely dependent on international support. Thus, without taking specific disaster risk financing caught in a financial trap and highly indebted due to nerable countries, particularly small ones, may end up lytics 2018). In a worst-case scenario, poor, climate vuland to invest in sustainable development (Climate Anaclimate-related finance that is used to boost the economy commercial capital. This would ultimately include non-

thereby reduce the costs and increase the effectiveness of in an integrated framework of hazard identification, risk ter Risk Financing Strategies (2017), "should be anchored climate, economic and financial vulnerability (see glosavoid such a detrimental downward spiral of increasing even more crucial interventions: "The only sustainable not as a silver bullet but as an integral component, and approach that considers risk transfer tools as important financing instruments (see next chapter), reflecting an ent recovery". It should consist of a mix of climate risk tion, risk management, and disaster response and resiliand vulnerability assessment, risk awareness and educategy, according to the OECD Recommendation on Disasneeds to be a disaster risk financing strategy. Such a strares need to be established, an integral part of which sary), comprehensive climate risk management measuinstruments to reduce the economic impacts of disasters. To strengthen financial stability (see glossary) and to

> way to reduce disaster impacts over time is through climate risks and vulnerabilities, and to enable climaterisk management strategies in accordance with the "preinvestments in risk reduction and building resilience resilient sustainable development (for further details, see vent - reduce - absorb" maxim are essential to reduce against disaster risks" (OECD 2017). Comprehensive steps in a comprehensive risk management approach Brot für die Welt 2017, 2018). Figure 3 highlights the key



Into

Na

## **Risk Financing** Instruments of Climate

emergency aid and resilient recovery - into account. resources will be required for disaster risk reduction, happened, e.g. to support relief operations and the first would be available almost immediately after a disaster ce planning and upfront investments. In turn, funds bonds or climate risk insurance, require proactive advan-Bank 2012): Ex-ante disaster financing instruments, ex-ante or ex-post disaster financing instruments (World gorized according to their sources and whether they are In the narrow sense, risk financing instruments are catetake the critical time dimension - when and how many recovery phase. A climate risk financing strategy must like contingent credit lines, calamity funds, catastrophe

that are due three or more months after the disaster and longer-term recovery programs with expenditures ments are more ideally suited to the reconstruction phase of uncertainty and takes more time. Thus, these instru-Mobilizing resources in such a way entails an element not require advance planning or upfront investments. tax increase or conventional credits, are sources that do takes place. relief and rehabilitation assistance, budget reallocation, Ex-post disaster financing instruments, like donor

surer, or alternative risk transfer instruments, such as risk insurance where the risk is transferred to an in the category of risk transfer instruments, like climate Some of the aforementioned instruments fall into

> catastrophe (cat) bonds and other securitized instrutransfer it. the risk. The higher the risk, the higher is the price to any of these cases, the risk is ceded to a third party, and ments where the risk is transferred to capital markets. In interest (cat bonds) to the third party for agreeing to take the sovereign state has to pay a premium (insurance) or

gases). They are not categorized as disaster risk financing including green bonds. Figure 4 provides an overview vestments to address or compensate for residual loss and in the narrow sense: Risk financing is thus defined as inclimate disasters (apart from mitigating greenhouse the most crucial investments to reducing the impact of climate risk prevention – reduction and preparedness are of risk financing instruments through bilateral assistance, national budgets and loans, (GCRP)) could be used, in addition to resources provided Fund and the Global Climate Resilience Partnership ding the Green Climate Fund (GCF), the UN Adaptation sense, multilateral climate finance instruments (inclu-In terms of financing resilience building in the wider damage that could not be prevented for different reasons. Though financing resilience building - including

	Ante-disaster risk financing	Post-disaster risk financing	Financing resilience building
ional sources	Calamity fund/disaster reserve fund Budget contingency	Budget reallocation Tax increase Domestic credit	Own budget lines/ national funds Domestic credit
rnational rces	Contingent debt facility	Donor assistance External credits & bonds	Bilateral donor assistance Multilateral climate funds External credits & (green) bonds
c transfer to d parties	Climate risk insurance Sovereign (regional) climate risk pools Catastrophe (Cat) bonds		
4: Climate (Risk) Fin	ancing Instruments		

Figure

Ris



Contingent credits: A contingency loan or a financial to rapidly meet financial requirements in case of a trigger has been breached. The World Bank Group guarantee will be initiated once a disaster-related are agreed ex ante. medium or large-scale disaster. Contingent credit lines contingent financing programs, allowing borrowers provides such contingent credit lines through their

• External credits & bond issues: Resources mobilized grants, concessional loans or equity capital. This is an immediate support, which is usually minimal. if not years to be raised and disbursed, apart from disasters. However, these funds usually require months countries and in the aftermath of medium or large-scale important source of risk financing, particularly for poor tion. Donor assistance can be provided in the form of international donors for relief, recovery and reconstruc-Donor assistance: Post-disaster assistance provided by

on capital markets, i.e. the most expensive form of clivulnerable countries with low credit ratings (see above) mate risk financing, particularly in the case of poor and

## **Risk transfer to third parties**

Climate risk insurance: Transfer of climate risks to an occur; insurance premiums to be paid by the policyfrequent but of an extreme magnitude. damage caused by extreme events that are not very effective protection mechanism against loss and costly. Climate risk insurance can be an efficient and However, indemnity-based payouts are complex and compensating payout (i.e. payout reflects actual loss). indemnity-based. The latter ensures a better fit, i.e. out is triggered automatically if a pre-defined paramium; climate risk insurance can be parametric (paydisaster, and the higher the payout, the higher the preholder reflect the risk: The higher the probability of a meter, for instance extreme wind speed, is breeched) or insurer, guaranteeing a payout should a certain disaster

or even regions, can reduce insurance costs signifi-Sovereign (regional) climate risk pools: Mutual risk cantly: The more heterogeneous the risks and risk eign states themselves. Risk pooling across countries, insurance, in most cases owned by the insured sover

