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Gemeinsam für Menschen in Not.

WorldRiskReport 2020

Focus: Forced Displacement and Migration

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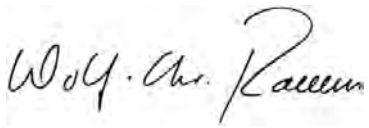
Foreword

Nothing is shaping the year 2020 as strongly as the Covid-19 pandemic. It determines our everyday life, our actions and our social interactions. Its long-term consequences are as yet unforeseeable. The news is dominated by it, while other no less important issues are receding into the background. These include the main topic of this year's WorldRiskReport, "Forced Displacement and Migration". The figures published this summer by the UN Refugee Agency are alarming: almost 80 million people are currently fleeing their homes, and refugees at the EU's external borders and internally displaced persons in their own countries continue to die every day. Time and again, it becomes clear that the risk of displacement and risks during forced displacement are unevenly distributed – globally as well as within societies. The Covid-19 pandemic further exacerbates the situation of refugees and displaced persons. Social distancing simply cannot be followed in overcrowded refugee camps such as Moria on the Greek island of Lesbos or in Cox's Bazar in Bangladesh. The people there, who are in particular need of protection in any case, are experiencing a crisis within a crisis.

Extreme natural events also often hit the poorest and most vulnerable members of society hardest, including refugees and migrants. Climate-related extreme weather events are increasing in frequency and intensity in many places, forcing more and more people to leave their homes. This year's WorldRiskReport brings this issue to the fore and demonstrates the need for climate justice and action. This is the only way to prevent many more people from having to leave their homes in the future due to irretrievably destroyed livelihoods and losing their basis of existence.

The WorldRiskReport has been published annually since 2011 by Bündnis Entwicklung Hilft. Since 2017, the Institute for International Law of Peace and Armed Conflict (IFHV) at the Ruhr University Bochum has been responsible for the scientific management and calculation of the WorldRiskIndex contained in the report. As a member of the Network on Humanitarian Action (NOHA), the IFHV ensures the international anchoring of the index in science. Building on the exchange between science and practice, we jointly pursue the goal of maintaining and increasing the usefulness of the WorldRiskReport as an instrument and guideline for decision-makers in politics and society.



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Bündnis Entwicklung Hilft is formed by the aid organizations Brot für die Welt, Christoffel-Blindenmission, DAHW, Kindernothilfe, medico international, Misereor, Plan International, terre des hommes, Welthungerhilfe and the associated members German Doctors and Oxfam. In contexts of crisis and disasters, the member organizations provide short-term relief as well as long-term support in order to overcome poverty and prevent new crises.

The Institute for International Law of Peace and Armed Conflict (IFHV) of Ruhr University Bochum is one of the leading institutions in Europe for research and teaching on humanitarian crises. Coming from a long tradition in scientific analysis of international humanitarian law and human rights, the Institute today combines interdisciplinary research in the fields of law, social science, geoscience, and public health.

Further information

In-depth information, methodologies, and tables are available at **www.WorldRiskReport.org**.

The reports from 2011–2019 can be downloaded there as well.

Contents

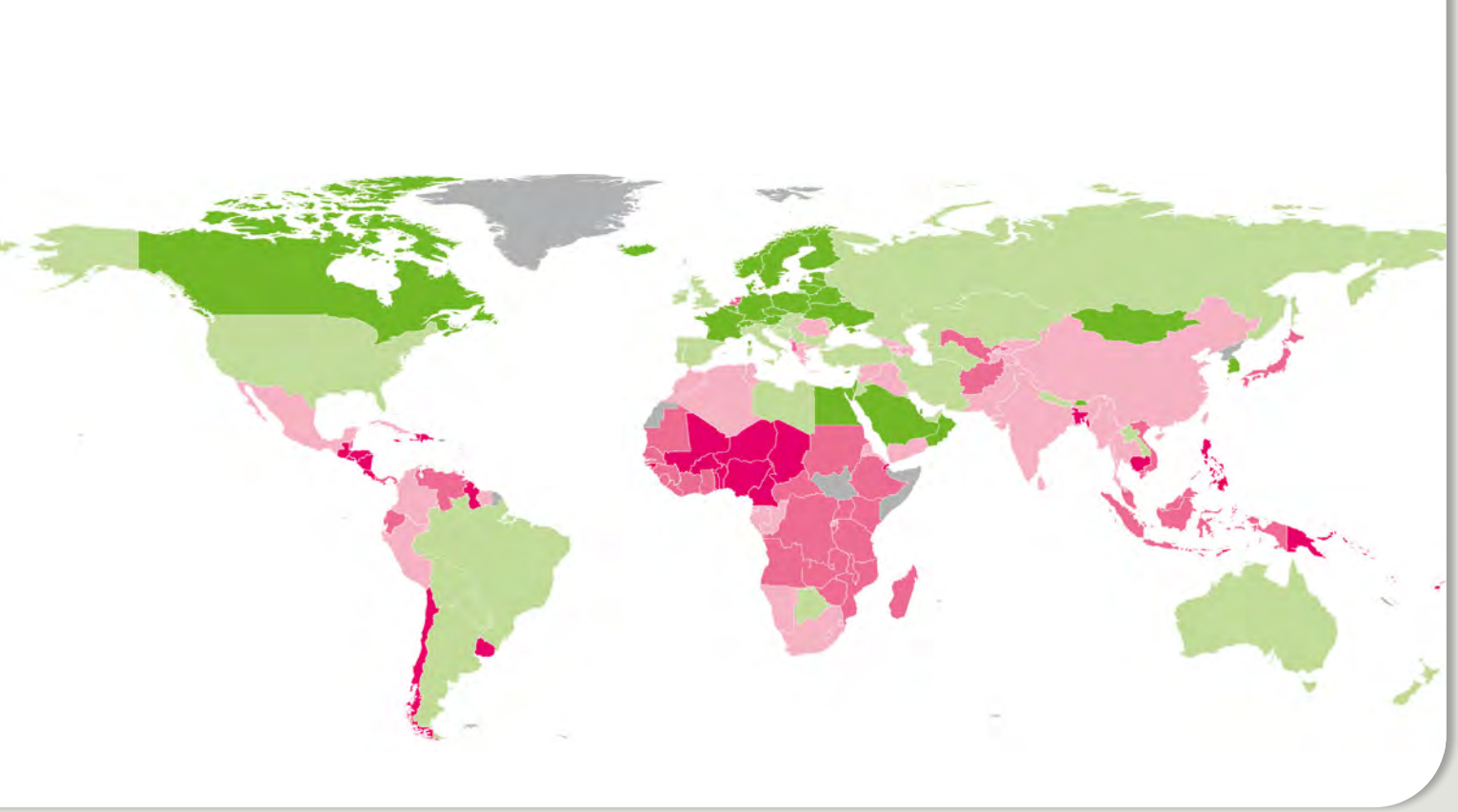


Figure 1: WorldRiskIndex 2020

Key Results

WorldRiskIndex 2020

+ The WorldRiskIndex 2020 indicates the disaster risk for 181 countries in the world. The Pacific island state of Vanuatu leads the index as the country with the highest disaster risk (49.74). Qatar has the lowest risk (0.31).

+ The disaster risk is very heterogeneous worldwide, but geographically highly concentrated. In 2020, the hotspot regions of risk are still located in Oceania, South-East Asia, Central America and West and Central Africa.

+ Comparing the continents, Oceania ranks first in terms of disaster risk, followed by the Americas, Asia and Europe.

+ Oceania is also the continent with the highest exposure to extreme natural events. It is followed by the Americas, Africa, Asia and Europe.

+ In general, island states, especially in the South Pacific and the Caribbean, are disproportionately represented among the high-risk countries. This is generally due to their high exposure to extreme natural events. These also include the rise in sea level as a result of global warming.

