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Institute for Environment
and Human Security

DISASTER RISK, SOCIAL PROTECTION AND READINESS FOR INSURANCE SOLUTIONS

REPORT
NO. 27

October 2021

Dominic Sett, Michael Hagenlocher, Davide Cotti,
Jonathan Reith, Mostapha Harb, Sönke Kreft,
Delia Kaiser, Astrid Zwick & Matthias Garschagen

INSURISK REPORT 2021:

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Foreword

Dear Reader,

As evidence on the interconnectivity of environmental and man-made hazards and their impacts on individual life and livelihood continues to grow, there is an increasing need to look beyond past trends and consider a more innovative approach to climate risk management and preparedness. In this regard, the expansion of social protection could offer new promise in future climate and disaster risk finance (CDRFI) solutions, particularly in emerging economies where high vulnerability levels are frequently accompanied by low availability of resources and little or no risk reduction strategies in place.

As shown in this report, social protection measures can have positive effects on vulnerability as well as improving readiness for insurance solutions to actively manage climate and disaster risks. Measures such as unemployment protection, housing allowance, or other cash transfers have contributed to alleviate the impacts of the COVID-19 pandemic, for example, especially for the most vulnerable parts of the population. By alleviating these socioeconomic shocks, social protection programmes can also contribute to increasing the capacity of households to cope with and adapt to climate-related hazards.

While most social protection schemes tend to focus on shocks directly affecting the lives and livelihoods of individuals, such as food insecurity or disease, in reality, many of these shocks can derive from the impacts of natural hazards and climate change. Thus, creating opportunity for more comprehensive risk management solutions that integrate social protection measures with CDRFI.

This report marks an important contribution to climate adaptation by providing a comprehensive and comparative assessment of current climate and disaster risk and readiness for insurance solutions for 188 countries, while taking into account the current state of social protection.

The concept and approach presented in the report offers deeper insights into the role of social protection and its interlinkages with climate and disaster risk management, thanks to the InsuRisk Assessment tool. It is our hope that the findings presented will contribute to close the data gap and further our understanding on the complex nature of disaster risk. Feedback on the report as well as on the InsuRisk Assessment tool is encouraged and welcomed.

Dr. Astrid Zwick

October 2021

List of abbreviations and acronyms

ARC	African Risk Capacity
ASP	Adaptive Social Protection
ASPIRE	Atlas of Social Protection Indicators of Resilience and Equity
BB	Building Blocks
CCA	Climate Change Adaptation
CDRFI	Climate and Disaster Risk Financing and Insurance
DRM	Disaster Risk Management
GDP	Gross Domestic Product
IGP	InsuResilience Global Partnership
LMP	Labour Market Programmes
LMU	University of Munich (Ludwig-Maximilian-Universität München)
MCII	Munich Climate Insurance Initiative
MDG	Millennium Development Goal
OSM	Open Street Map
RPJMN	Medium-Term National Development Plan of Indonesia (Rencana Pembangunan Jangka Menengah Nasional)
SDG	Sustainable Development Goal
SIDS	Small Island Developing States
SOP	Social Protection Performance Indicator
SP	Social Protection
UNU-EHS	United Nations University – Institute for Environment and Human Security
UN	United Nations

1. Introduction

Environmental and man-made hazards increasingly interact with social and economic change to create risk for ecosystems, infrastructures and society. By impacting on lives, health, the environment, livelihoods, infrastructure and entire economies, disastrous events associated with these hazards are posing a serious challenge towards achieving the Sustainable Development Goals (SDGs). Solutions to effectively shield people, sectors and systems from the effects of climate change and natural hazards, and support them in their efforts to cope with and recover from disasters if they happen, are therefore a prime concern of the coming decades. The expansion of social protection has a key role to play in this respect, particularly in dynamic societies of emerging economies which frequently experience high vulnerability mixed with changing attitudes and resources towards risk reduction.

Targeted information on the causes, spatial patterns, and dynamics of risk – both past and future – are needed more than ever to raise awareness, mobilize political will, and catalyse accelerated action to adapt to changing conditions and reduce risk in a preventive manner. The urgent need for increased risk understanding and knowledge creation through improved data and information is underlined by the Sendai Framework for Disaster Risk Reduction (UNISDR, 2015), notably its Priority 1: 'Understanding disaster risk', as well as by the existing global initiatives aimed to strengthen resilience of the poor and most vulnerable, such as the **InsuResilience Global Partnership** (IGP)[1]. As part of commitments under Vision 2025, the InsuResilience Global Partnership aims to provide 500 million poor and vulnerable people annually with financial coverage through Climate and Disaster Risk Finance and

1 https://www.insuresilience.org

Insurance (CDRFI) solutions and ensure that 80 of the most vulnerable countries have comprehensive disaster risk finance strategies in place by 2025 (IGP, 2019). To deliver on these ambitious goals, information on who/what is at risk, where and why is key to ensure targeted programming. While considering climate and disaster risk when planning and implementing measures to manage risk is vital, it presents only one part of the equation for successful risk management. In addition, it is equally important to consider enabling conditions for CDRFI. Therefore, assessing the 'readiness' for specific interventions presents another vital component towards building resilience.

The **InsuRisk assessment tool** (Hagenlocher and others, 2017) offers an approach for assessing both climate and disaster risk, and readiness of countries for insurance solutions. While there is an 'ecosystem' of solutions for managing climate and disaster risk comprehensively, insurance solutions present a particularly interesting and still-emerging approach, which has thus been selected for the tool. This report presents and discusses results of the 2021 global update of the InsuRisk assessment tool, providing information on climate and disaster risk and readiness for insurance solutions for **188 countries**. Following the 2020 InsuRisk report (Hagenlocher and others, 2020), which had a focus on small island developing states (SIDS), this report offers a thematic discussion of another emerging field which has gained increasing attention during the ongoing COVID-19 pandemic: **social protection** in the context of climate and disaster risk.

The world has witnessed how the COVID-19 pandemic has, often exacerbated by the concurrence of other hazards, led to devastating direct and indirect impacts on health, social and economic systems. In response to the adverse impacts of the pandemic, but also to the effects of measures taken to contain the spread of the virus (e.g. public lockdowns), countries across the world significantly expanded their social protection systems. While only 45 per cent of the world's population were covered by at least one social protection benefit before COVID-19 (ILO, 2017), many countries have made significant progress in expanding coverage and benefits to affected people (ILO, 2021; FAO, 2021). In addition to the expansion of existing schemes, over 1,600 new social protection measures have been planned and/or introduced in more than 200 countries since the beginning of the pandemic (Gentilini and others, 2020; ILO, 2021). Measures such as unemployment protection, housing allowance, or other cash and in-kind transfers have proven important tools in alleviating the widespread social and economic impacts of the pandemic (ILO, 2020a).

The success of many social protection interventions in response to the pandemic has also reignited discussions on the effectiveness of social protection to contribute to managing current and future climate and disaster risk. Contributing to this debate, this report offers deeper insights into the role of social protection and its interlinkages with climate and disaster risk. Furthermore, it will also link some of the thematic discussions to the InsuRisk assessment tool data, to further enhance knowledge on interlinkages, and thereby contribute to improved understanding of the complex nature of disaster risk.

The report introduces the concept of social protection (chapter 2.1), provides an overview of the current state of social protection (chapter 2.2), discusses the linkages between social protection and climate and disaster risk (chapter 2.3), and sheds light on social protection in the broader realm of risk financing and insurance (chapter 2.4). Furthermore, the report presents the concept and methodology (chapter 3.1) and the most recent global update of the InsuRisk assessment tool for 188 countries (chapter 3.2). Based on outlined findings, key recommendations to inform research and policy on social protection, risk insurance and financing in the context of climate and disaster risk are outlined in chapter 4.

2. Focus: Social protection

2.1. A brief introduction

Social protection (SP) aims to protect people from the adverse impacts of various risks and shocks occurring over the lifecycle (Bonilla Garcia and Gruat, 2003). While some form of social protection has always been a core component of social systems, state-led social protection comprising social insurance, social assistance and labour market programmes (*Table 1*, p.16; (based on ADB, 2016)) have seen a considerable rise in modern history. A massive push for social protection emerged in the Western world in the early 20th century, to provide support to workers during a period of economic instability (Merrien, 2013; ILO, 2017). These early schemes primarily comprised contributory programmes, such as unemployment insurance, which were co-financed by employers and/or state on the one hand and employees on the other (ADB, 2013). Such **social insurance** programmes were hence governed by the principle of solidarity (ILO, 2017): a large share of the population contributed, while only a few received benefits, thus transferring risk across time and space.

The concept of social protection has also been incorporated into international development agendas. In 2000, the Millennium Development Goals (MDGs), which aimed to foster human development and eradicate extreme poverty, highlighted social protection and support systems as key tools for

developing countries (Merrien, 2013; United Nations, 2000). Most social protection programmes developed under the MDGs were non-contributory schemes, such as cash transfers, allocated by governments or non-state actors to people determined to be at risk (Merrien, 2013). Unlike social insurance, recipients of **social assistance** do not pay into programmes (ADB, 2013). Nevertheless, some of these schemes are conditional, meaning they are linked to some kind of non-monetary contribution. For example, cash transfers have been offered on the condition that recipients regularly have to visit health care facilities or keep children in school (Doetinchem and others, 2008).

Next to social insurance and social assistance, active **labour market programmes** (LMPs) have been developed, comprising schemes such as training, regulations, or employment incentives (Pignatti and van Belle, 2018). In contrast, passive LMPs, such as unemployment benefits, are less proactive in nature.