> Catastrophe bonds: Also known as cat bonds. These Brot für die Welt 2017, p.22 f.). (ARC) (since 2014) (for further information, see (PCRAFI) (since 2013) and the African Risk Capacity trophe Risk Assessment and Financing Initiative insurance (since 2007), followed by the Pacific Cataswas the world's first regional risk pool to use parametric the Caribbean Catastrophe Risk Insurance Facility) Segregated Portfolio Company (CCRIF-SPC, formerly The Caribbean Catastrophe Risk Insurance Facility address losses from less frequent but severe disasters. sovereign risk pools provide an effective mechanism to pool, the lower the costs of insurance coverage. Thus, exposures faced by the policyholders in an insurance

transfer an ex-ante defined set of risks (for instance Should a qualifying catastrophe or event occur, the occurring in return for attractive rates of investment. take on the risk of a specified catastrophe or event an issuer or sponsor to investors. In this way, investors linked securities that transfer a specific set of risks from usually used for insurance securitization to create riskcyclone, flood or drought) to investors. Cat bonds are are capital market-based, risk-linked securities that

> surance, see glossary). Catastrophe bonds were first will receive that money to cover their losses (for reinalso states; for instance, the national government of issued in the 1990s after Hurricane Andrew. Mexico or the State of Florida in the case of hurricanes) issuer (often insurance or reinsurance companies, but investors will lose the principal they invested and the

## climate risk management and adaptation Financing resilience building through

 Domestic sources: To finance climate adaptation and Climate Change Trust Fund - BCCTF). up national climate change funds (e.g. the Bangladesh risk reduction, governments usually create own budget lines (e.g. for a ministry for disaster management) or set

 Bilateral donor assistance: Grants or concessional tive - ICI) conservation (e.g. German International Climate Initialoans, e.g. for financing coastal protection, water

 Multilateral climate funds: Grants or concessional loans (e.g. Green Climate Fund)



These people displaced by climate change from Shyamnagar, Bangladesh were seeking shelter from Cyclone Aila on higher grounds.



# Domestic climate risk financing sources

• Calamity fund/disaster risk reserve: Created by the Mexico's National Disaster Fund amples: Calamity Funds/Philippines, FONDEN recurrent, low to medium severe disaster events. Exsources for immediate relief and recovery in the case of government before a disaster happens, providing re-

Budget contingencies: Set aside by the government beto compensate for losses of recurrent, low to medium severe disaster events. fore a disaster happens, serving as a budgetary reserve

Budget reallocation, tax increase and domestic mobilizing finance from these sources usually requires nal resources in the recovery and reconstruction phase; credits are ex-post disaster sources to mobilize additiocontingencies have been exhausted. should be used only once calamity funds and budget pared with ex-ante risk financing. These instruments additional legal steps and thus takes more time as com-







**Figure 5:** Optimal sovereign disaster risk financing according to different risk layer: Source: MCII, Climate Risk Adaptation and Insurance in the Caribbean Project, 2018

### resilience bonds External credits and green, blue and

most expensive form of financing resilience building. Resources mobilized on capital markets is usually the

to be verified by a third party, for instance the Climate green bonds sometimes come with tax incentives such as Bond Standard Board (for more information, see https:// bond. To qualify for certified green bond status, they have tractive investment compared to a comparable taxable tax exemption and tax credits, making them a more atother types of special environmental projects. If certified, encourage sustainability and to support climate-related or Green bonds are a special category of bonds, intended to www.climatebonds.net/standard/governance/board).

case of losses) but also guarantee a structural improveve-coral-reef-insurance-solution/). (https://www.reinsurancene.ws/swiss-re-backs-innovatisilience building by The Nature Conservancy (TNC) servation.com/old4/) or the financing of marine re-Forest Resilience Bond Idea" (http://www.blueforestconactual risk over time. Concrete examples are the "Blue ment in an area of resilience building and thus lower the not only guarantee money flows (e.g. like cat bonds in the Resilience Bonds have become very attractive since they

> (coastal resilience) The InsuResilience Secretariat is also active in this area

## Selecting the optimal mix of climate risk financing instruments through risk layering

ex-post risk financing instruments, as well as risk pre 2012, 2017). To reach a comprehensive risk coverage that very low frequency should best be transferred to third most appropriate to deal with moderate, less frequent less severe events (low risk layer). Contingent credits budget contingencies) to deal with relatively frequent but for risk layering are the frequency and the severity of risk financing instruments. The main selection criteria financing strategies with an optimized mix of climate gies should shrewdly combine different ex-ante and ensures cost effectiveness, climate risk financing stratelayer) (for more information, see MCII 2016, World Bank parties, including regional insurance pools (high risk risks (medium risk layer). Risks of high severity and disasters. Usually a bottom-up approach is suggested: Climate risk layering is an approach used to design rish vention and reduction measures, to leverage their costs locations, combined with risk transfer instruments, are conventional credits, donor assistance and budget real-The government secures funds (i.e. a calamity fund,