+ Africa is the focus of social vulnerability. More than two-thirds of the world's most vulnerable countries are located there. Among them, the Central African Republic being the country with the highest vulnerability in international comparison.

+ In the ranking of vulnerability, Africa is followed by the continents of Oceania, Asia, the Americas and Europe in descending order.

+ Germany ranks 162nd in the WorldRiskIndex. With an index value of 2.63, Germany has a very low disaster risk. With a median of 3.41 for 43 countries, Europe has by far the lowest disaster risk of all continents.

+ In 2020 a new country could be included in the WorldRiskIndex due to expanded dataset: The island state of Dominica ranks third with its very high-risk score of 28.47.

Focus: Forced Displacement and Migration

+ Extreme natural events such as floods or storms increase the probability of forced migration. Based on current information, global warming and the resulting changes in environmental factors and extreme weather conditions also lead to complex migration movements.

+ Conversely, massive migration processes can contribute to accelerating climate change. This is particularly true for rural-urban internal migration, as growing cities bring with them, among other things, temperature changes.

+ The prerequisites for coping with crises – whether caused by extreme natural events or a pandemic such as currently Covid-19 – differ worldwide. While, for example, contact restrictions in Germany slowed down the spread of Covid-19, the imposed curfew in India increased the risk of infection due to different initial conditions.

+ Vulnerable groups like the migrant workers in India are often left to their own devices in crises and disasters like the Covid-19 pandemic. Vulnerabilities could be effectively reduced if all those in need in emergency situations were entitled to state support measures.

+ In principle, states can close their borders to protect their populations, for example against the spread of infectious diseases. However, border closures must always be necessary, proportionate, and non-discriminatory. The protection of the population and the obligation to protect asylum seekers must be reconciled.

+ One response to the vulnerability of refugees and displaced persons is to strengthen human rights. In doing so, the special needs and particular vulnerability of vulnerable groups must always be considered.

+ The international human rights offer migrants a legal reference point for acting against global injustice. On this basis, displaced persons can claim their rights not only against their home country, but also against the host country.

Rank	Country	Risk
1.	Vanuatu	49.74
2.	Tonga	29.72
3.	Dominica	28.47
4.	Antigua and Barbuda	27.44
5.	Solomon Islands	24.25
6.	Guyana	22.73
7.	Brunei Darussalam	22.30
8.	Papua New Guinea	21.12
9.	Philippines	20.96
10.	Guatemala	20.09
11.	Cape Verde	17.73
12.	Costa Rica	17.25
13.	Bangladesh	16.40
14.	Djibouti	16.23
15.	Fiji	16.00
...	...	...
162.	Germany	2.63
...	...	...
167.	France	2.47
168.	Lithuania	2.26
169.	Sweden	2.20
170.	Switzerland	2.15
171.	Maldives	2.12
172.	Estonia	2.03
173.	Finland	1.96
174.	Egypt	1.78
175.	Iceland	1.69
176.	Barbados	1.39
177.	Saudi Arabia	1.04
178.	Grenada	0.97
179.	St. Vincent and the Grenadines	0.81
180.	Malta	0.66
181.	Qatar	0.31

Figure 2:
Extract from the WorldRiskIndex 2020

+ The well-being of individuals, in cases of forced displacement and migration too, depends on the willingness of the international community and states that implement international treaties and agreements.


UNHCR

1 Disaster Risk, Forced Displacement and Migration

Peter Mucke
Managing Director,
Bündnis Entwicklung Hilft

Current disasters and potential natural hazards are forcing millions of people worldwide to leave their homes. This will increase in the future if no effective climate protection measures are taken. A connection between the occurrence of individual extreme natural events and climate change is still difficult to prove. From a global perspective, global warming has meanwhile clearly led to a change in the regional frequency and intensity of storms, floods, and droughts. But whether and when persons take the drastic step of leaving their home does not depend solely on external hazards. Social factors such as community protection or the individual financial situation are also decisive. Forced displacement and migration are therefore closely linked to both dimensions of risk analysis in this report – exposure and vulnerability.

For forty days they pulled their sleds and kayaks until they reached the west coast of Greenland. In 1888, polar explorer Fridtjof Nansen and his small crew were able to prove that the country was covered by a closed ice sheet during their journey across Greenland. After the First World War, in view of the large number of refugees, Fridtjof Nansen became an energetic advocate for them from 1920 as Norway's envoy in the League of Nations and, from 1922, as the League's first High Commissioner for Refugees.

Polar ice and forced displacement will continue to be mentioned in direct connection – albeit in a different way than Fridtjof Nansen could have foreseen: From 2006 to 2015 alone, around 278 billion tons of ice melted in Greenland every year. This caused sea levels to rise by 0.77 millimeters a year. In addition, 155 billion tons of ice melted in Antarctica every year, raising sea level by a further 0.43 millimeters per year. By 2100, sea level could rise by even more than one meter compared to the reference period 1986 to 2005, due in large part to the melting of polar ice if no consistent climate protection measures are taken (IPCC 2019). Without serious countermeasures, millions of people in coastal regions would then only be left with resettlement or forced displacement.

Extreme natural events, which in this report include not only sea-level rise but also storms, floods, earthquakes and droughts, are already forcing millions of people to flee within their own country every year – either because of a direct physical threat from the natural hazard or because of secondary effects such as the destruction of livelihoods. It is now clearly evident that climate change is leading to a change in the regional frequency and intensity of extreme natural events (Lehmann et al. 2018). However, based on current analyses, a direct connection between climate change and individual natural hazards cannot be proven (Faust / Rauch 2020).

Proactive migration, a response to potential natural hazards such as an impending rise in sea levels, is also likely to increase – in which case migration is a possible form of adaptation to hazards (IOM 2019b; IDMC 2017). However, migration is not monocausal. A combination of economic, environmental, social and political aspects is considered to be the main driver (see Chapter 2.1). The impact of the individual factors is difficult to operationalize, and research findings are therefore inconsistent. In general, it can be observed that "mixed migration flows" are becoming more common: groups of migrants are increasingly made up of people

Forced Displacement and Migration – Terms and Definitions

The following list includes key terms related to forced displacement and migration, which are used in the WorldRiskReport 2020.

Migrant

"An umbrella term, not defined under international law, reflecting the common lay understanding of a person who moves away from his or her place of usual residence, whether within a country or across an international border, temporarily or permanently, and for a variety of reasons. The term includes a number of well-defined legal categories of people, such as migrant workers; persons whose particular types of movements are legally-defined, such as smuggled migrants; as well as those whose status or means of movement are not specifically defined under international law, such as international students." (IOM 2019a)

Refugee

[Any person who] "owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it." (UNGA 1951; UNGA 1967)

Asylum seeker

"An individual who is seeking international protection. In countries with individualized procedures, an asylum seeker is someone whose claim has not yet been finally decided on by the country in which the claim is submitted. Not every asylum seeker will ultimately be recognized as a refugee, but every refugee was initially an asylum seeker." (UNHCR 2006)

Internally displaced person (IDP)

"Persons or groups of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural[1] or human-made disasters, and who have not crossed an internationally recognized state border." (UNCHR 1998)

(Forced) Displacement

"The movement of persons who have been forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalized violence, violations of human rights or natural[1] or human-made disasters. [...] The above definition is meant to cover both internal and cross-border displacement." (IOM 2019a)

Returnee

"A person who was of concern to UNHCR when outside his / her country of origin and who remains so, for a limited period (usually two years), after returning to the country of origin. The term also applies to internally displaced persons who return to their previous place of residence." (UNHCR 2019)

[1] The term "natural disasters" is not consistent with the concept of disaster used in the WorldRiskReport. This concept assumes that disasters resulting from extreme natural events are not only caused by the natural event as such, but are also influenced by the societal conditions (see Chapter 3).

with very different motivations (Horwood et al. 2019).