With the adoption of the SDGs in 2015, the importance of social protection for enabling and securing sustainable development has been stressed even further. Under SDG 1 on ending poverty in all forms, Target 1.3 'Implement nationally appropriate social protection systems and measures for all, including floors, and by 2030 achieve substantial coverage of the poor and the vulnerable' calls for social protection systems and measures for all, including (i) a mix of specific social protection programmes that aim to reduce distinct risks for specific population groups, and (ii) social protection floors, i.e. universal programmes that cover basic risk faced across the entire population (United Nations, 2015). Despite the strong focus of social protection as a tool to predominantly target risk of poverty, social protection programmes provide more than just income support. For example, they aim to achieve human rights, food security, good health, decent livelihoods and decent education (Bonilla Garcia and Gruat, 2003).

2.2. Current state of social protection

Many countries have made significant progress in developing new and extending existing social protection schemes over the last years. This trend was particularly observed in Latin America and the Caribbean, Sub-Saharan Africa, and large parts of Asia, while many European countries managed to maintain their high level of protection (World Bank, 2018; ILO, 2021). Five European states (Belgium, Finland, France, Slovenia and Sweden) and one Central Asian country (Kazakhstan) have achieved full coverage (i.e. for 100 per cent of their population)[2]. Despite these frontrunner countries, and the significant progress in other countries, many countries still face significant protection gaps which need to be bridged to achieve global commitments, such as those for SDG 1.3.

Based on an analysis of most recent data in the Atlas of Social Protection Indicators of Resilience and Equity (ASPIRE[3]) database, the global average coverage of social protection, which is also referred to as the **breadth** of social protection (ADB, 2011), is 41.5 per cent, suggesting that a significant share of the global population is not covered by formal social protection schemes. Breadth in lower-middle and particularly low-income countries[4] is significantly smaller, averaging 33.9 per cent and 16.4 per cent respectively (see *Figure 1*, p.17). In 25 countries, breadth is below 10 per cent, most notably in South (and Southeast) Asia (Bhutan: 0.9 per cent, Laos: 1.7 per cent), Sub-Saharan Africa (Mali: 1.3 per cent, Zambia: 2.3 per cent) and SIDS (Tonga: 1.3 per cent, Solomon Islands: 1.6 per cent).

2 Based on ILO data that was also used for the InsuRisk assessment tool update.

3 ASPIRE is the World Bank's database compiling indicators on the scope and performance of social protection programmes. Data for coverage was available for 124 countries, with a median latest data year of 2014. For the average transfer amount, data was available for 118 countries, with a median latest data year of 2014. For the depth calculation, two countries had to be excluded due to missing GDP data. More information and data can be accessed on the ASPIRE website.

4 Based on World Bank classification, accessed through ASPIRE database.

	SOCIAL INSURANCE	SOCIAL ASSISTANCE	LABOUR MARKET PROGRAMMES
Main features	Contributory schemes, based on solidarity	Non-contributory, provided by state or non-state actors	Contributory and non-contributory, specifically related to employment
	Usually long-term	Often responsive and short-term	Can have active or passive character
		Can be conditional	
Example schemes	Health insurance	Cash and in-kind transfers	Skills development & training
	Pension schemes	Disaster relief	Unemployment benefits

Table 1: Overview of main features and examples of specific schemes for social insurance, social assistance, and labour market programmes.

Source: authors' own, based on ADB, 2013

For the evaluation of countries' social protection performance, it is not only important to look at how many people are covered, but also how much benefit is received to buffer shocks and shield from hazards. This second dimension of social protection is referred to as **depth** of social protection (ADB, 2011), and is in this report expressed through the per capita average transfer amount among beneficiaries as a share of the per capita Gross Domestic Product (GDP). Based on the latest available data in ASPIRE, the global average depth is 10.3 per cent (see *Figure 1*, p.17). The lowest depth can be observed in Ghana (0.02 per cent), Indonesia and Sudan (both 0.09 per cent), while highest values are found in Togo (50.3 per cent), Congo (45.7 per cent) and Serbia (41.3 per cent). These values show that depth can be very different within geographic regions and income groups. Therefore, no clear link between depth and income levels can be observed, in contrast to breadth. This is partly a result of the additional funding of social protection schemes through donor organizations, such as the World Food Programme, which finances and implements several programmes, thereby increasing countries' overall social protection depth, particularly in low-income countries (World Bank, 2018).

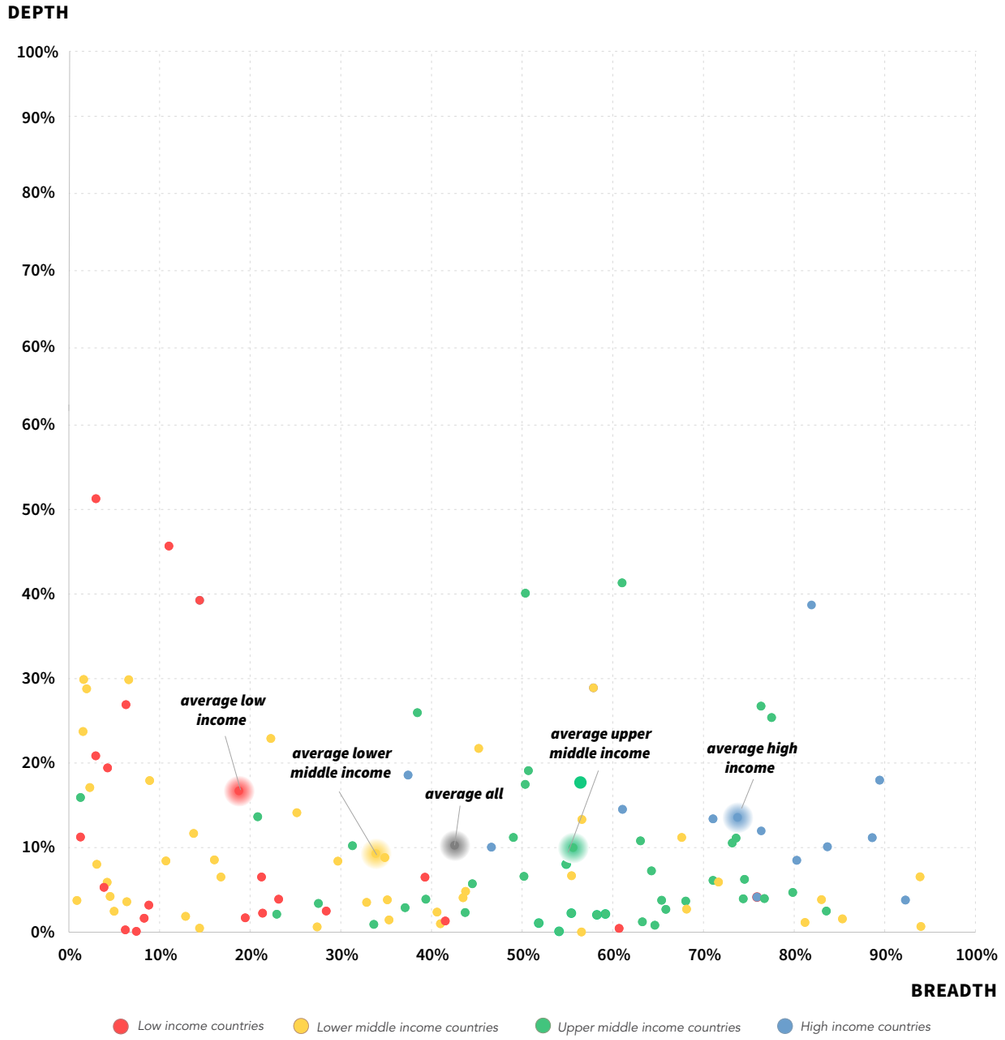

Fig. 1: Breadth versus depth levels of social protection by country across income levels.

Source: authors (based on latest available ASPIRE data)

2.3. Social protection in the context of climate and disaster risk

Apart from forms of disaster relief and recovery, risks associated with climate change and natural hazards are usually not a core target of social protection policies and programmes in most countries (Bowen and others, 2020). These covariate risks, i.e. shocks that affect a large number of people and communities at the same time, are generally addressed through disaster risk management (DRM) and climate change adaptation (CCA) policies and programmes. Rather, social protection schemes are mostly concerned with idiosyncratic, i.e. individual life and livelihood, shocks such as food insecurity or illness (Bowen and others, 2020; Davies and others, 2008). These shocks can however be directly or indirectly linked to natural hazards and climate change impacts. For example, drought and floods can damage crops and lead to food shortages and livelihood impacts, triggering food insecurity. Therefore, climate and disaster risks and lifecycle shocks are inevitably interlinked.

Consequently, social protection programmes that succeed in reducing lifecycle and livelihood risk may also reduce climate and disaster risks. For example, labour market programmes that help to secure employment and thus ensure regular sources of income provide households with increased capacities to cope with and adapt to natural hazards and climate change, which reduces their vulnerability (ILO, 2020b). Over the past few years, the effect of social protection on climate and disaster risks, including its components exposure and vulnerability, have been increasingly analysed (Aleksandrova, 2019; Aleksandrova and Costell, 2021; Holzmann, 2001; Tenzing, 2019; Ulrichs and others, 2019). Although some studies address how social protection affects exposure[5], most research to date addresses how it affects social vulnerability and people's capacities to cope and adapt. An overview on specific effects of selected social protection schemes on social vulnerability is provided in *Table 2* (p.20).

In recognition of the (co-)benefits of successful social protection programmes for reducing climate and disaster risks, systematic approaches that link social protection with disaster risk management and climate change adaptation, such as Adaptive Social Protection (ASP), have recently emerged (Davies and others, 2008; Bowen and others, 2020). Although several governments around the globe engage in ASP approaches, as also illustrated in *Box 1* (p. 22), efforts are particularly well documented for the Sahel (Béné and others, 2018) and South Asia (Arnall and others, 2010).