> glacier retreat (see glossary) as sea level rise, desertification or the adverse impacts of extreme events or in the case of slow onset events, such risk transfer instrument either in the case of frequent understand that climate risk insurance is not a suitable and to widen protection. In this context it is crucial to increase understanding, develop targeted instruments be paid back if no damage occurs. It thus takes time to fits to policy holders, or that insurance premiums would expectation that risk insurance would deliver fast beneindustry and NGOs. InsuResilience has always argued velopment banks as well as with the private insurance potential partner countries, insurance initiatives and de-Asia (BMZ 2015). In the run-up to the establishment of ran Africa, the Caribbean, the South Pacific and South within five years, with the greatest potential in Sub-Sahain the number of people with climate risk insurance surance coverage. This should ensure a fivefold increase the protection provided by climate risk insurance in the Germany launched the InsuResilience Initiative at the misconceptions and false expectations, for instance the surance is a little-known instrument beset with many (Brot für die Welt 2017). By and large, climate risk inthat it will not be successful without broad participation InsuResilience, consultations were conducted with vulnerable people are to be provided with climate risk in-Global South: By 2020, 400 million additional poor and 2015 G7 Summit with the aim of significantly improving

cipation, sustainability, and an enabling environment. solutions, client value, affordability, accessibility, parti-These principles include comprehensive needs-based climate protection gap of climate vulnerable populations climate risk insurance solutions that support closing the by InsuResilience to provide guidance on designing stressed by InsuResilience that climate risk insurance cies and disincentives to do less in terms of disaster prein which context. Important principles for this underenable countries to decide which solutions are appropriate accessible for poor and vulnerable countries. The aim is to the options that exist to make climate risk insurance more proposals for smart support. It has started to investigate set. In 2017, a working group was established to develop key concern of the InsuResilience Initiative from the outcoverage should follow the pro-poor principles as adopted aster relief (ibid). Furthermore, it has always been rightly vention, while underlining the exceptional nature of dis taking could include avoiding the creation of dependen-Affordable access to climate risk insurance has been a

> with the Initiative, is still to be established (ibid) evaluating lessons learnt from climate risk insurance apcreation of the necessary framework conditions, and raisand cost-benefit calculations for climate risk insurance, proach were finalised, and the implementation started by end. The main features of its multi-actor partnership apall insurance systems and risk pools that work together evaluation, but a standardized reporting system, covering lience has developed the tools needed for monitoring and vulnerable people being reached? And is their resilience particularly important, answering questions such as: climate vulnerable people. A good impact assessment is proaches in consideration of their benefits for poor and data analysis, risk modelling and risk pooling, the This includes supporting the creation of needs analyses oping countries has been placed high on the agenda. testing and putting into place the ideas developed being strengthened in the face of disaster? InsuResi-How many people are actually protected? Are the most ing awareness about climate risk management, as well as Testing approaches to the transfer of knowledge to devel-In 2017, InsuResilience's start-up phase came to an



Matthew which hit thi

Climate Risk Financing in the Context of the Insuresilience Global Partnership



evel rise, its 33 atolls are sinking

### insurance and risk financing initiative Moving from a G7 to a G20 risk

nal organizations, and actors from civil society, the private Compared to the 2015 initiative, the InsuResilience over 48 countries and represents over one billion people. lopment. Despite its name, the V20 Group now spans the promotion of climate-resilient and low-carbon develogue and action group pertaining to climate change and founded in October 2015 to act as a high-level policy dia-V20 countries. The V20 Group of Finance Ministers was particularly builds on collaboration between G20 and sector and academia. According to its understanding, it bal Partnership brings together governments, internatioched at COP22 in Bonn in 2017. The InsuResilience Glotions was initiated at the G20 summit and formally laun-Climate and Disaster Risk Finance and Insurance Solu-Bank (2017), the InsuResilience Global Partnership for the recommendation of a study conducted by the World issue of climate resilience high on the G20 agenda. On In 2017, Germany used its G20 presidency to place the

coverage to 400 million additional people by 2020. former benchmark of providing climate risk insurance The German government, however, still sticks to the Has no quantified targets (e.g. 400 million people

including but not limited to insurance

additionally insured by 2020), and runs indefinitely,

i.e. beyond 2020.

Global Partnership is broader in its scope:

Focusing on different climate risk financing solutions.

building regional risk pools, with the aim of finding ways the case with the G20. In this respect, the InsuResilience ty with a long tradition of and vast commitment to intercould also be applied to South-South cooperation and to that has gained in relevance. It presents an approach that to reduce the cost of risk financing, is one of the features heterogeneous risk structures, such as India or China. national initiatives in populous countries that face highly embedded within a broader context. The approach to approach cannot simply be transferred; it needs to be national development and climate financing, this is not ration perspective, the G7 is viewed as a donor communi-Resilience strategy. Whereas from a development coope-There are more differences to the initial G7 Insu-

vide them with added value. In fact, the success of the mains to be seen how well the approach can be implemon ownership of all actors involved. It therefore relevel of coordination that this involves is very high and is able to place the primacy of climate risk insurance for InsuResilience Initiative will be measured on whether it InsuResilience Global Partnership illustrate how chal from industrialized and developing countries, and actors the difficult negotiations that led to the formation of the on sectors, academia and the insurance industry. The from the humanitarian aid and development cooperatiders from multilateral development banks, governments actors with partially divergent interests, such as stakehol-Resilience Global Partnership brings together different the crucial question is whether the Partnership can pro mented. From the perspective of the vulnerable states lenging it is to agree on a coherent approach, with com-The multi-stakeholder approach of the Insu-

> remain involved criterion into account: the extent to which the  $V_{20}$ of the Partnership needs to take another important Moreover, an assessment of the continued development strengthen this aspect within such a broad forum. medium enterprises, at the core of the Partnership and the poor and vulnerable, and their micro, small and