Conceptual bases and their political dimension

The term "migration" encompasses many forms of mobility (see overview on the left). Four fundamental questions allow an approach to the different types of migration (IOM 2019b; WEF 2017):

+ Is the movement domestic or across national borders? (classification according to political borders)
+ What pattern of movement does the migration follow? (gradual migration, circular / seasonal migration, chain migration)
+ Is the movement voluntary or due to compulsion or forced by circumstances? (voluntary migration or forced displacement)
+ How long is the stay? (short-term migration and long-term migration lasting over a year)

Since migration is used as a generic term for various forms of mobility, many studies subsume forced displacement under migration. However, the term "forced displacement" is interpreted or used differently depending on the direction of observation: This ranges from the colloquial "fleeing from something" (for example, even from extreme natural events) to the limitation to the legally established term "refugees" according to the Geneva Refugee Convention. Irrespective of this partially varying perspective, forced displacement always occurs out of impending or acute need. Migration, on the other hand, can also take place for other reasons that are not necessarily linked to an emergency situation.

Internal displacement and international migration

The vast majority of all people displaced by extreme natural events seek (temporary) refuge within their own national borders. Most of these displacements are due to floods and storms. According to IDMC (2017), more than

half of the world's disaster-related displacements take place in South and East Asia and the Pacific region, with Small Island Developing States (SIDS) being disproportionately affected. Overall, extreme natural events in 2019 caused almost three times as many internal displacements as violent conflicts (IDMC 2020a, see fold-out map "Extreme natural events versus conflicts as triggers for internal displacement"). However, even the majority of people who have to leave their homes due to violence and armed conflict do not cross national borders but seek refuge within their own country, and thus are "Internally Displaced Persons" (UNHCR 2020g).

According to United Nations estimates, the worldwide number of international migrants grew to approximately 272 million in 2019 (UN DESA 2019b). This would correspond to a very significant increase of almost 100 million international migrants since the year 2000, but the estimates should be treated with caution, as they are based on data provided to the United Nations by the individual states, some of which define international migrants differently (IOM 2019b).

With about 20 million refugees under UNHCR mandate in 2019, forced displacement across international borders – in purely quantitative terms – represents a rather small proportion of migration. However, refugees are one of the population groups that are often most in need of humanitarian aid. Forced displacement across national borders due to violence and conflict is unevenly distributed globally. More than two-thirds of all cross-border refugees come from just five countries: Syria, Venezuela, Afghanistan, Southern Sudan, and Myanmar. The majority (73 percent) of those who cross a national border stay in a neighboring country of their home country (UNHCR 2020g).

Risk evaluation

In the WorldRiskIndex, exposure and vulnerability are analyzed on the basis of selected indicators, thereby providing an assessment of disaster risk (see also the showcase "The concept of the WorldRiskReport", page 15). Owing to the multi-causality of forced displacement and migration as well as their complex and context-dependent interactions with exposure and vulnerability, there is no separate indicator in the WorldRiskIndex that places forced displacement and migration in a direct relationship with disaster risk. However, the indicator on fragile statehood does include the situation of refugees and forcibly displaced persons as a subcategory. As a cross-cutting issue, forced displacement and migration are indirectly relevant, to a large extent, to the vulnerability indicators. For example, the indicators on poverty and supply dependencies as well as on economic strength and income distribution are relevant both to the assessment of disaster risks and to the analyses under this year's priority theme (see Chapter 3).

In addition to the usual vulnerability factors, refugees and migrants often face further aggravating factors such as language barriers, lack of familiarity with local structures and difficult access to state prevention and assistance programs (see the foldout card "Forced Displacement and Migration: Causes, Obstacles, Possible Negative Consequences"). Migration and forced displacement can destroy family structures, divide communities, weaken social networks, and also indirectly significantly increase the vulnerability of individuals, such as women and children who are left behind (Opitz-Stapleton et al. 2017).

At the same time, migrants and refugees bring with them important capacities that can be crucial in managing crises. For example, they can contribute to the dissemination of information through their linguistic and cultural diversity. In this regard, it is crucial that governments recognize and consider the different needs and capabilities of citizens and non-citizens (IOM 2019b).

Refugees, forcibly displaced persons and migrants not only generally have a higher vulnerability but are also often forced by their living conditions to consciously accept increased exposure. This can relate to their whereabouts and working conditions, as well as to the dangers they face on the road (see Chapter 2.2). Furthermore, various factors that contribute to migration decisions are directly

and indirectly influenced by extreme natural events. For example, adverse environmental changes can have a negative impact on the value and income of household goods by reducing land and property and lowering agricultural output (for example crop yields) or by increasing the price of goods and reducing purchasing power (Feng et al. 2010).

Although forced displacement and migration may occur to avoid high exposure, marginalization and exclusion of refugees and displaced persons result in most cases in an increased risk during extreme natural events (IOM 2019b). This applies, in particular, to migrants and refugees who have no or only weakly developed social structures in their new place of residence, which makes it harder for them to obtain information about extreme natural events in their geographical vicinity, for example (Opitz-Stapleton et al. 2017).

Extreme natural events and forced displacement during the Covid-19 pandemic

The Covid-19 pandemic, which marks the year 2020, has intensified other crises and, at the same time, relegated them to the background. One example is Cyclone Amphan: In May 2020, the cyclone caused severe damage at speeds of up to 185 kilometers per hour in West Bengal and Bangladesh. Thousands of houses were destroyed, power cuts occurred in large areas, and roads were flooded in many places. The coronavirus crisis made emergency relief measures more difficult (Bündnis Entwicklung Hilft 2020). For example, during distributions the helpers had to pay close attention to the social distancing to protect themselves and others. In India, due to the Covid-19 pandemic, many evacuation centers were already occupied because they had been converted into quarantine facilities or shelters for migrants returning home because of the lockdown (Oxfam 2020).

People who already live under precarious conditions before the onset of a pandemic or an extreme natural event (which applies to the majority of people in the large emergency shelters) are particularly vulnerable and therefore have a higher risk. Many camps have inadequate water and sanitation facilities, which are often used by far more people than originally planned. Comprehensive hygiene measures, which are indispensable for protection against Covid-19, cannot usually be guaranteed in such camps (see Chapter 2.3). Social distancing is hardly feasible in overcrowded camps – some of them are among the places with the highest population density worldwide (IRC 2020).

People in informal settlements, especially those in the Global South, are confronted with a similar situation. The poorer urban population often settles in areas that are unattractive to the wealthier part of the population and therefore not yet inhabited. For example, the increasing development of steep and unstable slopes leads to a high risk of landslides or flooding. High settlement density, temporary shelters and a lack of infrastructure make people even more vulnerable (Abunyewah et al. 2018). The Covid-19 pandemic exacerbates such inequalities, as measures to contain the virus in informal settlements in countries of the Global South are generally not feasible (Kluge et al. 2020).

Outlook

The international community of states has given itself time until 2030 to implement the Agenda for Sustainable Development and the Sendai Framework for Disaster Risk Reduction. These two international agreements are particularly relevant to the interactions between extreme natural events, climate change, environmental degradation, forced displacement and migration (UNGA 2015; UNISDR 2015).