2.4. Social protection, insurance and risk financing

Despite the positive effect of several social protection solutions on building resilience to multiple shocks, social protection cannot work in isolation. Instead, it needs to be **embedded in a comprehensive risk management strategy** that combines different solutions for various risks (Hallegatte and others, 2017). As part of such a comprehensive approach to address risk and reduce disaster losses and damages, Climate and Disaster Risk Finance and Insurance plays a crucial role. A CDRFI approach offers a wide range of solutions, such

5 Such as programmes targeting livelihood shifts to less exposed activities or resettlement and housing programmes that sustainably move people to less-exposed locations.

as **risk transfer** through weather-based crop insurance and risk financing instruments such as contingency funds to scale-up response activities in the aftermath of disaster events, thus addressing risk on multiple levels (GIZ, 2015; Schäfer and others, 2016; Väänänen and others, 2019).

While social protection is mostly applied in settings of high vulnerability, particularly of high poverty, insurance offers an effective strategy to address risk in hazard-driven contexts, particularly for high-intensity and low-frequency events (Hallegatte and others, 2017; Fernández and others, 2019; Hagenlocher and others, 2020). On the one hand, this differentiation underlines the importance of conducting risk assessments to inform the design of an appropriate mix of solutions to manage climate and disaster risk, including insurance and social protection. On the other, it also stresses that social protection and insurance have to be considered together on all levels.

On a **micro** level, for which individuals directly contribute in forms of insurance premiums and directly receive pay-outs in case of occurring losses and damages, climate risk insurance can safeguard economic activities by contributing to livelihood stabilization and unlock growth potentials by providing incentives to invest more in insured assets (GIZ, 2015; Väänänen and others, 2019). These contributions can reduce the dependency on public social assistance for those who can afford participating in insurance schemes and thereby liberates scarce resources to achieve greater assistance for the most vulnerable (GIZ, 2015; Väänänen and others, 2019). To tackle persistent affordability challenges of low-income households, micro-insurance[6] can be offered as part of or in conjunction with social protection programmes. For example, the R4 Rural Resilience Initiative in Sub-Saharan Africa increasingly incorporates disaster, agricultural, life, and health insurance into its assistance mechanism. In exchange for engaging in public works programmes, aiming to strengthen assets and resilience of communities, farmers are provided access to insurance which also protects them individually from various risks they face (Spiegel and Satterthwaite, 2013; Fernández and others, 2019).

As part of a sovereign climate and disaster risk financing strategy, insurance also exists on the **macro** level, designed for public entities and thereby only indirectly targeting individuals (GIZ, 2015). Macro-insurance[7] instruments provide governments with immediate liquidity to upscale response efforts in the aftermath of disaster events, such as emergency operations, or restoring critical infrastructures (GIZ, 2015). In addition, macro schemes can also be used to finance immediate social assistance interventions, such as the distribution of cash transfers or food assistance (Fernández and others, 2019). For example, countries under regional risk pools, such as the African Risk Capacity (ARC), have developed contingency plans to allocate macro-insurance pay-outs to finance upscaling of national cash assistance programmes in response to hazard events (Väänänen and others, 2019). Well-functioning and inclusive registries are of utmost importance to ensure just allocation of assistance and hence need to be an integral part of the integration.

In addition to linking programmes and financial means, social protection and CDRFI can also seize benefits through coordinated **delivery mechanisms**[8]. Timely pay-out of assistance and insurance benefits to affected people is crucial to efficiently support their needs in the aftermath of disaster events (Fernández and others, 2019). In order to ensure such timeliness, distribution channels can be linked, for example by using social protection delivery systems to distribute climate risk insurance pay-outs, given that they are well-established (Scott and Meenan, 2020). Furthermore, synergies between social protection programmes and insurance providers can also be seized through joined risk models and data sets to support increased understanding and mapping of risks (Fernández and others, 2019). Therefore, social protection mechanisms can be considered an integral part of CDRFI implementation and vice versa (Scott and Meenan, 2020).

6 Micro-insurance is considered a direct insurance in which people pay an insurance premium (that can also be subsidised) to the insurer and directly receive payouts in case the insured risk manifests (Fernández and others, 2019). For example, insurance for small-scale farmers to transfer risk of crop damage due to heavy rainfall and flooding is a widely applied micro-insurance solution (Väänänen and others, 2019).

7 Macro-insurance serves as indirect insurance. Premiums are paid by a public entity, which also receives insurance payouts, which are then used to fund disaster preparedness and response that thus indirectly support affected people (Fernández and others, 2019). Multi-country risk pools such as the African Risk Capacity, or national disaster insurance, including catastrophe bonds, are prominent macro-insurance solutions (Väänänen and others, 2019).

8 Social protection delivery mechanisms are defined as operating environments to implement social protection and thus deliver benefits and services to people through specific tools and actors (Lindert and others, 2020).

	SOCIAL INSURANCE	SOCIAL ASSISTANCE	LABOUR MARKET PROGRAMMES
Effect on social vulnerability	**Pensions:** vital source for household income; facilitate access to health centres and contribute to food security	**In-kind transfers:** support people's existing coping strategies and prevents damaging coping strategies (e.g. selling productive assets such as livestock in times of drought) which weaken long-term adaptive capacity	**Labour market regulations:** strengthens rights and standards within the economy, leading to empowerment and equity
	Health insurance: increases health and wellbeing and can thereby contribute to increased human capital, such as higher educational achievement; reduces out- of -pocket expenditure, thereby allowing for investments or creating savings	**Cash transfers:** provides opportunities to invest, allowing sustained improvements in generic adaptive capacity indicators; helps to overcome acute disaster and crisis situations	**Training and labour support:** supports livelihood diversification and reduces dependency on affected livelihoods that are susceptible to climate change effects and natural hazards, such as rainfed agriculture
		Social services: increase long-term educational, health, and labour productivity	
Sources	• Davies and others, 2008 • Carter and others, 2015 • ILO, 2017 • Rao and others, 2019	• Davies and others, 2008 • Davies and others, 2013 • UNICEF and World Bank, 2013 • OECD, 2013 • ILO, 2017	• Brzeska and others, 2015 • ILO, 2017 • Heltberg and others, 2009 • WFP, 2012

Table 2: Effects of selected social protection programmes on social vulnerability.

Source: authors

BOX 1: Addressing market failure in disaster risk: Social protection and private insurance

The increased attention on social protection within the field of disaster risk finance seems to stem, at least partially, from a growing recognition of the challenges of creating disaster risk insurance markets in vulnerable countries. As such, social protection (SP) can be considered a means to correct market failures in the disaster risk space. Yet, given strained public budgets, specifically in countries such as the V20, decision-making on long-term investments in SP needs to take into account that several key barriers preventing the sustainability of insurance may also be addressed through market building measures.

Overall, SP and private disaster risk markets should be considered complementary interventions for limiting long-term pressures on public budgets. Both should work to increase each other's efficiency and effectiveness. More specifically, SP interventions should not distort market instruments and allow better-off recipients to graduate out of SP and into market-based insurance mechanisms over time. This can be done through a sequenced support package, strengthening household productivity in the process. Equally and depending on specific national circumstances, the introduction of market-based solutions should not divert political commitment away from providing SP to those most in need.

For instance, with 70 per cent of V20 economies falling within the low- and lower-middle income category while simultaneously dealing with climate- and COVID-related debt sustainability challenges, considerations of cost-effectiveness and market efficiency will be crucial. This holds specifically true for addressing issues such as moral hazard (low incentive for risk-reducing behavior in case insurance is provided), adverse selection (majority of policyholders with better risk information than insurer) or the high operational and administrative costs that come with the introduction of market-based insurance schemes. While adverse selection may equally well be addressed by making certain coverage types mandatory, both private insurers and governments have opportunities to manage moral hazard through linking access to insurance to verifiable risk reduction measures and enforcing building and settlement codes. Administrative and operational costs occur in both areas, though potentially lower in the case of SP. For market-based solutions, they may be addressed by creating public-private partnerships and smart capital support during the start-up phase.

Everything else being equal, the key rationale to decide on the combination and scale of investment in SP and/or market-building thus seems to boil down to their affordability effects and the payment capacity of specific target groups. For the lowest income segments, insurance premiums, even when reduced directly through premium financing, can remain prohibitively expensive and SP is therefore the main alternative. Apart from addressing direct affordability concerns, SP can furthermore prove to be a valuable tool for strengthening social inclusion and ensure the safeguarding of basic human rights and needs. SP investments should, however, not be made in isolation from improving overall risk markets and only target income segments that otherwise would verifiably have no access to protection. Ultimately, strengthening governments' risk management capacities while reducing their financial liabilities will also depend upon nurturing national insurance to carry an increasing share of disaster risk.

BOX 2: Adaptive Social Protection

Risks and shocks induced by natural hazards and climate change have been addressed by social protection approaches for years. However, this is still rarely done in a systematic manner that includes coordination and cooperation between sectors (Tenzing, 2019). For example, a practice commonly applied in the aftermath of a disaster event is the upscaling of social assistance benefits to affected households (O'Brien and others, 2018). Often, different actors involved in disaster response use different mechanisms to distribute benefits to the same households without coordination and no records are available on distributed benefits (Smith and Bowen, 2020). In addition, the extension of benefits is often not based on risk analyses and might thus not reach those who have been most affected (Bowen and others, 2020); or different risk and needs assessments are carried out in parallel, multiplying resources and time needed.