## with the V20 climate vulnerable countries The road ahead: Strengthening cooperation

nerable countries? risk financing, particularly to the benefit of climate vultial to reduce the gaps in protection by increasing climate Partnership already managed to operationalize its poten-But to what extent has the InsuResilience Global

and the widening protection gap will continue to grow. rance will remain inaccessible for the climate vulnerable in 2019. Unless such steps are taken, climate risk insuce at a significant scale should be one of the top priorities ding in-country climate risk insurance knowledge and back with the COP24 in 2018, showed. Apart from buil-Partnership Forum in Katowice, which took place back to increased, as the discussion at the 2nd InsuResilience readiness to provide (temporary) premium support has capabilities at all levels, putting this approach into practi-At least at the discourse level, the acceptance and

tra financial burdens suffered by vulnerable countries. and fairly offsetting the climate-induced losses and exconcrete results in terms of reducing vulnerabilities climate disaster risks will be whether it can produce and Development co-chair the Partnership's High-Level tary to the Federal Ministry for Economic Cooperation shall Islands and the German Parliamentary State Secrethat the Minister of Finance of the Republic of the Marenhanced cooperation between V20 and G20 countries test for successful V20-G20 cooperation on reducing Consultative Group (HLCG). However, the real litmus In terms of governance, it is an encouraging sign for

risks faced are too distinct to be diversified. That is why markets, however, are often too small to be viable and the uptake of insurance in V20 economies. V20 national against climate change. To facilitate the necessary protection, the V20 endeavors to enable private sector ries and small enterprises as their economic backbone members need to protect critical infrastructure, indust-As stated in the HLCG, the V20 made it clear that its

> for the financial protection of key economic sectors and, the V20 is currently developing the Sustainable Insurance solutions aimed at medium and small enterprises nical assistance facility that enables country-level insu of the Partnership, is envisioned as a V20-initiated techand financial protection. in particular, their value chains. A second objective will rance Facility (SIF). The SIF, aligning with the objectives be the de-risking of investments in renewable energy

that provide resilience dividends. Over time, such shaped lieve that there is a need to not only come up with a broafinancial stability in the face of climate change. develop into a wider agenda of economic resilience and climate and disaster risk financing architecture should build the most cost-effective, complementary solutions vative linkages between existing financial instruments as and addressing the common market constraints and mies, allowing pooling across different geographical aredual build-up of regional risk transfer solutions that conder range of finance instruments, but to also – with innobarriers the V20 face. Furthermore, the V20 strongly benect several, country-led initiatives across V20 econo-Over time, the SIF would ideally substantiate the gra-

paving-the-way-to-effective-risk-financing-solutions/). shield (E-Pact 2017). Aggressive steps are thus needed to tain - let alone significantly enhance - its protection no silver bullet, the products and regional risk pools curment.fund). However, not only is climate risk insurance to be instrumental for the development of climate risk many under the auspices of InsuResilience and designed second-insuresilience-partnership-forum-in-katowice of poor and vulnerable people against climate risks and ensure InsuResilience meets its objectives, namely of in 2012 and operational since 2014, is struggling to main-For instance, according to its first evaluation, the African up their protection shields for climate vulnerable people. rently operating have yet to succeed in massively scaling further information, see https://www.insuresilience-soluinsurance products, are steps towards that end (IIF) and the Solutions Fund (ISF), both initiated by Gerforum in Katowice (see https://www.insuresilience.org/ level Consultative Group of the Partnership at its 2nd disasters", as jointly stated by the co-chairs of the High-"closing the protection gap and increasing the resilience regional risk pool, African Risk Capacity (ARC), founded tions-fund.org/en and http://www.insuresilienceinvest-The launch of the InsuResilience Investment Fund (for

To what extent are the climate disaster risk financing instruments put forth in this paper suitable for closing the protection gaps – and what are the main challenges? To answer these questions, we must reexamine the main socio-economic risk dimensions related to climate disasters.

# The main challenges in offsetting the economic loss and damage associated with climate events

Climate risk insurance has become the most promoted instrument for the transfer of climate extreme event risk, particularly due to InsuResilience. Climate risk insurance is an important instrument, yet it remains unknown in many climate vulnerable countries. It may have the potential to avoid humanitarian disasters in the aftermath of a climate-related extreme event by distributing the burden across many shoulders, and if access and affordability are ensured, it might even be the most efficient instrument to help the poor recover quickly from an extreme event. Climate risk insurance essentially has two immanent limitations that restrict its coverage against climate risks:

 Reducing insurance premium prices by bundling more verage. These three are currently the most promising: number of options to extend affordability and covulnerable is not ensured and will become even more Affordability of climate risk insurance for the most Premium support provided by international donors – disasters further increase, as forecasted. There are a limited if the frequency and/or magnitude of climate pared to regional risk pooling. the Pacific could reduce costs by up to 50 percent comcome countries from Asia, Europe, Latin America and risk pool that includes around 90 low- to middle-incent World Bank Study (2017), the formation of a broad different policyholders as possible. According to a reand diverse geographical area and including as many diversified, large risk pools, preferably across a large

**Premium support** provided by international donors – or, better yet, by the main GHG polluters – is a prerequisite to massively scaling up insurance in the most vulnerable countries, as the experience gained from the first regional risk pools (e.g. ARC) shows. The Insu-Resilience Global Partnership, amongst others, should take steps to fund insurance premiums for the poor to

> close the protection gap. This would also be a first important step to fulfilling human rights obligations and to paving the way for the introduction of the polluter pays principle into climate risk financing. Better linking of social protection with climate resi-