In the Sendai Framework 2015-2030, forced displacement and migration are integrated in a more comprehensive way than in the previous ten-year period. However, crucial aspects are still not sufficiently addressed in this framework, such as the need for risk reduction measures for different groups of migrants. The primary reason for this is the unwillingness of some states to discuss forced displacement and migration in the context of disaster risk reduction. This can also be seen in comparison with the Sustainable Development Goals (SDGs) developed in parallel. Thus, some of

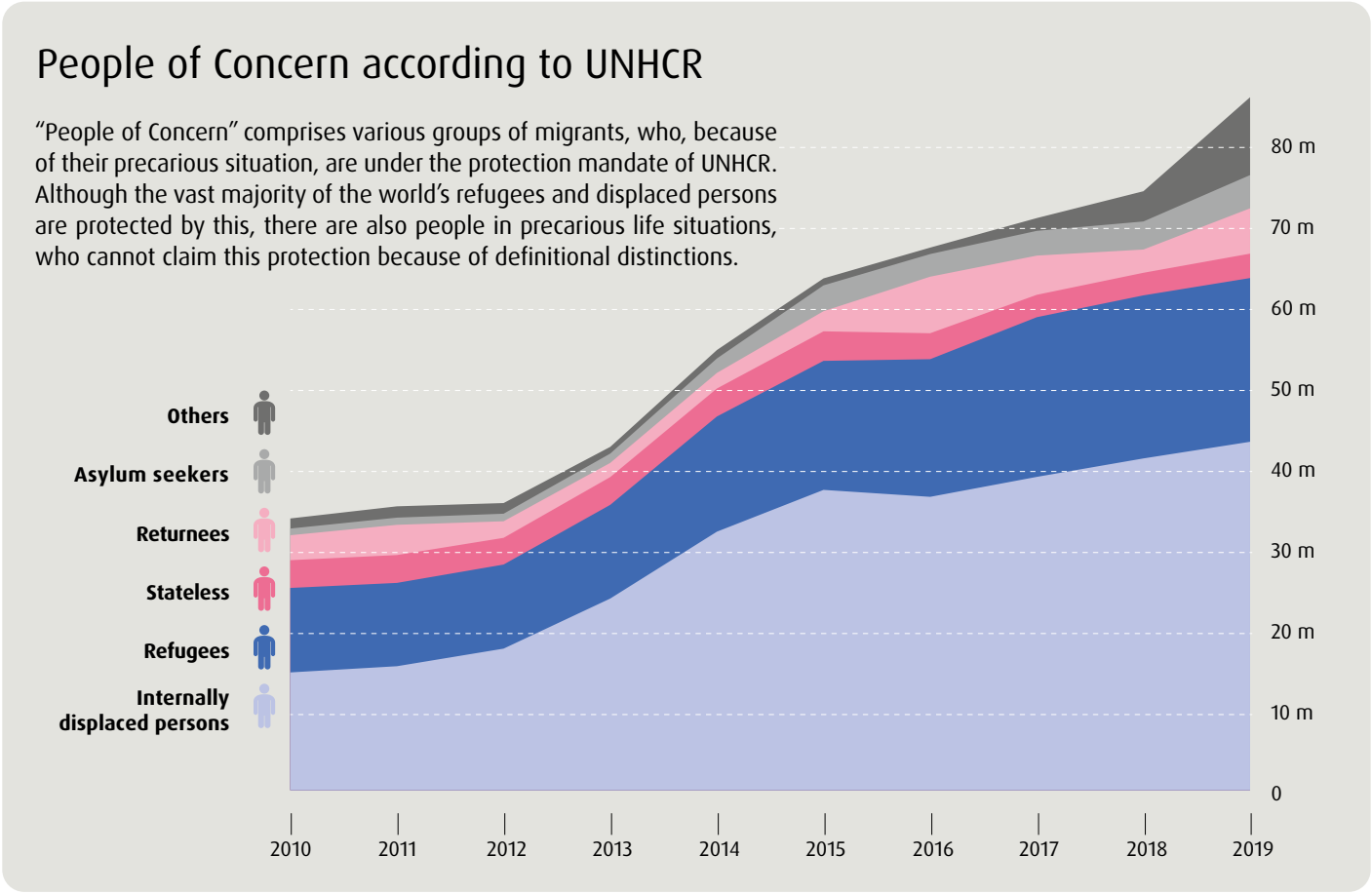


Figure 3: Composition and size of different groups of migrants under the protection mandate of the UNHCR (Data source: UNHCR 2020f)

the objectives anchored in the SDGs are either weakened or not sufficiently taken into account in the Sendai Framework (Guadagno 2016).

This applies, for example, to "remittances", the money transfers from migrants to relatives who have remained behind. While in the process of developing the SDGs, there was pressure to simplify and thus promote "remittances", such simplifications were critically assessed in the negotiations on the Sendai Framework. Although, in principle, they can lead to a strengthening of individual capacities for adaptation and coping, thus leading to a progressive development in the countries of origin, a danger was anticipated that regional individual initiatives could be inhibited and instead dependencies on the inflow of money could be created (Guadagno 2016).

The SDGs cover further issues that are relevant in the context of forced displacement and migration; as an essential component of sustainable development, this is anchored in a total of ten of the 17 SDGs (see Chapter 4).

At an international level, there is a current debate on the possibility that internationally enshrined human rights offer refugees and migrants the chance to obtain protection in a country less affected by climate change. A statement by the UN Human Rights Committee legally opened this path in January 2020 (see Chapter 2.4).

In addition, a discussion is taking place at United Nations level on expanding the refugee concept. As Filippo Grandi, UN High Commissioner for Refugees, said: "Forced displacement across

borders can stem from the interaction between climate change and disasters with conflict and violence, or it can arise from natural [events] or man-made disasters alone. Either situation can trigger international protection need." (Thompson 2019). In July 2020, the UNHCR emphasized that persons originating from states or regions affected by climate change and extreme natural events can also be refugees within the meaning of the Geneva Convention. This is the case, for example, when disasters such as drought or famine are linked to armed conflicts or disputes that are racially, ethnically, religiously or politically motivated. Persecution within the meaning of the Geneva Refugee Convention may also be present if certain population groups are disproportionately exposed to such disasters, for example by being deprived of protection or assistance (UNHCR 2020h). The United Nations has thus declared its readiness to address the questions of the future – so far with an uncertain outcome.

For the time being, however, the measures to contain the Covid-19 pandemic have massively limited the protection of refugees. The number of asylum applications in the EU fell from 57,105 in May 2019 to 10,200 in May 2020 (EASO 2020). Due to the coronavirus crisis, the capacity to register refugees and document their data is limited in many places. However, these registrations are an essential part of protection activities and provide an overview of the global situation of refugees (UNHCR 2020g). There are considerable fears that individual states will use the contact ban measures introduced with the Covid-19 pandemic to establish their entry restrictions and the rejection of refugees and migrants at borders in the long term.

His tireless commitment to refugees, together with his ground-breaking polar journeys, has characterized the lifework of Fridtjof Nansen. To this day, the UNHCR continues to award the Nansen Refugee Award annually for outstanding commitment to refugee protection. The award winners stand for the values that Fridtjof Nansen embodied throughout his life: a firm conviction and persistence in the face of challenges (UNHCR 2020i). These principles have not lost any of their significance in light of the challenges yet to come.

The concept of the WorldRiskReport

Concept of "risk" and approach

The risk assessment in the WorldRiskReport is based on the general notion that the intensity of the extreme natural event is not the only factor of relevance to the disaster risk, but that the overall situation of society is equally important. If it is less developed, a society will be more vulnerable to natural events than if it is better prepared in regard to susceptibility, coping capacities, and adaptive capacities (Bündnis Entwicklung Hilft 2011).

Risk assessment

The WorldRiskReport contains the WorldRiskIndex. Since 2018, it has been calculated by the Institute for International Law of Peace and Armed Conflict (IFHV) at Ruhr University Bochum. The Index was developed by Bündnis Entwicklung Hilft in cooperation with the United Nations University in Bonn. In addition to the data section, the WorldRiskReport always contains a focus chapter examining background and context from a qualitative perspective – this year's topic is "forced displacement and migration".

The calculation of the disaster risk has been performed for 181 states worldwide and is based on four components:

+ **Exposure** to earthquakes, storms, floods, drought, and sea-level rise
+ **Susceptibility** depending on infrastructure, food supply, and economic framework conditions
+ **Coping capacities** depending on governance, health care, social and material security
+ **Adaptive capacities** related to upcoming natural events, climate change, and other challenges.