To close these gaps, the concept of adaptive social protection is becoming increasingly popular. ASP is an approach that systematically links social protection, disaster risk management and climate change adaptation (Bowen and others, 2020). It aims to bundle the resources of three sectors, such as knowledge, expertise and financial means, in order to optimize their use and avoid duplicate or conflicting efforts (Davies and others, 2013). This helps to increase government efficiency while at the same time building the resilience of people to increasingly complex risks (Bowen and others, 2020).

The integration of social protection, disaster risk management and climate change adaptation under an ASP umbrella, however, is not easy and bears the risk of excess complexity. Therefore, the ASP concept of building blocks was introduced for better cooperation and coordination of core elements. While the concept is still evolving, four building blocks (BBs) are considered as vital for achieving ASP (Bowen and others, 2020):

BB1: Institutional arrangements

BB2: Programmes and delivery mechanisms

BB3: Data and information

BB4: Finance

For example, institutional arrangements (BB1) could comprise specific strategies for ASP, such as in Indonesia, where ASP was made a priority in the country's mid-term development plan RPJMN (BAPPENAS, 2019). In Thailand, labour-market programmes were extended in response to tropical storm Nock-ten in 2011, to buffer disaster impacts on employment and livelihoods, providing a good example for integrated programming (BB2) (ASEAN, 2021). A best practice on data and information (BB3) can be found in the Philippines, where risk information has been integrated in the country's social registry Listahanan, to allow for better disaster planning and response (Velarde, 2018). Lastly, adaptive finance mechanisms (BB4) have been applied in the Rural Resilience Initiative in East Africa. The initiative offers labour to cover crop insurance premiums, thus providing protection without affecting farmers' financial resources. Besides, graduated steps are included to reduce the financial dependence of international actors involved in the initiative (Spiegel and Satterthwaite, 2013).

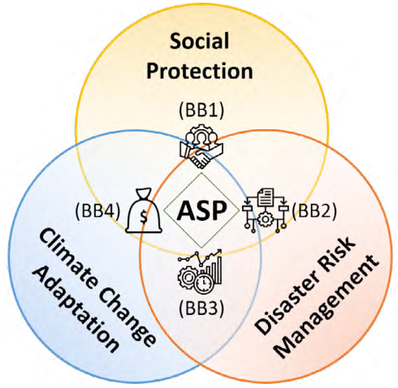

Fig. 2: ASP as an integration of its three core sectors along the four building blocks.

source: authors

3. The InsuRisk assessment tool: update 2021

3.1. Concept and methodology

First launched in 2017 to support the InsuResilience Global Partnership, the InsuRisk assessment tool (Hagenlocher and others, 2017) is designed to assess patterns of **climate and disaster risk** at the global level, while at the same time assessing countries' performances in terms of their **readiness to adopt insurance solutions** for managing climate and disaster risks.

As highlighted by Schäfer and others (2016), risk transfer, such as through insurance solutions, together with other strategies like disaster risk reduction can help address risk and thereby reduce residual risk – defined as risk that remains unmanaged after risk reduction measures have been put in place (see *Fig.* 3, p. 25, UNGA, 2016). While information at the global level is available for both risk and insurance markets independently, the InsuRisk assessment tool attempts to bring them together under one framework, allowing comparability of assessment across the two, and therefore providing a useful guide for risk-informed decision making for public and private actors.

In order to capture both dimensions, the tool relies on the construction of indices. As shown in *Figure 4* (p.26), the InsuRisk assessment tool comprises a **climate and disaster risk index**, as well as a **readiness index**. These indices are developed by aggregating information from multiple indicators via a standard-

ized methodology and subsequent synthesis into an overall metric. Further details on the data sources and methodology used for the InsuRisk assessment tool calculations can be found in the Annex of this report. The report outlines the results of the 2021 update[9] of the InsuRisk assessment tool, which for the first time expanded the methodology at the **global level**. Overall, **188 countries** were considered in the most recent version[10].

For the climate and disaster risk index, two main components are taken into consideration, following the definition of risk adopted by the Intergovernmental Panel on Climate Change (IPCC) (IPCC, 2014): (i) exposure to hazards (from now onwards, 'exposure') and (ii) vulnerability. In this report, **exposure** is defined and operationalized as the presence of people, agricultural land, production facilities and infrastructure in areas that are prone to hazards. In the InsuRisk assessment tool, exposure is assessed by calculating the spatial overlap between seven different **hazards** (heat waves, cold spells, river floods, droughts, storms, storm surges and earthquakes) and four different **assets** (population, agricultural land, production facilities and infrastructure) in different combinations (*Table 3*, p. 28). An overall exposure index was obtained by aggregating the relative exposure of each asset at the country level.

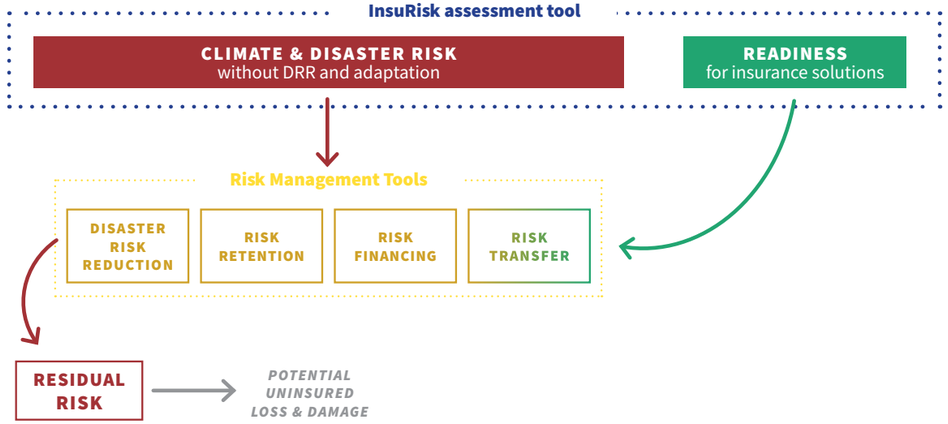

Fig. 3: The InsuRisk assessment tool in the wider context of loss and damage. Baseline information on a country's climate and disaster risk and its readiness for insurance solutions can inform a range of risk management options, including disaster risk reduction, risk retention and risk transfer. Together these options allow reducing risk to residual risk. Depending on how far reduced, there remains a potential for uninsured loss and damage.

Source: Hagenlocher and others, 2020

9 The 2021 InsuRisk assessment tool update was conducted in early 2021 with a data cut-off date in April 2020.

10 Due to poor data availability, six countries (Liechtenstein, Monaco, Andorra, San Marino, Somalia and North Korea) were excluded, hence the tool does not provide results for all United Nations member states.

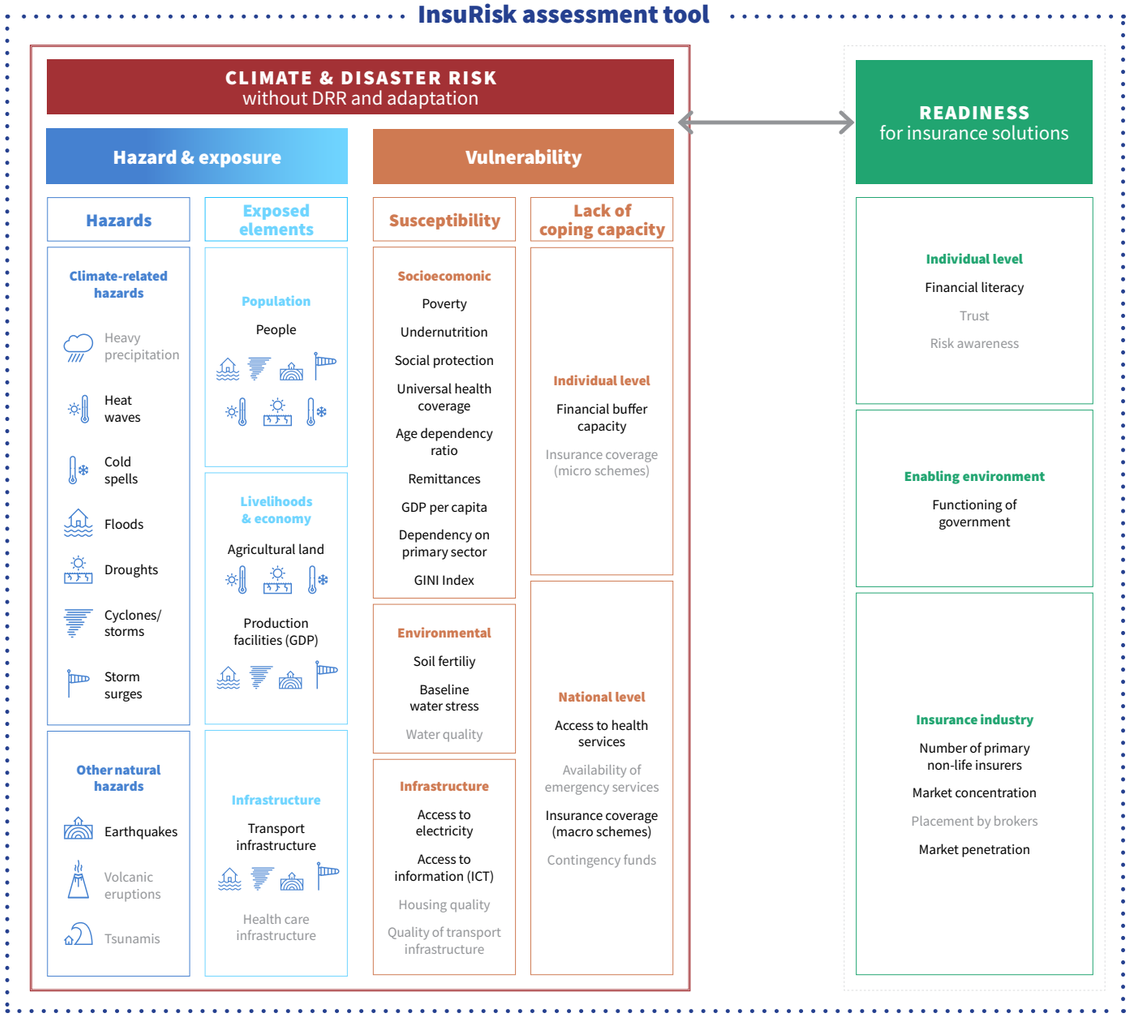

Fig. 4: Conceptual framework of the InsuRisk assessment tool. The tool consists of two key components: (i) climate and disaster risk, and (ii) readiness for insurance solutions. Elements in grey font are considered relevant but lack publically accessible data with global coverage.