**lience building:** Adaptive and transformative social protection systems, with the support of climate risk financing mechanisms (e.g. international donor assistance, climate risk insurance, contingent debt facility), could mobilize several synergies that exist between social protection and risk management if they enable counter-cyclical social expenditure to stabilize the socio-economic situation in times of disaster.

relationship between greenhouse gas emissions and bining insurance with other risk financing approaches rance solutions. In addition, the use and benefit of com cantly to maintain the feasibility and potential of insuinsurability, mitigation action must be scaled up signifirance also runs the risk of being lost. Due to the inverse by risk insurance will become due to the instrument's imevents - as well as by sea level rise - and the larger that mage will be caused by less extreme but highly recurrent rare but very serious events that cause high levels of Climate risk insurance is also limited to the hedging of benefit of currently popular risk transfer instruments. previously discussed in this paper should continue to manent limitations. If climate change continues unabaspecific area of the protection gap that cannot be closed find equal consideration and not be neglected to the ted, the efforts and funding currently committed to insu-The more frequently extreme events occur, the more dagradual damage, such as that caused by sea level rise. frequently recurring damage nor as coverage against damage. It is neither suitable for insurance against

# The main challenges to avoiding stranded assets as a result of climate extremes

The only way to prevent public and private infrastructure in zones with high risk exposure, such as low-lying coastlines, becoming stranded assets due to the physical risks of sudden and slow onset events (e.g. sea level rise) are **massive investments in risk prevention and reduction** (e.g. flood barriers) combined with fast and deep GHG emission cuts as demanded by the IPCC (2018). SIDS, as well as coastal communities and cities in other

> vulnerable developing countries, are facing large-scale stranded assets that will impact their entire infrastructure. Mobilizing the resources to enable resilience will overburden these states if they are left either alone or solely dependent on regular capital markets. These nations require financial support to build their resilience at scales that far exceed the current climate finance levels (ACT 2018). This is an issue that must be addressed when designing the future climate financing architecture.

#### The main challenges to avoiding worsening capital market access as a result of climate risks

It is a fact that climate vulnerable countries already pay significantly higher interest rates solely because they are climate vulnerable, and that the projected increase in severe flooding and disastrous cyclones may further worsen their credit rating by an average of 20 percent according to simulated models (Buhr/Volz et al. 2018). This further penalizes these countries and deprives them of fair conditions in accessing capital markets in order to finance low aarbon, climate-resilient, sustainable development pathways. Not only do these countries suffer disproportionally from economic loss and damage due to

> climate change, which they bear no responsibility for, they also have to pay higher interest rates because of the accelerated climate risks they may face in future, which they also have played no part in causing. This market logic leads to a **perpetuated discrimination that needs to be addressed** by the international community **through new risk financing approaches** aimed at compensating for this unfair discrimination. Therefore, it is another important issue to be addressed by:

- the UNFCCC, particularly the International Warsaw Mechanism (WIM) in its discussions on comprehensive risk management and on enhancement of financial support to address loss and damage,
- the consultations of the G20 and V20 on collaboration and facilitation of support in addressing climate risks, which disproportionally - and through no fault of their own - affect V20 countries,
- multilateral development banks and other relevant stakeholders in the international finance system in the context of designing effective and efficient climate risk financing strategies, instruments and facilities, and
- national political decision makers and stakeholders from civil society and the business sector to overcome widely spread insurance illiteracy and to find nationally appropriate and fair solutions.



Cumate-induced droughts endager the liverinood of people and animals especially in Sub-Sanaran Africa. Consequently, conflicts and migration are rising.

risk into development planning and budgeting processes credit rating (Jackson 2018). is key to achieving resilience and attaining a sound more, mainstreaming and incorporating climate change to be well capitalized and managed sustainably. Furtherresilience. In order for them to be operational, they need backed by the design and implementation of climate bonds. At national level, such approaches should be countries to mitigate climate risks when issuing fore design new hedging instruments for developing stakeholders, in cooperation with V20, should therechanism, multilateral climate funds and other relevant climate change risks. The Warsaw International Merating being downgraded due to its level of exposure to cessful, it is key that it mitigates the risk of a state's credit In order for any disaster risk financing strategy to be sucidentified climate change impacts and that enhance risk management strategies that are responsive to

able countries and the financing partner institutions. ownership and intense collaboration between vulnertivize transparency of action as well as support strong Furthermore, innovative financing options should incendebtedness caused by the impacts of climate change. in the sense that they do not bear the risk of further inty, predictability and that financing conditions are fair indebtedness. Innovative financing implies accessibilicarbon development is required while avoiding further economic transformation towards climate-resilient, low that dynamic access to innovative financing for a socioplement their disaster risk financing strategies? It is clear countries access to the necessary financial means to im-Contingent debt facilities are contingent financing What options are available to offer climate vulnerable

oned, are already a typical disaster risk financing instruranteed. Countries will thus be further indebted when borrowing country, meaning that the repayment is guabut linked to a sovereign debt guarantee provided by the main financial source to recover from the shock. These such as the World Bank, to vulnerable countries as a credit lines are usually provided by multilateral banks and implementation side: If disaster strikes, contingent facilities by better aligning incentives on the design ment. However, it is important to further improve such generous than market loans and, as previously mention loans that are extended on terms substantially more velopment banks. They allow for concessional debt based programs that are usually offered by multilateral deloans are concessional, i.e. provided below market rates.