The WorldRiskIndex can only consider indicators for which comprehensible, quantifiable data is available. For example, while immediate neighborhood assistance cannot be measured in the event of a disaster, it is nonetheless very important. Furthermore, variances in data quality among different countries may occur if data is only gathered by national authorities and not by an independent international institution.

The aim of the report

The exposition of the disaster risk using the index and its four components shows the disaster risk hotspots across the world and the fields of action to achieve the necessary reduction of risks. Complemented by qualitative analyses within the report, it is possible to formulate recommendations for action for national and international, state and civil society actors.

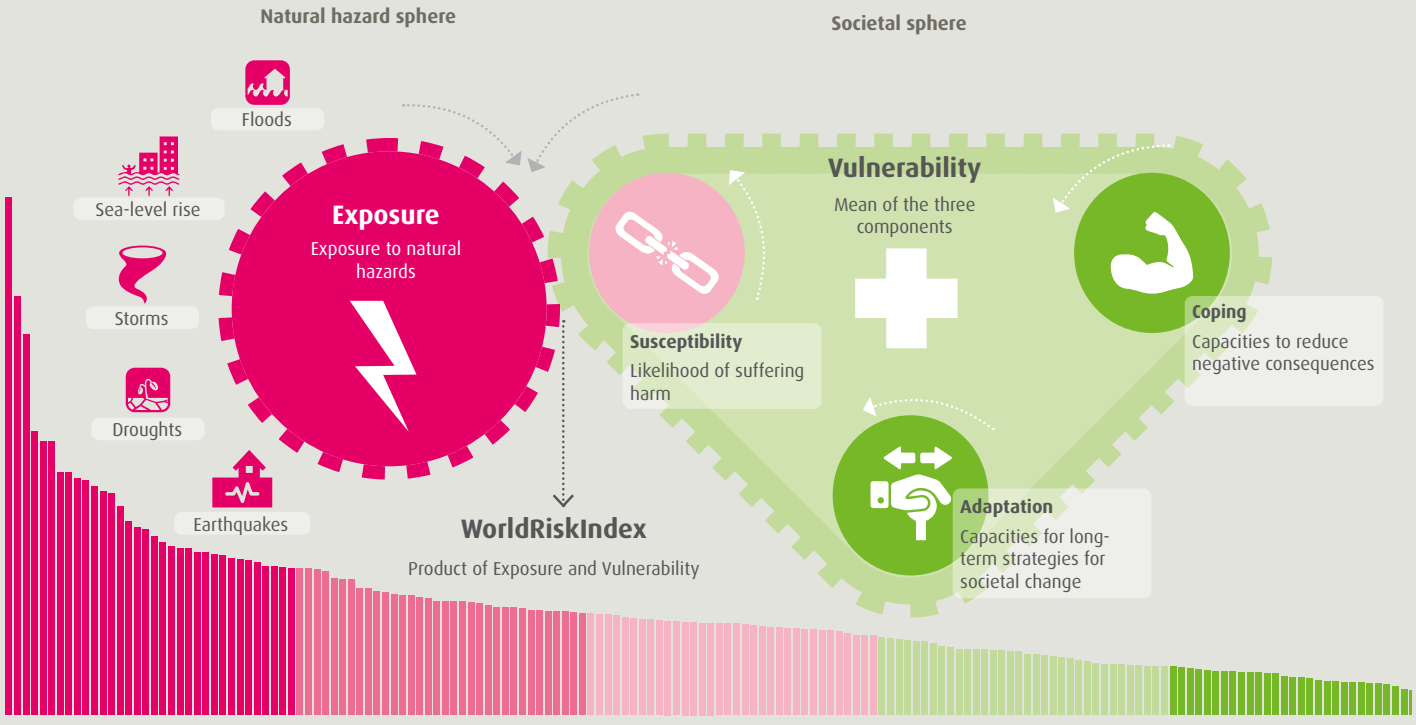


Figure 4: The WorldRiskIndex and its components


DOUDOU SONKO
GAMBIEN
GAO, le 27/11/2017
Police d'Immigration - Gao
Maison du Migrant - Gao
Pâtes Sim
Moyen coude

2 Forced Displacement and Migration

2.1 Extreme Natural Events, Climate Change and Migration

Ludger Pries
Professor of Sociology with Focus on Organization, Migration, Participation, Ruhr University Bochum

Since the beginning of 2020, the coronavirus crisis has made it particularly clear that the major challenges facing humanity do not stop at national borders. Global risks can only be dealt with collectively. This applies to pandemics and extreme natural events as well as to climate change. Moreover, the coronavirus crisis is a significant challenge for all people and regions of the world but the risks are not evenly distributed. This also holds for the interactions of extreme natural events and migration: Not all places in the world will be equally affected by the challenges posed by the interaction of changing natural hazards and migration. What impact will global warming have? Forecasts vary between global mass migration movements and migration processes that are only regionally limited. From a social science perspective, neither alarmist panic nor false reassurance are called for.

Migration movements have repeatedly been caused by drastic climate changes such as ice ages or temporary natural events such as extreme storms, frost or drought periods. According to all scientific forecasts, current global warming and the resulting changes in environmental factors and extreme weather conditions are also leading to complex migratory movements. Since the 1990s, the Intergovernmental Panel on Climate Change (IPCC), the International Organization for Migration (IOM) and many scientific institutes have estimated that by the middle of this century hundreds of millions of people will have to abandon their place of residence and migrate because of coastal erosion and flooding, changed agricultural conditions or more frequent extreme weather conditions. However, scientists warn against an uncritical categorization of "climate migrants" or even quantitative prognoses. This is because the causes and forms as well as the consequences of migration processes are much more complex:

"There are no robust global estimates of future displacement but there is significant evidence that planning and increased mobility can reduce the human security costs of displacement from extreme weather events." (IPCC 2014, 768; Burzyńskia et al. 2019)

In 2019 alone, some 24 million internal displacements were registered worldwide due to climate-induced extreme natural events. Extreme natural events such as floods or severe storms increase the probability of forced migration. The latter, in turn, affects women and socially disadvantaged classes more strongly and differently, they initially have fewer resources for local, regional or even international migration, and later worse starting conditions for returning to their old place of residence. There is an inverse relationship between vulnerability and opportunities for migration (IOM 2008; IDMC 2020a).

Conversely, massive migration processes can also be a factor in accelerating climate change. This is particularly true of urban-rural migration inside countries, which has been observed all over the world since the 19th and, especially,

the 20th century. Large cities lead to locally increased temperatures, reduced wind speeds and altered cloud formation and precipitation (Grawe et al. 2013). Conversely, rural exodus often results in neglect of landscape management, and related soil erosion can further "fuel" climate change.

With regard to the connection between climate-induced extreme natural events and migration, a scenario has often been drawn up in the rich countries of the Global North according to which a "flood of climate refugees" is to be expected (Myers / Kent 1995; Rigaud et al. 2018). However, the migration dynamics to date, which have been caused by wars, violence and political persecution, show that the vast majority of these forcibly displaced persons remains in the countries concerned as internally displaced persons (IDPs) or in the neighboring countries as international refugees and asylum seekers. This is closely related to the general structural characteristics and the inherent dynamics of migration.

The dynamics of migration

The relationships between climate change, extreme natural events and migration are also so complex because migration itself (as the relatively permanent relocation of the center of life and place of residence of people) has a high momentum of its own and evades simple political control. For example, the so-called Bracero program between Mexico and the USA during the Second World War was intended to temporarily ensure the supply of additional labor to the USA. In fact, transnational social networks were created as a result, which have led to a permanent presence of well over thirty million immigrants of Mexican descent in the USA to date (Noe-Bustamante 2019). In Europe, the "guest worker" migration of the second half of the 20th century was also actually intended by the participating states as temporary labor migration. Indeed, this labor migration has led to many EU member states, including Germany, becoming immigration countries.