Source: Hagenlocher and others, 2020

BOX 3: InsuRisk assessment tool indicators linked to social protection

Although the InsuRisk assessment tool is not specifically designed to assess and compare social protection performances across countries, it includes several indicators that are directly related to social protection systems. As outlined in Chapter 2.3, these are mainly linked to the vulnerability component of the InsuRisk assessment tool. In total, seven indicators are directly linked to social protection. 'social protection performance' (SOP) is a composite indicator obtained by combining the social protection dimensions of breadth and depth (presented above). Other social protection-related indicators in the susceptibility sub-component include 'universal health coverage', measuring the breadth of this specific social insurance scheme, 'age dependency ratio', which is highly relevant for social insurance and its financing, mostly through the working-age population, and 'personal remittances received', as a form of non-governed informal social assistance, here considered for low- and lower-middle-income countries only. Besides, relevant indicators in the lack of coping capacity sub-component include 'financial buffer capacity', which can significantly reduce the need for social assistance, as well as 'micro-insurance coverage' and 'macro-insurance coverage', as insurance schemes present important additions to social protection systems, as outlined in chapter 2.4. Linkages to readiness indicators, such as 'financial literacy' or 'functioning of government' exist, too, yet these are rather indirectly linked to social protection and thus not further outlined here.

The **vulnerability** component of the index is composed of two main sub-components: (i) susceptibility, and (ii) lack of coping capacity. While **susceptibility** refers to the predisposition to suffer harm in different dimensions (social, economic and infrastructural), **lack of coping capacity** represents the short-term ability of individuals and governments to cope with hazardous events shortly before, during or immediately after an event has occurred. Overall, the climate and disaster risk index takes into consideration 46 variables aggregated into 21 composite indicators. *Box 3* (p. 27), provides an overview of social protection-related indicators used in the InsuRisk assessment tool – notably its vulnerability subcomponent. Further information is provided in the Annex.

The **readiness** index comprises three sub-components which jointly describe a country's readiness to take-up or expand insurance solutions: (i) **individual readiness**, determined by the presence of individual bank accounts among the poorest sectors of the population, (ii) the enabling **political environment** to attract the insurance industry, and (iii) the current development status of a country's **insurance market**. Overall, the readiness index takes into consideration five indicators.

EXPOSED ELEMENT	HAZARDS CONSIDERED FOR EXPOSED ELEMENT	INDICATORS FOR EXPOSED ELEMENT	YEAR	SOURCE
Population	Heat waves, cold spells, river floods, droughts, storms, storm surges, earthquakes	Population	2020	*WorldPop*
Land use	Heat waves, cold spells, droughts	Agricultural areas	2018	*European Space Agency, 2019*
Economic production	River floods, storms, storm surges, earthquakes	Gross Domestic Product	2015	*Kummu and others, 2019*
Infrastructure	River floods, storms, storm surges, earthquakes	Major roads	2020	*Open Street Map (OSM)*
		Railways	2020	*OSM*
		Ports	2020	*Maritime Safety Information*
		Airports	2020	*Our Airports*

Table 3: Hazards considered for the different exposed elements in the InsuRisk assessment tool and the exposure data sources.

BOX 4: Limitations of the InsuRisk assessment tool

Despite periodical conceptual and technical revisions of its approach, the InsuRisk assessment tool – like any other risk assessment – is subject to some limitations which should be taken into account when interpreting the outcomes presented in this report.

A first set of limitations concern the completeness of risk and readiness factors considered in the assessment. Although the tool covers multiple hazards, exposed elements, and vulnerability factors (see Fig. 4), it does not cover all potential elements within these components. For example, landslide and wildfire hazards, or exposed ecosystems, such as forests or wetlands, are not considered in the calculations. Therefore, results might underestimate actual risk and readiness levels of countries if factors that fall outside the scope of the InsuRisk assessment tool play a major role in such countries.

In addition, the tool is limited to the assessment of current risk and readiness, as future projections and scenarios are not considered. Therefore, low levels of current risk or readiness should be interpreted carefully, as risk and readiness are likely to change in the future under different climate change and socio-economic development scenarios.

It is also important to highlight that the InsuRisk assessment tool is designed to provide a snapshot of risk and readiness on a global level across all countries. By design, this does not allow for the consideration of specific conditions and differences within countries. Therefore, results of the InsuRisk assessment tool must be complemented with more in-depth analyses on the national and local level to account for those specific conditions and differences, and thus to allow for better targeted interventions.

A fourth limitation derives from the availability of reliable, consistent and up-to-date datasets. For the current edition, data was not available, outdated and/or insufficient for several indicators, in particular in the analysis of vulnerability, as well as in the "readiness for insurance solutions" component. A more detailed overview on data availability is provided in the technical annex of this report. The lack of data availability can potentially complicate the comparison of countries' risk levels, as results might be based on different indicators.

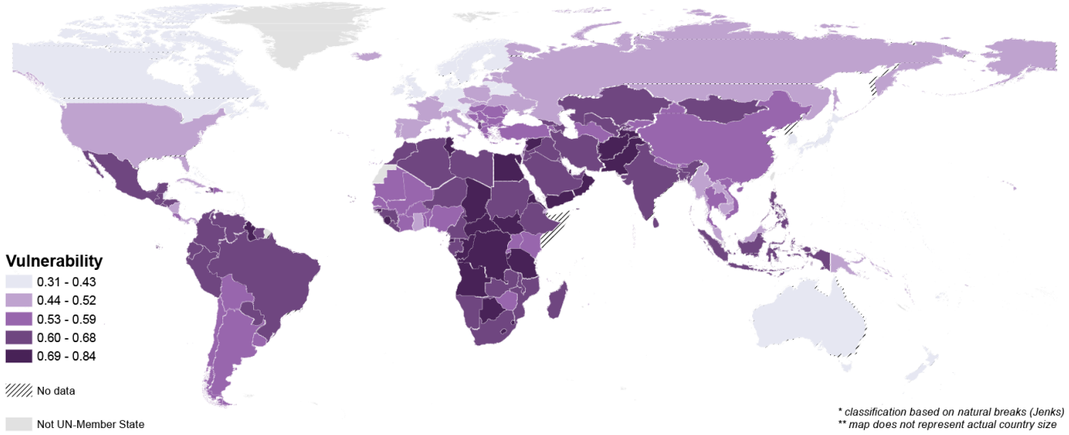

Fig. 5: Vulnerability resulting from susceptibility and lack of coping capacity.

Source: authors

3.2. Climate and disaster risk

Vulnerability

Vulnerability is distributed unevenly across the globe, with some evident hotspots and contrasting regional patterns (*Figure 5*, p. 30). Sub-Saharan Africa is particularly vulnerable, where seven out of the 10 most vulnerable countries are located, including Guinea-Bissau (ranked 1st), and Eritrea (ranked 3rd). The high vulnerability of these countries is also exemplary of the strong link between vulnerability and income level, and in particular of the disproportionate concentration of vulnerability across low-income countries[11]. In addition, Southern Asia and the Middle East are characterized by very high vulnerability. For example, Yemen ranks second most vulnerable on the global level, mainly resulting from high socio-economic and environmental susceptibility and lack of coping capacity at individual and national level.

The composition of vulnerability varies greatly across countries. Most African countries, including the most vulnerable states outlined above, are facing the double burden of both high susceptibility and high lack of coping capacity, which mutually reinforce each other in creating highly vulnerable conditions. For example, Guinea-Bissau ranks 4th in susceptibility and 3rd in lack of coping capacity. In contrast, the vulnerability of small

11 As defined by the World Bank in its 2020 update.

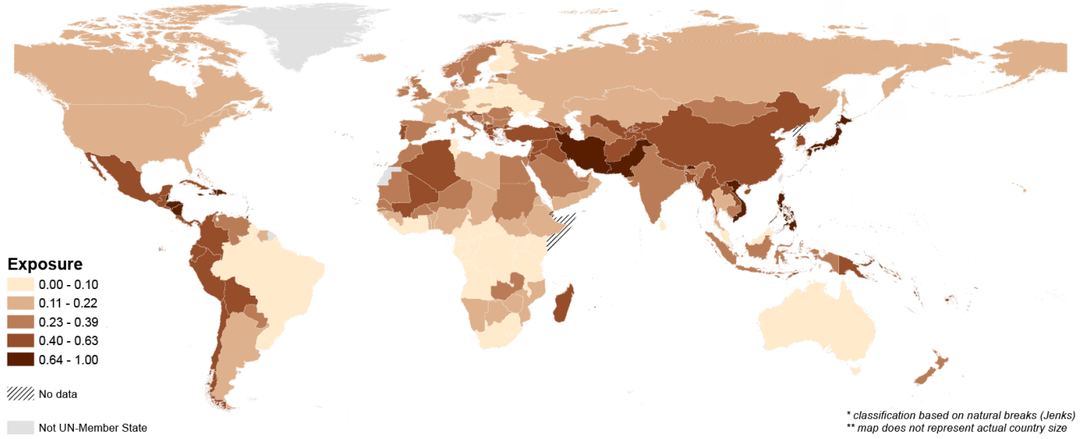

Fig. 6: Exposure of people, infrastructure, GDP and agricultural land to multiple hazards.