> accessing these credit lines in order to recover from clibon future. The negative effects of contingent debt faciliness, in turn, will negatively affect the country's credit mate-induced losses and damages. Higher indebtedties could be alleviated if the sovereign debt guarantee long-term ability to invest in a climate-resilient, low car rating and with it its access to finance, thus limiting its

vertible debt instruments and grant-to-concessional quently and on a larger scale in future. climate-induced disasters, which will occur more frethe international financial and economic systems against strategy of global common interest that helps to stabilize climate resilience. Finally, it would be a new hedging and damage caused by climate extremes. It would proties and people, and it would factor solidarity and justice investment into resilience building and higher climate worsening credit ratings, rising indebtedness and more the debt should be converted into a grant. Such an apsupported by grants. If successful, the support could be lience against high climate risks, this step should first be contingent on using the finance provided for ex-ante agphase and the implementation phase, i.e. it would be would require the alignment of incentives in the design proach of resilient debt management could be a contincomponent were to be reduced or suspended. mote socio-economic and financial inclusion as well as into climate risk financing by offsetting economic loss ambition. It would benefit climate vulnerable communile climate vulnerable countries to mobilize risk capital for stranded assets caused by climate change. It would enabproach would help overcome the dangerous spiral of ject to ex ante agreed indicators for success and failure), Should a project financed by concessional debt fail (subconverted into pre-approved concessional debt terms debt, working with the following incentive: To build resireduce risks and address damages. Risk financing in the reed disaster risk management measures that effectively concessional finance (CCF). The provision of CCF form of CCF would consist of highly concessional congent multilateral debt facility providing convertible A new and innovative instrument based on this ap-

needs to be addressed with urgency induced loss and damage. Thus, how the facility could tible concessional finance for climate disaster risk financontingent multilateral debt facility that provides conver be provided with adequate funding is a key issue that cing and resilience building, and that offsets climate However, new finance is required to capitalize a

### Recommendations **Concluding Policy**

economic loss and damage. nerable developing countries. It is vital that they be developing climate risk management strategies for vul-Adequate climate risk financing is an integral part of key to address, minimize and offset climate-induced operationalized effectively and efficiently. Finally, it is

nerable countries, communities and people against: zation of a state and its ability to access funds that would and with a view to avoiding any discrimination or penali-· climate-induced loss and damage leading to reduced its control. This relates to the protection of climate vulthat the state is climate vulnerable due to reasons beyond offer it protection against climate risks for the sole reason economic development and lowered adaptive capacity; Risk financing has to be provided under fair terms

and worsening capital market access caused by climate risks leading to higher indebtedness and lower inextremes in vulnerable countries; increasing risks of stranded assets caused by climate

mitigation and adaptation. poor and vulnerable countries as is already the case for finance to compensate for loss and damage occurring in lized countries and other major polluters to provide any So far there has been no commitment by industria-

existing lunds.

warming to widen even further in future due to ongoing global V20, the protection gap remains significant and is likely Global Partnership and initiatives undertaken by the cing on a voluntary basis, such as the InsuResilience Despite efforts made to provide climate risk finan-

policy recommendations: Thus, Bread for the World puts forward the following

development banks. a permanent agenda item, for instance at COPs, G20 higher priority in international policy forums, becoming le and countries. Thus, it should be given significantly closing the climate protection gap for vulnerable peopmanagement approaches is a crucial prerequisite to cing in the context of comprehensive climate risk summits and regular meetings held by multilateral 1. The mobilization and provision of climate risk finan-

complete lack of funding to compensate for loss and tries adapt to the effects of climate change, and the inadequate provision of climate finance to help coun-2. In light of insufficient global mitigation efforts, the

> tional sources for such a fund - though the so-called damage, a new fund to compensate for loss and damaupon will thus only entail an assessment of already line. Observers criticized that industrialized countries the UNFCCC Secretariat. It shall serve as an input to the loss and damage, and should be mobilized based on the ge needs to be established. This fund is required to supfinance is needed as well as to establish new and addiof reference for the technical paper as well as on an out-Executive Committee, its members agreed on the terms Parties by June 2019. At the eighth meeting of the WIM's scope of the technical paper that shall be available to med at addressing loss and damage shall be prepared by paper detailing possible sources of financial support aipolluter pays principle. As mandated at COP22 in 2016 in port disaster risk financing and offset climate-induced a crucial issue. The assessment that has now been agreed Suva Expert Dialogue in 2018 made clear that finance is blocked a decision to include an assessment of how much mittee is to assist the Secretariat in determining the review of the WIM in 2019. The WIM's Executive Com-Marrakesh (4/CP.22 paragraphs 2(f) and (g)), a technical

urgency that the community of states, and especially insufficient to close the protection gap as required. Effecdevelop options to mobilize these funds in 2019 with the polluter pays principle. It is therefore of the utmost delivers climate justice and that is sourced in line with that are provided to the climate vulnerable in a way that climate-induced loss and damage requires new funds a clear outcome adopted by COP25. Committee of the Warsaw International Mechanism, the Parties to the Paris Agreement and the Executive tive and efficient risk financing and the offsetting of As this paper shows, the existing instruments are

climate risk financing strategies, being informed by the 3. Climate vulnerable countries should establish Strategies (2017): **OECD Recommendation on Disaster Risk Financing** 

 that effectively manage the financial impacts of climate disasters,

 that are effectively aligned with national adaptation plan- that form an integral part of climate risk management ning, sustainable development planning and budgeting, strategies

that build on a sound multi-hazard risk assessment

(for hazard and risk assessment, see glossary)

 that promote participatory and comprehensive risk as- that assess and disclose the appropriate levels of risk that provide the resources necessary to ensure sufficient of disaster risks and different risk financing options, vulnerabilities and capabilities, retention and risk transfer, taking into account specific including civil society and the most vulnerable, dination across relevant public and private sectors, institutional capacity and expertise for the assessment 5. The InsuResilience Global Partnership, its partners investments into resilience building and higher climate ambition.

that ensure broad participation, cooperation and coor-

climate vulnerable countries to mobilize risk capital for

 that take into account both the direct and indirect imanticipating significant future changes due to global pacts, evaluating both normal and extreme scenarios, sessment processes.