The inherent dynamics of migration processes are reflected in the following regularities:

+ Once initiated, migration causes new migration through changed expectations in the regions of origin and new, migration-related demand structures in the regions of arrival. Through remittances, social and cultural influences, the regions remain connected to each other.

+ Migration processes essentially follow the logic of collective action of the migrants in their local, national and transnational relations and social spaces. Measures of restrictive border controls often lead to less flexible labor market adjustment and to higher life risks for the migrants.

+ Ecological problems, armed conflicts and poverty are increasingly blurring the boundaries between labor migration and forced displacement, voluntary and forced migration, regular and irregular migration, to "mixed migration flows". Modern communication and transport facilities can promote transnational migration with multiple locations of the migrants in the country of origin and the country of arrival.

+ As a rule, migration is not a rational one-off decision, but a longer-term process of "muddling through", in which goals, schedules, identities and historically developed social network structures are iteratively and successively developed. Migration processes can be partially influenced by incentives or prohibitions but can only be politically controlled and steered to a limited extent; it is not unusual for attempts to control or steer migration to have completely different (main) effects than the intended ones.

From a micro level, the complexity of migration and how it is integrated into relationships of society as a whole results from the fact that people act individually as families and households in habitualized social practice and make decisions regarding migration for which there are certain regularities but no clear rules. On a meso level, migration processes are always integrated into historically developed networks, knowledge, communication, transport and organisational structures, similar to the way the unevenness of the soil forms the concrete runoff of rainwater.

On a macro level, finally, the migration policies of nation states as well as regional, bilateral or international agreements also influence migration. All these factors influence numbers and time frames of people migrating.

There is scientific evidence to suggest that particularly vulnerable social groups will or can react relatively late to climate-induced changes in natural hazards in the form of migration due to a lack of resources. Such climate-induced forced migration is then usually accompanied by poor health conditions, especially in temporary accommodation and camps (IPCC 2014). The current coronavirus crisis shows how detrimental such accommodation conditions are to health. As climate change impacts adversely on human security, for example with regard to employment opportunities and housing, spatial mobility can be seen as a generalized strategy to respond to this. This cluster of effects also includes the fact that there are empirically proven links between armed conflicts, organized violence and climate change (IPCC 2014). The WorldRiskIndex cannot capture or model the complex causal relationships between climate change impacts, migration and other relevant aspects of social development. It does, however, indicate in which countries and regions the exposure, susceptibility and adaptation as well as coping options for fundamental human security risks are concentrated. Such a regional view is also useful for considering the relationship between climate change impacts and migration, taking into account the particularly vulnerable groups in each case.

Challenges for social groups and specific regions

Most regions of the world face specific challenges with extreme natural events, climate change and migration. Africa is home to a very large number of countries with a high to very high risk according to the WorldRiskIndex. As a result of colonialism, formal state autonomy was often not attained until late in the 20th century, and this, together with economic, political, social and cultural relations of dependency that still persist today, have left many fragile and highly vulnerable states on this continent. Africa is the only continent on which population growth will continue to be substantial in the coming decades (UN DESA 2019a). All this makes prevention in view of expected climate-related extreme natural events very difficult. Large coastal metropolitan regions, and especially the entire coast of West Africa, are massively threatened by rising sea levels (Croitoru et al. 2019).

Africa is also characterized by a considerable proportion of migration to neighboring macroregions and continental migration. Migration relations have been established for generations between the North African Maghreb states and EU member states. Here, for example, the changing threat of floods or droughts, resulting in fewer opportunities for agricultural production, can lead to further rural-urban and international migration. In a comparison between Sub-Saharan Africa, South Asia and Latin America, the World Bank expects that 70 to 80 million people in Sub-Saharan Africa will migrate within the continent by the middle of this century due to climate change. By comparison, only about half of this figure is assumed for South Asia and only one fifth for Latin America (Rigaud et al. 2018).

Globally, the effects of the interplay between climate change impacts and (internal) migration will focus on hot spots of emigration and immigration. Cities such as Dhaka in Bangladesh, Dar es Salaam in Tanzania and Addis Ababa in Ethiopia are likely to face major problems in the supply of (drinking) water due to climate change (Rigaud et al. 2018). Calcutta in India is not prepared for rising seawater levels in the same way as New York City or the Dutch coastal region. This, alone, shows how differently regions will be affected by emigration depending on their degree of vulnerability.

There are also reliable findings, based on regional case studies, on the social dynamics that can result from the interaction of climate change impacts, organized violence, weak states and migration. In Kenya and Sudan, for example, it has been shown that climate change-related restrictions on agricultural production – especially grazing opportunities for livestock – exacerbate regional ethnic and social conflicts. If state infrastructure cannot guarantee the compliance with human rights and social

order, the likelihood of armed groups and organized violence will increase. Larger domestic or cross-border migration processes are then, on the one hand, a consequence of such developments and, on the other hand, they potentially contribute to aggravating conflict situations and levels of violence themselves (Scheffran et al. 2014). It is also apparent that extreme social challenges tend to lead to the emigration of more highly qualified people and thus to a local brain drain, while knowledge and qualified employees in the affected regions would be particularly important, especially under these conditions (Drabo / Mbaye 2011).

Challenges for states and politics

Climate change-related extreme natural events and migration must be considered in the overall context of global sustainable development. A vigorous pursuit of the United Nations goals for sustainable development probably provides the best basis for accepting the challenge of climate change impacts and the associated dynamics of forced migration. The countries likely to be particularly affected by climate-related environmental and extreme weather changes, for example in Africa, Latin America and South Asia, should already now incorporate the possible or expected consequences with regard to internal migration into their country development planning. This can mean preparing for the expected influx of internal migrants to large regions such as Bangalore in India, Nairobi in Kenya or Mexico City (Rigaud et al. 2018).

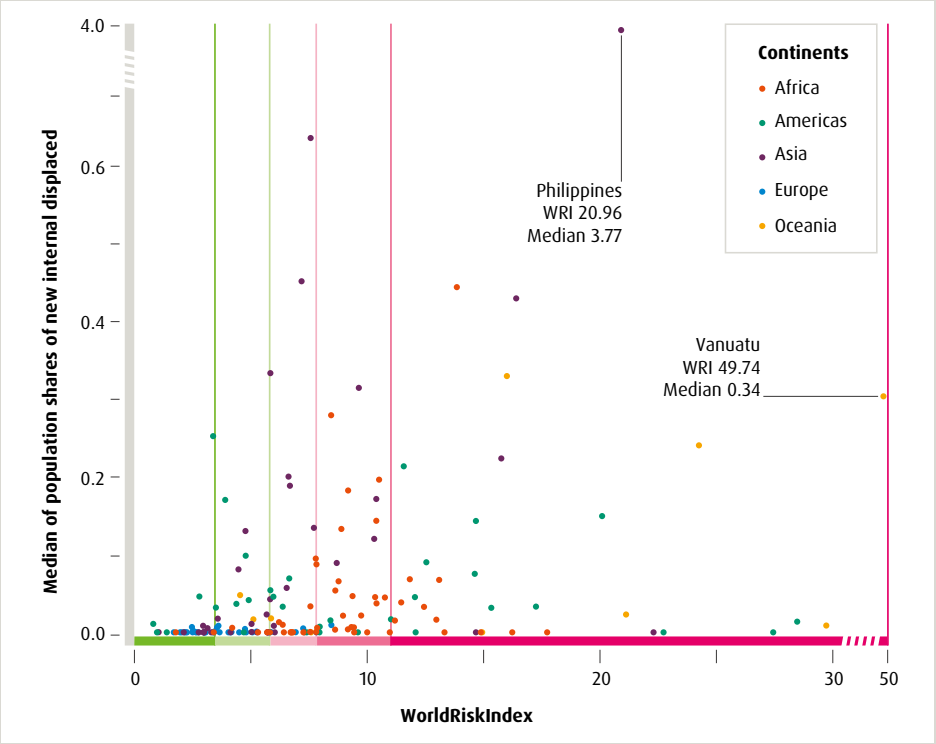
It is precisely these countries which have benefited particularly from industrialization and globalization over several generations. They bear a considerable share of the responsibility for climate change that should now make a disproportionate commitment to combating climate change and mitigating its consequences. Above all, the poorer countries of the Global South, which are particularly affected by the consequences of climate change, should receive substantial international resources. These should not only include economic transfers and financing programs, but also knowledge cooperation and the equal development of programs for sustainable circular migration, as already being tested in some cases by EU member states (Schneider / Parusel 2011). Where direct climate-impact-induced migration occurs, targeted, temporary or permanent resettlement programs should be developed (Ferris / Weerasinghe 2020). The experience gained from European programs on circular migration can be used to develop important findings for bilateral and multilateral cooperation in the context of climate-induced migration. The UN Declaration for Refugees and Migrants of 2016 and the Global Treaty on Safe, Orderly and Regular Migration of 2018 are first steps towards recognizing the global responsibility of the international community with regard to climate-induced migration (UNGA 2016; UNGA 2018).