Source: authors

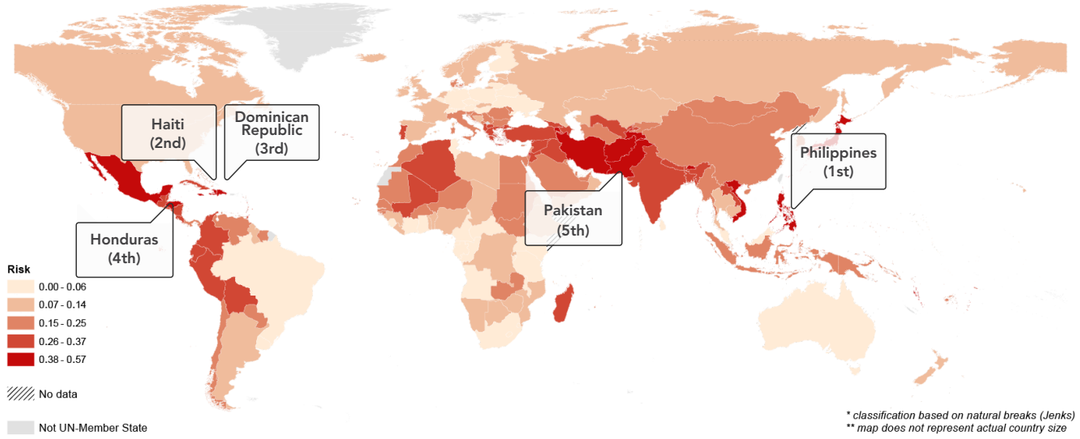

Fig. 7: Global climate and disaster risk. Risk scores are based on exposure and vulnerability levels for each country.

Source: authors

island developing states[12], particularly those located in the Pacific such as Micronesia, Papua New Guinea, and Solomon Islands, is mainly caused by comparatively high susceptibility, resulting from poor social protection performance and health coverage, and lack of information and communication technologies. The lack of coping capacities is particularly apparent for vulnerable countries in South Asia, particularly Sri Lanka, Bangladesh and India.

Exposure

Exposure differs from the observed vulnerability patterns quite significantly *(Figure 6*, p. 31). Comprising seven out of the 10 most exposed countries, the Caribbean is most exposed to natural hazards. This was also pointed out in the latest InsuRisk Special Report on Small Island Developing States (Hagenlocher and others, 2020), which highlighted that the Caribbean's high exposure mainly results from the location of economic production facilities and infrastructures in cyclone- and earthquake-prone areas. For example in Dominica, which has the highest exposure score, more than half of the country's entire economic production (55 per cent) and infrastructure (56 per cent) is exposed. Most of the Caribbean SIDS are classified as upper-middle-income countries, which – in contrast to vulnerability – is exemplary of a weak link between exposure and income levels.

12 More detailed information on vulnerability, risk and readiness for insurance solutions of 38 United Nations Member SIDS is provided in the 2020 InsuRisk Special Report on SIDS (Hagenlocher and others, 2020).

Another region that is highly exposed is Southeast Asia. Japan ranks second and the Philippines fifth most exposed on the global level. In contrast to the high economic and infrastructure exposure in the Caribbean, Japan and the Philippines have the highest population exposure. Despite comparatively low overall exposure values of most countries in sub-Saharan Africa, the high levels of agriculture exposure as well as their vulnerability (see previous sub-chapter) in this region is of particular concern. For example, 43 per cent of Mali's agricultural land is exposed to climate-related hazards. This example shows that it is essential to not only look at overall risk and exposure averages, but also to analyse how single assets contribute to these, so as to identify specific criticalities and thus design appropriate strategies.

Overall risk

Risk is highest where high vulnerability and high exposure overlap. The global distribution of risk (*Figure 7*, p. 32), however, shows that highest risk is observed in exposure hotspot regions, such as the Caribbean and Southeast Asia. Countries with the highest overall risk scores are the Philippines, Haiti, Dominica, Honduras and Pakistan. Many high-income countries, such as Australia and (Eastern) European states appear to be at lower risk, and the overall risk average of the high-income country group is indeed lowest of all income groups. However, there are notable exceptions among high-income countries, such as Japan, which ranks 7th for global risk due to its exceptionally high exposure. On the other hand, results also indicate that a considerable number of low-income countries in sub-Saharan Africa have comparatively low risk levels, mainly resulting from their low overall exposure.

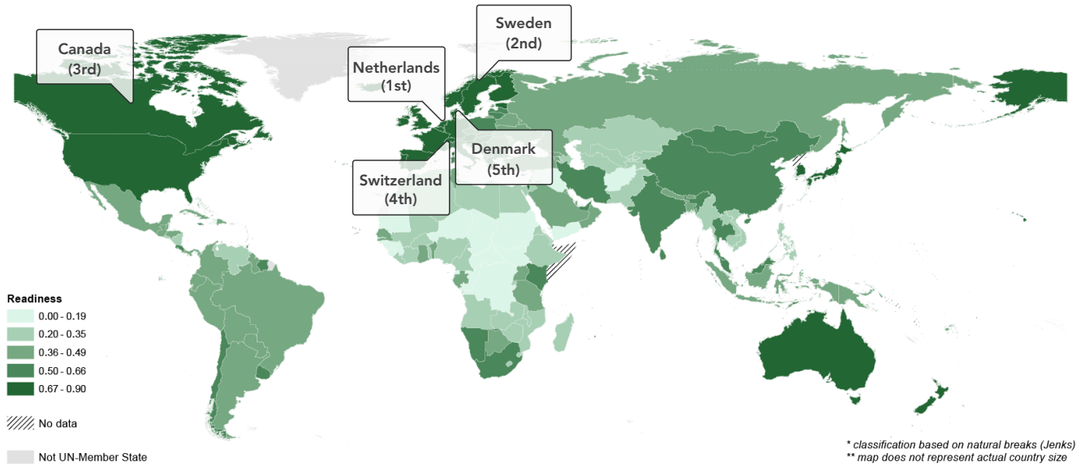

Fig. 8: Global readiness for insurance solution distribution. Readiness results from the combination of individual readiness, enabling environment, and the current development status of a country's insurance market.

Source: authors

Yet this is in fact underestimating their risk level, as these countries are highly vulnerable and would therefore suffer disproportionately in case of disaster events.

3.3. Readiness for insurance solutions

As apparent from the readiness map (*Figure 8*, p. 33), highest readiness for insurance solutions can be observed in high-income countries and regions, most notably Europe and North America. Netherlands, Sweden, Canada, Switzerland and Denmark are among the countries characterized by the highest readiness. In contrast, low-income countries face the lowest readiness, particularly those in sub-Saharan Africa, such as Guinea-Bissau, South Sudan or Central African Republic. Despite this clear pattern, some lower-middle-income countries stick out with comparatively high scores, particularly in Asia, such as in Timor-Leste, Sri Lanka, India and Mongolia.

The outlined differences in overall readiness between countries and income groups can particularly be observed for the individual readiness level and the enabling political environment. While many low-income countries in sub-Saharan Africa lack financial literacy, such as Burundi and South Sudan, where only 1.3 per cent and 3.9 per cent respectively of the poorest 40 per cent of the population has a bank account, high-income countries in Europe have (almost) full coverage (Denmark: 100 per cent, Netherlands: 99.8 per cent). The enabling political environment for insurance solutions is best in Canada and Scandinavia, while lowest values are found in low-income sub-Sahara as well as in the Middle East across income levels (Iraq and Libya: upper-middle income; Syria and Yemen: low income). High levels of penetration with insurance products can be found across income groups and regions, but are generally highest in Europe, particularly in the Netherlands (1st) and France (2nd).

3.4. Risk vis-à-vis readiness

Vulnerability vis-à-vis readiness

When juxtaposing vulnerability and readiness for insurance solutions, a clear negative link between these components can be observed, suggesting that the higher a country's vulnerability the lower its readiness (*Figure 9*, p. 35). For example, Guinea-Bissau ranks both highest in vulnerability and lowest (175th) for readiness. In addition, South Sudan and Central African Republic, ranking 4th and 5th in vulnerability as well as 2nd (174th) and 3rd (173rd) lowest in readiness, respectively, also exemplify this link. In contrast, Sweden and Switzerland rank high in readiness (2nd and 4th respectively), but particularly low in vulnerability (183th, i.e. 6th lowest and 184th, i.e. 5th lowest, respectively).

Some exceptions can be found for comparably high readiness despite high vulnerability, such as Qatar and Eritrea. This is partly related to data gaps, as missing data on socio-economic susceptibility for Qatar likely leads to an overestimation of vulnerability, and on readiness at individual level for Eritrea, which likely results in an overestimation of overall readiness for insurance solutions. However, these countries are characterized by comparably high values above global averages for individual readiness (Qatar) and readiness based on a favourable insurance industry (Eritrea), therefore providing important entry points for interventions. Lastly, several countries are characterized by comparably low vulnerability given high readiness. Most of these countries are classified as SIDS, particularly those located in the Caribbean, such as Saint Lucia or Antigua and Barbuda. For most Pacific SIDS, no data on overall readiness is available, thus preventing any comparison.