· that raise the awareness of individuals, businesses and that implement an enabling financial sector and regutheir own responsibility for managing those risks, subnational governments concerning disaster risks and warming. their financial implications, protection schemes and

 that ensure the necessary plans, processes and operational capacity are in place to provide timely and fair payment of claims resulting from disasters, latory framework,

 that evaluate the availability and affordability of risk priate, transfer tools and put them into practice, where appro-

 that evaluate the availability and affordability of natioput them into practice, where appropriate, nal public compensation and financial assistance and

 that specifically identify and address the needs of the most vulnerable,

 that assess and promote new instruments of climate that analyze the potential impact of climate disasters pools and convertible concessional finance, on macro-economic conditions, public and private inrisk financing, including, inter alia, (regional) risk frastructure and services, as well as credit ratings,

• and that enable or strengthen partnerships, e.g. with

the private sector.

ments, such as a contingent multilateral debt facility new and innovative climate risk financing instru-4. The V20 and its development partners, like the Insucredit ratings and rising indebtedness and that enable help to overcome the dangerous spirals of worsening providing convertible concessional finance (CCF), that Resilience Global Partnership, should design and test

as premiums

fication across geographical areas to reduce costs such

research, and engaging with decision makers. te risk financing by carrying out policy analysis and 7. NGOs should increase their engagement with clima-

inclusion and effectiveness, regional risk pools and their 6. Existing regional risk pools, like ARC, CCRIF-SPC or providing premium support, and • the World Bank should consult and collaborate with donors should provide direct financing to civil society regional risk pools should actively encourage member development partners should take the recommendations thereby improve affordability and accessibility. Further should work towards the formation of broader, more protection provided by climate risk insurance to the improving the accessibility and the affordability of • risk pools and national governments should ensure provided by MCII (2018), namely: policyholders as possible, in order to reduce costs and verse geographical area and including as many different and other institutions should put a strong focus on diversified risk pools, preferably across a large and dimore, in order to improve transparency, participation, PCRAFI, with the support of developing partners, supporting linkages between climate risk insurance most vulnerable by surance Program. meters, payouts and detailed use within agreements; countries to consent to risk pools publishing full details Regulatory harmonization towards one V20 market that civil society organizations are invited to 'closed' city on climate disaster risk finance; and adaptive transformative social protection systems. civil society in its Disaster Risk Financing and Incommunities; benefit from voices on the ground representing affected policy spaces to ensure that risk financing discussions groups in the Global South to engage and build capaof policies taken out, premiums and risk transfer parastrengthened to enable effective bundling and diversifor financial services and products should be

ARC BCCTF CCF CCRIF-SPC COP CVF GCF	African Risk Capacity Bangladesh Climate Change Trust Fund Convertible Concessional Finance Caribbean Catastrophe Risk Insurance Facility – Segregated Portfolio Company Conference of the Parties to the UNFCCC Climate Vulnerable Forum Green Climate Fund
GDP GHG	Gross Domestic Product Greenhouse gases
ICI	International Climate Initiative (Germany)
IIF IPCC	InsuResilience Investment Fund Intergovernmental Panel on Climate Change
ISF	InsuResilience Solutions Fund
HLCG	High-Level Consultative Group of the InsuResilience
LDCs	Giooal Farmersnip Least Developed Countries
NGO	Non-Governmental Organization
PCRAFI	Pacific Catastrophe Risk Assessment &
enc	Financing Initiative
SFDRR	Sendai Framework for Disaster Risk Reduction
SIDS	Small Island Developing States
SIF	Sustainable Insurance Facility of the V20
UNFCCC	United Nations Framework Convention on Climate Char
UNISDR V20	United Nations Office for Disaster Risk Reduction Vulnerable Twenty Group of Ministers of Finance
	of the Climate Vulnerable Forum
WIM	Warsaw International Mechanism for Loss and Damage

### Glossary

**Concessional loan:** Loans that are extended on terms substantially more generous than market loans. The concessionality is achieved either through interest rates below those available on the market or by grace periods, or a combination of these. Concessional loans typically have long grace periods (OECD, see https://stats.oecd. org/glossary/detail.asp?ID=5901).

Disaster risk: The potential disaster losses of sudden or slow onset events in lives, health, livelihoods, assets and services, which could be incurred by a particular community or a society over some specified future time period. Disaster risk is a function of hazard, exposure, vulnerability and capacity.

Disaster risk reduction: The concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

Financial protection: In the context of disaster risks, the level of payment to be expected based on the occurrence of a disaster event and/or the specific costs incurred as a result of a disaster event (e.g. property insurance contract, parametric insurance contract, catastrophe bond, government compensation or financial assistance for disaster losses).

Financial vulnerability: A vulnerability that results from a gap between exposure to damage and loss and the financial capacity to absorb those damages and losses.

**Hazard:** A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Pro-poor principles: Principles as adopted by Insu-Resilience to provide guidance on designing climate risk insurance solutions that support closing the climate protection gap of poor, climate vulnerable populations;
Comprehensive needs-based solutions; 2. Client value;
Affordability; 4. Accessibility; 5. Participation; 6. Sustainability; 7. Enabling environment.

ns Reinsurance: Insurance that is purchased by insurers from the public or the private sector to cover parts of the es risk taken by the insurer; reduces the financial risk of an ls, insurer.