Even though vulnerable countries, in particular, often lack resources to adapt to the consequences of climate change, general awareness of the problem has grown in many countries (IPCC 2014). The EU initiated discussions at a comparatively early stage on how to enhance the positive development effects of migration, and how climate change can also be taken into account in strategies on international migration (European Commission 2016). Individual states or communities of states can also improve their visa conditions for people from areas particularly affected by climate change (such as Pacific islands like Tuvalu and the Marshall Islands) (Constable 2017).

The categorization of people as “climate refugees” is not very helpful; it obscures complex causal relationships and usually leads to negative prejudices against certain social groups. Nevertheless, it is worth considering how the societal challenges (partly) posed by climate change can be adequately reflected in human rights and development policy concepts. The human-made contribution to climate change was mainly driven by early industrialized countries. Nowadays, it is global. All countries, especially those of the rich Global North, must face up to the responsibility that goes with it.

Disaster Risk and Internal Displacement

The disaster risk of countries is a latent phenomenon that can materialize in extreme events depending on the extent of vulnerability. For 171 countries, the WorldRiskIndex was compared with the median of the proportions of the population that were newly affected by extreme natural events in the years 2010 to 2019. The comparison shows: The disaster risk does not necessarily go hand in hand with a realization in the form of new internal displacement, since the quintiles of the WorldRiskIndex – apart from the lowest – are characterized by a strong spread in the medians. From a global perspective, however, there is a moderate, non-linear correlation (Spearmans ρ: 0.389).



Note: Due to the lack of data from IDMC, Bahrain, Denmark, Qatar, Kuwait, Malta, the Netherlands, São Tomé and Príncipe, Singapore, Turkmenistan and Belarus have not been included here.

Figure 5: The WorldRiskIndex compared to actual displacement due to extreme natural events (data source: IDMC 2020b)

Rank 51 in WorldRiskIndex 2020

WorldRiskIndex	9.32
Exposure	14.62
Vulnerability	63.76

Zimbabwe

Between Trauma and Hope

Country profile

The landlocked country of Zimbabwe in southern Africa has a mild subtropical climate with seasonal, sometimes very variable, rainfall. Dry periods and heavy rainfall are not unusual. In recent years, however, these phenomena have increased. Since 2010, there have been floods and droughts almost every year, intensified by the El Niño weather phenomenon.

In addition, there have been extreme tropical storms like Cyclone Idai, which hit Zimbabwe in March 2019. The storm and the associated heavy rainfall left behind heavy destruction, especially in the eastern part of the country. Hundreds of people died and more than 250,000 lost their homes, harvests, and stocks. While Zimbabwe was once one of the most advanced countries in southern Africa, a third of the population now lives in extreme poverty as a result of ongoing political and economic crises – and the trend is rising. Even before Cyclone Idai, more than five million people were already dependent on food aid. The Zimbabwean government is aware of the country's susceptibility to extreme natural events. State disaster management and a strategy for responding to climate change exist, but they are provided with completely inadequate resources.

The majority of the 13 million Zimbabweans are not able to cope with shocks caused by extreme natural events and the loss of property and sources of income often associated with them by their own effort. This applies all the more to the approximately 20,000 people who currently live in

Forced Displacement and Migration Data

14,645,468
Inhabitants (2019)

52,000
New internal displacements in the context of extreme natural events (2019)

10,616
Refugees, leaving (2019)

8,959
Refugees, coming (2019)

Zimbabwe as refugees and asylum seekers. Most of them come from Rwanda, Burundi, Mozambique, and the Democratic Republic of Congo, and live in the Tongogara Refugee Camp (TRC) in Manicaland Province, where they often stay for years.

Project context and project activities

Idai, the most severe cyclone in Zimbabwe to date, hit the TRC with great force. According to UNHCR, around 5,300 people were affected, and more than 1,000 houses, most of them makeshift, were damaged or destroyed by water and wind. 600 latrines were flooded, thereby contaminating the drinking water.

Immediately after the cyclone, terre des hommes Deutschland started an aid program in Tongogara, which was implemented with the Zimbabwean partner organization Child-line, and initially ran until the end of 2019. Once food, hygiene articles and learning materials for the emergency supply of the particularly affected families had been distributed, the activities concentrated on the psychosocial care for children and young people.

Many of the adolescents had already experienced severe loss and violence – like the 14-year-old orphan Joseph, who had made his way from the Democratic Republic of Congo to Zimbabwe two years earlier. Through Idai, Joseph lost his food supplies, books and the roof over his head. After civil war, loss of his parents and forced displacement into an uncertain future, this was another traumatic experience. For children like Joseph, it was therefore important not only to restore a bit of normality but to strengthen their overall resistance in the event of crises and disasters.

Childline set up Child and Youth Friendly Spaces for this purpose, where adolescents could play, relax, but also talk about their fears and develop their coping strategies. These services were also aimed at children outside the camp, thus increasing their awareness of the suffering they have experienced together, regardless of their legal or social status. More than 1,400 children benefited from these activities.

Where necessary, the children received additional therapeutic support. Parents and other caregivers were able to learn in workshops on educational issues – despite the enormous pressure they were under – to respond positively to their children, to encourage them and to protect them in this precarious situation in the best possible way. Since young people prefer to talk about their concerns with peers, peer-to-peer self-help groups were initiated. The young moderators who had previously been trained for this were themselves affected by Idai and were able to empathize well with the concerns of others.

Results and impacts

Evaluations show that comprehensive psychosocial support services have led to significant improvements in the well-being of almost 70 percent of the children and young people reached. They became happier, more open, showed initiative, and began to develop plans for their future. These are important elements of resilience and self-efficacy and are the basis for ensuring that children and young people are better equipped to continue to assert themselves in the still fragile context of the TRC. Some young people became involved in an additional advocacy initiative and, for the first time, were able to voice their concerns in forums outside the camp.

Parents reported back that they were able to put what they had learned into practice and pass it on to other families. Together with them, governmental and non-governmental actors in the camp, helped by the young people, put together a handbook for better child protection in extreme situations. This remains usable beyond the acute emergency.

Despite the intensive support provided to the children and young people, it became clear that many of them need long-term services. The traumatic experiences are deep-seated, with rainfall, for example, triggering fears of a repetition of the disaster. The slow reconstruction of infrastructure in Tongogara, the precarious housing situation and the existential hardships exacerbate the burden and risk of sexual violence against children. terre des hommes is, therefore, continuing to support the work of Childline in order to strengthen child protection and psychosocial services in the TRC. Practical training in the workplace is also intended to improve young people's chances of leading a self-determined life.