Furthermore, the levels of readiness and vulnerability are also linked to countries' income level. A significant cluster of high-income countries can be found for high readiness and low vulnerability levels whereas low-income countries are all characterized by comparatively low readiness and high vulnerability.

Exposure vis-à-vis readiness

In contrast to vulnerability, no clear link between exposure and readiness can be observed (*Figure 9*, p. 35).

All possible combinations of high and low levels of these two components can be found. Japan is characterized by high exposure and readiness while in several low-income countries, such as Central African Republic or the Democratic Republic Congo, exposure and readiness are particularly low. Several high-income countries, such as the Netherlands, built a cluster for high readiness and low exposure, and Haiti sticks out with high exposure and low readiness.

Fig. 9: Vulnerability vs. readiness for insurance solutions by country and income levels.

Source: authors

Overall risk vis-à-vis readiness

Similarly, no clear link between climate and disaster risk and readiness for insurance solutions can be observed (*Figure 10*, p. 36). However, some countries stick out facing high risk while they are also characterized by high readiness. Most notably, Japan appears to be the country with highest scores for both, ranked as 7th most at risk and 13th most ready on the global level. In addition, Portugal and Jamaica also show considerably higher values for risk and readiness, though to different degrees. While Portugal can be classified as rather readiness-driven, ranking 22nd most at risk and 28th most ready, Jamaica appears to be more risk-driven, ranking 15th most at risk and 43rd most ready.

High-income countries are generally characterized by moderate-to-high readiness and low-to-moderate risk, with only few exceptions (Japan, Barbados and Portugal with high risk; Seychelles with low readiness). In contrast, upper- and lower-middle-income countries are characterized by moderate-to-low readiness and low-to-high risk (except for South Africa and Malaysia [upper middle], Timor-Leste & Mongolia [lower middle] with high readiness). Low-income countries are generally characterized by low readiness and low-to-high risk, with some exceptions for moderate readiness (Uganda, Malawi, Rwanda and Mali). The ranges of risk and readiness for the respective income groups underline that there is a considerable number of countries which are characterized by at least moderate levels of both risk and readiness.

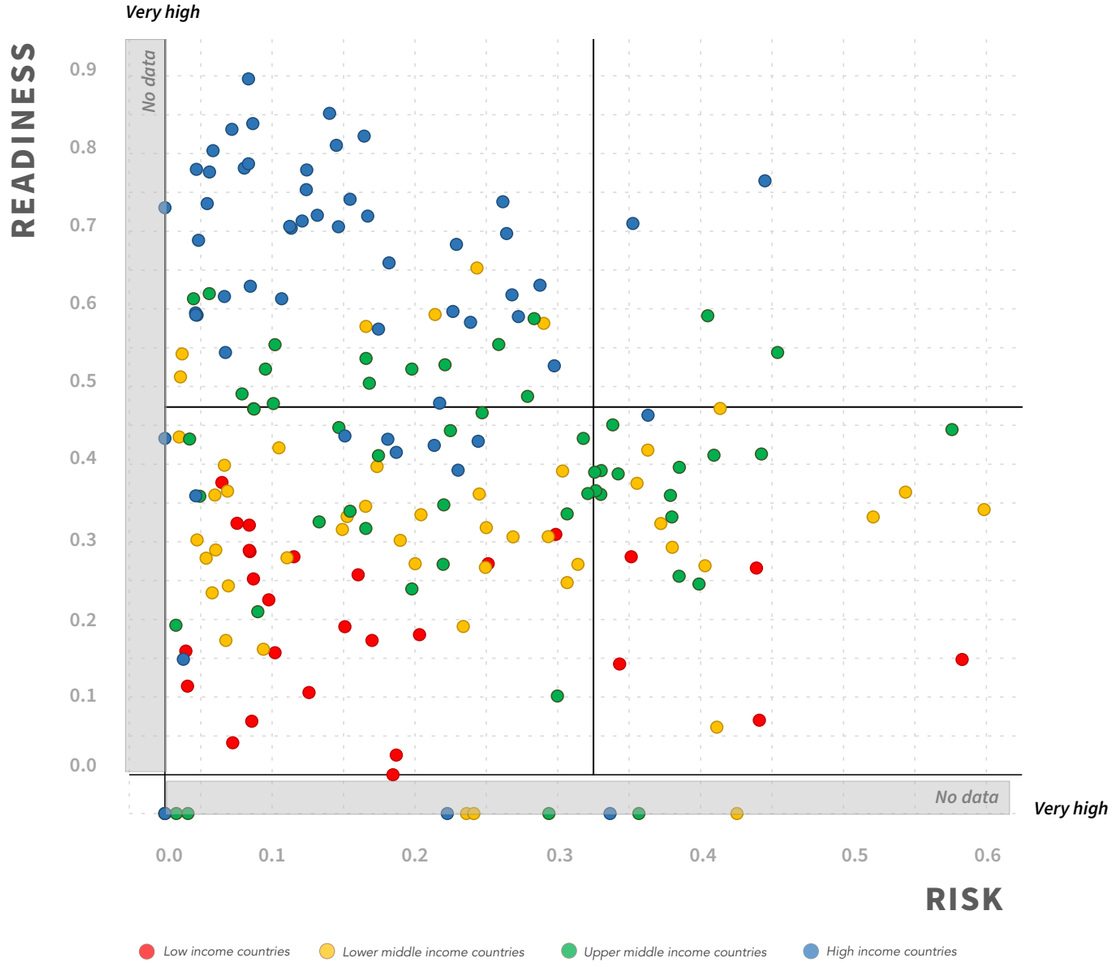

Fig. 10: Climate and disaster risk vs. readiness for insurance solutions by country and income levels.

Source: authors

Yet even countries with comparatively low overall risk can be highly at risk for specific hazard, exposure and vulnerability contexts. For example, overall index values suggest comparatively low risk for Argentina. However, due to the country's very low coping capacities, its risk might increase significantly in case of increased hazard severity or frequency. Moreover, Mali's agricultural sector is highly exposed despite only moderate overall risk levels. Both the high individual lack of coping capacities and the high agriculture exposure pose significant risk for people in these contexts that should not be underestimated based on the InsuRisk tool's results. At the same time, countries with low overall readiness might offer promising entry points for introducing insurance solutions in specific sectors. As outlined, Eritrea's favourable insurance industry could support the upscaling of climate and disaster risk insurance. Therefore, it is important to look beyond national averages when designing and implementing risk transfer solutions (Pelling and Garschagen, 2019).

3.5. Social protection vis-à-vis risk and readiness

As outlined in chapter 2, social protection can have positive effects on vulnerability while also supporting readiness for insurance solutions to manage climate and disaster risks. To assess if these effects can also be observed on a global level, results from the vulnerability sub-index and the readiness index were juxtaposed with the social protection performance indicator of the InsuRisk assessment tool (*Figure 11*, p. 38).

As evident from *Figure 11 (i)* (p.38), a negative link between countries' vulnerability and SOP can generally be observed. This link supports the assumption that the better a country's social protection system, the lower its vulnerability. However, this link is partly created by the InsuRisk assessment tool design, as the social protection performance is one of 17 indicators that comprise the vulnerability sub-index. Furthermore, the link is also rather weak and several outliers can be observed, which do not follow the general linear trend. For example, Liberia and Syria stick out with very high vulnerability values despite comparatively high SOP, particularly in regards to other low-income countries. In addition, most SIDS, particularly those in the Pacific, show a very similar pattern, as their vulnerability is relatively similar across all SOP values. For example, Kiribati ranks 140th for SOP and 162nd for vulnerability, while Vanuatu has a significantly higher social protection performance, ranking 42nd but a very similar vulnerability level, ranking 150th globally. Therefore, no clear relationship between social protection and vulnerability can be determined by the data.

For readiness and SOP, a positive link can be observed, which also appears stronger than that of vulnerability and SOP. Therefore, the data supports the assumption that the better a country's social protection system, the higher its readiness for insurance solutions (see also chapters 2.3 and 2.4 of this report). The ranges of specific countries from the generally observed trend are, however, high. On the one hand, a few countries are characterized by a comparatively low readiness despite high SOP values. This is particularly apparent for Belarus, which has the highest SOP while only ranking 79th for readiness, and to a lesser degree for Syria, ranking 39th and 166th for SOP and readiness, respectively. On the other hand, a considerable number of countries are characterized by comparatively high readiness despite low SOP levels. This can particularly be observed for SIDS, such as Jamaica (SOP: 136th; readiness: 43rd), Timor-Leste (SOP: 84th; readiness: 30th) and Singapore (SOP: 87th; readiness: 27th).

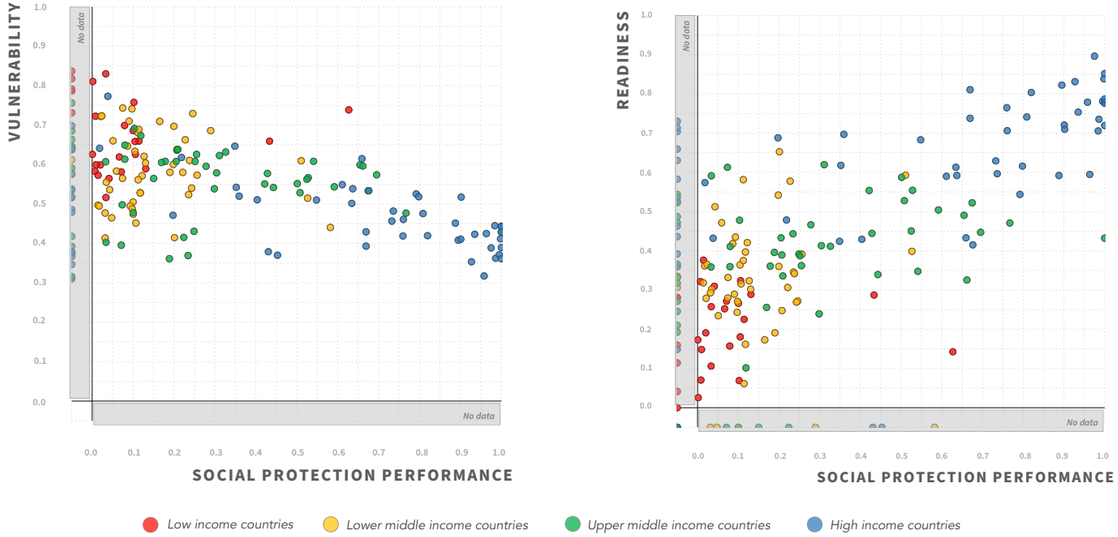

Fig. 11: Global patterns of (i) vulnerability and social protection performance, and (ii) readiness and social protection performance.