**Resilience:** The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

**Riskasessment:** A methodology to determine the nature and extent of risk by both analyzing hazards and their potential likelihood and intensity and estimating impacts through the evaluation of conditions of vulnerability and the identification of exposed people, property, infrastructure, services, livelihoods and their environment.

**Risk retention:** An approach to risk management that involves retaining responsibility for the risk and any costs associated with the materialization of that risk.

**Risk transfer:** An approach to risk management that involves the transfer of financial responsibility for some or all of the risk and any costs associated with the materialization of that risk (e.g. through a financial instrument such as a property insurance contract).

Slow onset events: Climate-induced, slowly occurring change of hydrological or meteorological parameters. Compensation for loss and damage caused by slow onset events cannot be provided by climate risk insurance due to three reasons: Slow onset events are foreseable, the magnitude of effects is huge and cannot be expressed in financial terms, and it is impossible to calculate exact losses and premiums.

Vulnerability: The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard and, hence, disaster. There are many aspects of vulnerability, arising from physical, social, economic and environmental factors.

Definitions, unless otherwise indicated, are taken.from IPCC (2018), OECD (2017) or UNISDR (2004).

## **Bibliography**

ACT Alliance (2018): Enhanced climate action in response to 1.5°C of global warming. Available at: https:// \$ actalliance.org/wp-content/uploads/2018/11/ACT-Alliance.Report-1.5C.pdf, accessed: 12/2/2018 j

Brot für die Welt (2017): Protected against climate change? The opportunities and limitations of climate risk insurance for the protection of vulnerable populations. Berlin. Available at: https://www.brot-fuer-die-welt. de/fileadmin/mediapool/2_Downloads/Fachinformationen/Analyse/Analysis73-Protected.against_climate.damage.pdf, accessed: 12/2/2018

Brot für die Welt (2018): Limiting global warming to 1.5°C. The climate risks and irreversible losses we must avoid. Berlin. Available at: https://www.brot-fuer-diewelt.de/fileadmin/mediapool/2_Downloads/Fachinformationen/Analyse/Analyse_86_Limiting_Global_Warming. pdf, accessed: 12/2/2018

Buhr, B. / U. Volz et al. (2018): Climate change and the costs of capital in developing countries. London. Available at: https://eprints.soas.ac.uk/26038/1/ClimateCostof-Capital_FullReport_Final.pdf, accessed: 12/2/2018

Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung (BMZ) (2015): InsuResilience. The Climate Risk Insurance Initiative. Berlin

Climate Analytics (2018): Credit ratings and climate risk: A financial trap for small island states. Blog dated May 9th, 2018

E-Pact (2017): Independent evaluation of the African Risk Capacity, London. Available at: http://www.africanriskcapacity.org/wp-content/uploads/2018/03/Formative-Phase-1:ARC-Evaluation_merged.pdf, accessed: 12/2/2018

Germanwatch (2018): Global Climate Risk Index 2019. Bonn & Berlin. Available at: https://www.germanwatch. org/sites/germanwatch.org/files/Global%20Climate%20 Risk%20Index%202019.2.pdf, accessed: 12/2/2018

IPCC (2018): Special Report Global Warming of 1.5°C. Geneva

> Jackson, F. (2018): Climate vulnerable countries face \$168 billion in higher debt costs. In: Forbes, July 3rd, 2018. Available at: https://www.forbes.com/sites/feliciajackson/2018/07/03/climate-vulnerable-countries-face-168-billion-in-higher-debt-costs/, accessed: 12/2/2018

Libanda, B. (2018): Credit rating agencies and climate change: The next headache for bond issuers in developing countries. In New Era Live. Available at: https:// neweralive.na/posts/credit-rating-agencies-and-climatechange-the-next-headache-for-bond-issuers-in-developing-countries, accessed: 12/2/2018

MCII (2016): Climate risk insurance for the poor and vulnerable. How to effectively implement the pro-poor focus of InsuResilience. Bonn. Available at: http://www.climate-insurance.org/fileadmin/mcii/documents/MCII_2016_ CRI_for_the_Poor_and_Vulnerable_full_study_lo-res.pdf, accessed: 12/2/2018

MCII (2018): Climate risk insurance: Transparency, participation and accountability – An overview assessment of regional risk pools. Bonn. Available at: http://www.climate-insurance.org/fileadmin/mcii/pdf/DiscussionPaper Series/MCII_DiscussionPaper_Vol2_2018_CRI_Transparency_Participation_Acountability_FINAL.pdf, accessed: 12/2/2018

OECD (2017): OECD Recommendation on Disaster Risk Financing Strategies. Paris. Available at: https://www. oecd.org/daf/fin/insurance/OECD-Recommendation-Disaster-Risk-Financing-Strategies.pdf, accessed: 12/2/2018

Standard & Poor's Rating Services (2015): Climate Risk: Rising tides raise the stakes. In: Insights. Available at: http://moorgatepr.com/tag/climate-change/page/3/, accessed: 12/2/2018

UNISDR (2004): Living with Risk: A Global Review of Disaster Reduction Initiatives. Geneva

World Bank Group (2012): DRFIP – Disaster Risk Financing & Insurance Concept Note: Sovereign Disaster Risk Financing. Washington, D.C.

World Bank Group (2017): Sovereign Climate and Disaster Risk Pooling, World Bank Technical Contribution to the G20. Washington, D.C.

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