Source: authors

BOX 5: Risk and readiness for insurance solutions in V20 countries

The Vulnerable Twenty (V20) Group of Ministers of Finance of the Climate Vulnerable Forum (https://www.v-20.org) gathers the ministers of finance from 48 countries whose economies are systemically vulnerable to climate change. The group aims at identifying and sharing best practices for climate actions, including financial mechanisms, thereby increasing the capacities of its members to respond to the challenges posed by climate change. Current members include countries from very diverse geographical, economic and developmental settings. While in the InsuRisk assessment tool this diversity is reflected in different levels of vulnerability, exposure, risk and readiness for individual countries, the interpretation of the aggregated results for the V20 Group allows the comparison of the average status of the members with the overall global patterns, thus revealing the aspects that require more urgent attention. *Figure 12* (below) reports the aggregated results of the V20 for exposure, vulnerability, risk and readiness and compares them with the correspondent global levels.

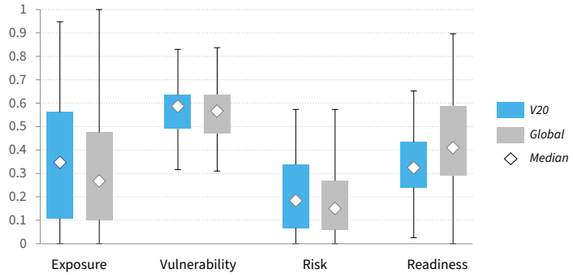

Fig. 12: Exposure, vulnerability, risk and readiness levels of V20 countries in global comparison.

Source: authors

Exposure of V20 countries is on average higher compared to the global level: of the 10 most exposed countries globally, six (i.e. 60 per cent) are part of the V20 group. This confirms that, based on the hazard and exposure data considered in this report, V20 countries are likely to be confronted with the combination of multiple hazards exposing a significant number of people and assets. The average vulnerability index score of the V20 is only slightly higher than the global average. This is, however, also linked to the strong correlation between income levels and overall vulnerability. In fact, the majority of V20 countries (21 out of 48) is classified as lower-middle-income while another 14 V20 countries are considered upper-middle and high-income, thus pushing the group's average closer to the global average. This notwithstanding, members of the group appear the most vulnerable globally, with Yemen, South Sudan and the Democratic Republic of Congo ranking 2nd, 4th and 8th, respectively.

A similar pattern also emerges for the overall risk index: V20 countries are on average more at risk compared to the global average, and its member states Philippines, Haiti, Dominican Republic and Honduras occupy the first four positions among all the 188 countries considered. Readiness is significantly lower for V20 countries, notably due to low levels of readiness at the individual level. In addition, special consideration should be placed to expanding the coverage offered by social protection in several V20 countries, as currently only three (Burkina Faso, Comoros and Palau) register a depth of social protection higher than 10 per cent, while only four (Costa Rica, Dominican Republic, Guatemala and Mongolia) attain a breadth higher than 50 per cent. Therefore, V20 countries appear to have a much lower social protection performance compared to other countries.

4. Recommendations

Based on the outlined findings of this report, recommendations have been compiled to inform research and policy on social protection, insurance and financing in the context of climate and disaster risks.

Knowledge on specific effects of social protection and insurance solutions on climate and disaster risk and its causes needs to be enhanced

Although many studies have found positive effects of social protection and insurance solutions on climate and disaster risk, additional research is needed to assess the effectiveness of these tools to manage risk in greater detail. This applies to specific programmes as well as for the effectiveness of integrating social protection and CDRFI solutions. Specific effects on risk sub-components, particularly susceptibility, have still not been covered to a full extent. In addition, possible (unintended) negative effects of social protection and CDRFI mechanisms that increase risk need to be explored to provide evidence on how to avoid maladaptation. Lastly, attitudes, such as acceptance, of people towards social protection and CDRFI measures should be considered to allow for people-centred policy planning and implementation.

Data collection and reporting on social protection should be increased

Reliable and comparable data on breadth and depth of social protection spanning across all countries and several years is

rare. Databases often apply different methodologies and classifications of social protection mechanisms that prevent comparability or focus on specific country groups (e.g. developing countries only). In order to support research and policy (also in the context of SDG Target 1.3), methodologies need to be streamlined and coverage needs to be extended.

Based on further research and evidence, lessons learnt from responding to the COVID-19 pandemic should inform the upscaling of social protection and insurance in the context of climate and disaster risk and help to look at risk holistically

As outlined in this report, social protection schemes have been extensively scaled-up to respond to impacts induced by COVID-19. Many positive and negative lessons have been shared and should provide an entry point for transferring solutions to the context of climate and disaster risks, where appropriate. Research can help to assess how exactly this transfer can successfully be managed.

Future pathways of social protection and CDRFI should be developed

It is important to look beyond past trends and consider future scenarios for social protection and CDRFI in the context of changing societies and future risks. This should also include normative debates on who should be covered, for how long, and how comprehensive coverage needs to be. These normative debates are important to include aspects of justice and fairness in policy planning and ensure that no one is left behind.

Social protection needs to be scaled-up to close protection gaps

As outlined in Chapter 2, many people, particularly in lower-income countries, are not covered by any type of social protection yet. In order to close this gap, social protection schemes need to be extended, as also agreed by countries in the SDGs. To achieve commitments, vulnerable countries, such as the V20 group, need to be supported. Furthermore, it is also important to cover the most vulnerable on an individual level, particularly those who can't afford insurance solutions and thus lack protection.

Countries need to discuss and decide on the right balance between depth and breadth of social protection

When scaling-up social protection, it is important to not only extend the breadth but to also consider depth and comprehensiveness. This is challenging given scarce resources (notably following the COVID-19 pandemic) and competing policy interests; therefore, an inclusive and participatory governance debate needs to be held to inform the right balance between breadth and depth.

Integrated approaches, such as adaptive social protection, should be considered to further strengthen the coherence and effectiveness of social protection, disaster risk management and climate change adaptation

The coordination of efforts to ensure and increase protection against various risks is crucial to avoid inefficient duplication, and seize important coherence benefits that are needed to scale-up action in order to address increasingly complex risks. Integrated approaches, such as the coordination and cooperation of institutions, the integration of programmes, increased data sharing, and integrated financing solutions, are useful in the interface of sectors. However, they are not useful in every context and thus cannot replace the continuation and upscaling of sectoral efforts.

Readiness for insurance solutions needs to be strengthened, particularly for the most vulnerable countries

As outlined in chapter 3.4, readiness for insurance solutions is particularly low in the most vulnerable countries, where it would however be needed the most. To provide an entry point for reducing vulnerability, interventions to strengthen the readiness of these countries should be applied. Ensuring better knowledge, attitudes and literacy for insurance solutions, better functioning of governments, and a strong, reliable and trustworthy insurance industry would provide favourable conditions for scaling-up insurance solutions. In addition, linking insurance solutions to social protection where needed can also add an important piece to the overall mix of solutions to reduce risk and vulnerability.

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Imprint

Publisher: United Nations University – Institute for Environment and Human Security (UNU-EHS), Munich Climate Insurance Initiative (MCII), Ludwig-Maximilians Universität München (LMU), Federal Ministry for Economic Cooperation and Development (BMZ), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, and InsuResilience Global Partnership (IGP)

Authors:

Dominic Sett, UNU-EHS
Michael Hagenlocher, UNU-EHS
Davide Cotti, UNU-EHS
Jonathan Reith, UNU-EHS
Mostapha Harb, UNU-EHS
Sönke Kreft, MCII
Delia Kaiser, InsuResilience Global Partnership
Astrid Zwick, InsuResilience Global Partnership
Matthias Garschagen, LMU

Supported by

Suggested citation: Sett, D., Hagenlocher, M., Cotti, D., Reith, J., Harb, M., Kreft, S., Kaiser, Zwick, A. and Garschagen, M. (2021). Disaster risk, social protection and readiness for insurance solutions. UNU-EHS, MCII, LMU, BMZ, GIZ. Bonn, Munich, Germany.

Acknowledgements: Moreover, the authors would like to thank Sara Jane Ahmed, Viktoria Seifert, and Architesh Panda, as well as Simone Sandholz for their contribution to the report, particularly on the role of insurance and on adaptive social protection.

As of October 2021.

Layout by Aileen Orate, UNU-EHS
Proofreading by: Stephen Boyle

UNU-EHS, MCII and LMU are responsible for the content of this publication. The InsuResilience Secretariat commissioned this product as an independent scientific input for the InsuResilience initiative. The content does not reflect any political views of the InsuResilience Global Partnership and partners.

Annex: A detailed description of the methodology (incl. indicators and data sources) is available at **http://collections.unu.edu/view/**.

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