Claudia Berker, Regional Expert Africa, terre des hommes

2.2 Migration, Forced Immobility and Return in Times of Coronavirus

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In cases of extreme natural events, it becomes apparent again and again that the distribution of exposure is highly uneven. This also applies to the susceptibility to damage and the ability to cope with crises or to implement adaptation measures. To give two examples: The restrictions on movements imposed in Germany due to the Covid-19 pandemic led to the intended slowdown of the spread of the coronavirus. The self-quarantine of many was made possible by comprehensive government support measures, which prevented a life-threatening collapse of the livelihood of households and businesses. In India, on the other hand, the pandemic-related curfew had the opposite effect: The infection risk increased when the imposed lockdown forced more than 100 million migrant workers and their families to return to their rural regions of origin. In the absence of any significant public support services, the support of relatives in these regions gives them a chance to avoid starvation. This article describes the effects of the Covid-19 pandemic on migrants using India as an example.

Depending on scientific perspectives, the spread of dangerous infectious diseases across countries and continents – known as pandemics – is either considered an extreme natural event or discussed separately. The plague wave of 1347 and the Spanish flu, which killed up to 50 million people worldwide between 1918 and 1920, are repeatedly cited as pandemics of the European past (Spinney 2018). When crises of pandemic proportions occur in North America, people remember not only the 1918 flu epidemic but those of 1957 and 1968 as well (Honigsbaum 2020; Gibbs / Soares 2005). There have also been examples of pandemics and potential pandemics in the recent past, for example, cholera and measles, bird flu, SARS-CoV, MERS and Ebola (Schuldt 2020).

The spatial dynamics of the spread of epidemics and potential pandemics is a matter of concern to scientists in many different disciplines, including risk and disaster research. From a technical point of view, pandemics may take a different course than disasters in the wake of earthquakes, tsunamis or floods (Fearnley / Dixon 2020), but there are also many parallels – for example, in terms of early warnings and the failure to heed them. If it is true that the coronavirus originated from bats (Wu et al. 2020) and was first transmitted from person to person in 2019 (RKI 2020), then the current Covid-19 pandemic bears much resemblance to other rare extreme natural events: The trigger is attributed to nature, and the probability of occurrence as well as the extent of damages and losses are considered exceptional. Measures taken to contain the damage potentially result in massive restrictions on social and economic life – as in the case of disasters, when social and economic processes have to be subordinated to disaster control. Another common structural feature is that the capacities to counteract potential loss events are distributed very unevenly. The following applies accordingly to states, regions and economic sectors as well as to social groups and individuals: Vulnerability correlates strongly with a lack of resources and rights.

Note: While researching for this article (June 2020), the Covid-19 pandemic had been only rudimentarily covered in scientific publications that had already gone through the usual review process. For the following article, therefore, it was necessary to refer in part to preliminary scientific publications and other publications.

Limiting a pandemic through immobility

The spread of viral pandemics depends largely on the transmission routes. Since the novel coronavirus is transmitted from person to person, in addition to hygiene measures and contact restrictions, the mobility of people has been and will continue to be restricted to contain their spread. Slowing down the spread of the virus means that more time is left for the care of sick people and the development of vaccines and

specific drugs. Not in every country and not at the same time, but almost everywhere, restrictions have been imposed in this respect to slow down the spread of the pandemic as far as possible. The various degrees of rigidity in public life, depending on the country, is accompanied by massive restrictions on freedom of movement and thus on social and economic life as too. Besides mass repatriation of German citizens being abroad, the announcement of restrictions in Germany has not led to any significant population movements. The imposed immobility has slowed down the movement of people and has thus resulted in the slowdown in the spread of the virus. Consequently, the healthcare system has not collapsed. This means, among other things, that large parts of the working population have to stay at home for weeks and months and, if possible, work from there to continue earning an income. Comprehensive government aid measures are necessary to prevent a health threat from becoming a crisis that threatens the existence of companies and households.

The containment strategy pursued in Germany is extremely presuppositional and hardly implemented elsewhere. In informal settlements in the Global South, where thousands of people often live in very confined spaces under poor hygienic conditions, distance and hygiene recommendations are practically impossible to adhere to. As a result, the inhabitants are particularly exposed to the risk of infection (Kluge et al. 2020), while, at the same time, suffering directly from the lockdown. Staying at home for days or weeks is not an option for people in the informal sector, who have no financial reserves and little hope of social benefits. Many fear starvation before they fall ill with the virus (Dhillon 2020). Here, the coronavirus crisis is intertwined with a massive material existential crisis, as the costs of food, housing and electricity persist despite a curfew.

Internal migration in India

More than 21 percent of the Indian population live below the poverty line and have less than 1.90 US dollar per day and person, according to the results of the last census in 2011 (Acharya / Naranjo 2019). The proportion of the working population in the country which depends on activities in the informal sector is about 90 percent (ILO DWT / CO-NEW DELHI 2020), which, depending on estimates, corresponds to about 450 million working people (Dandekar / Ghai 2020). Many Indians have left their mostly rural regions of origin and seek their livelihood in the informal sector of cities and growth regions, where they cannot claim social rights or benefits and are hardly noticed by politicians (ILO 2020a). Nobody knows the exact number of these internal migrants, and estimates vary immensely depending on the data sources. About two-fifths of India's working population has migrant status, and about 30 percent of them are particularly insecurely provided for and unprotected as day laborers (Bhagat et al. 2020). Data on the extent of short-term seasonal migrant labor in agriculture are nonexisting. The hope of escaping poverty through migration is certainly the main motive. However, studies repeatedly show that it is not only the desire for a higher, regular income and the prospect of being able to support the village household financially from afar with this income but also the hope of escaping rural communities with its caste system and traditional role expectations (Deshingkar 2017). Migrant workers in India's cities live and work under extremely difficult conditions and are socially and economically on the margins of society (Ramaswami 2012; MoHUPA 2017). Estimations suggest that these (internal) migrants generate about ten percent of India's economic output (Deshingkar / Akter 2009). The International Labour Organization fears that 400 million workers in the informal sector in India will be further impoverished by the Covid-19 pandemic (ILO 2020a), and young and old workers, women and migrants are affected particularly hard. Migrants must be highlighted because they have difficulty protecting themselves from the virus while travelling, enjoy few rights, are often destitute and therefore highly vulnerable (ILO 2020b).

The return to the villages

The imposition of the curfew announced only a few hours before restrictions on movements were enforced took the whole of India by surprise. Many people were suddenly unemployed and destitute. The living conditions, which were already unbearable for many in

everyday life, worsened in a way that moved first hundreds of thousands, then millions of migrant workers and their household members to make their way back to their villages (Dandekar / Ghai 2020). Those who were not trapped in debt bondage (Acharya / Naranjo 2019) and had been able to maintain kinship ties to their place of origin broke the curfew and set out on their way, often by foot (Dandekar / Ghai 2020). Public transport had also come to a standstill. For the Minister of Trade and Industry, this mass return migration had to be stopped, not only because it was epidemiologically alarming, but also because it weakened the companies that were dependent on the workers who had now been laid off. The Minister's warning resulted in an appeal to employers and business organizations to keep the welfare of workers in mind (The Times of India 2020). Over weeks and months, support services were put in place (ILO 2020a; Maji et al. 2020), but these did not reach all those in need (Krishnan 2020). It took six weeks before some trains – especially for returnees – were put into operation again (Perras 2020).

Returning is not without risks, both for the returnees as well as for the residents. The possibility of coronavirus transmission cannot be dismissed (Maji et al. 2020). A medical infrastructure with testing facilities and their availability to all, regardless of their ability to pay, could minimize the risk but is not available. Instead, returnees are reportedly helping themselves with two weeks of self-isolation outside the villages, during which the returnees sleep in buses or on trees (Chakma / Chakma 2020).

The theories and assumptions underlying most research on migration assume that socially and economically successfully integrated migrants are more likely to remain at their destination and that those who are dissatisfied with this situation are more likely to return to their places of origin (De Haas et al. 2015). In times of the coronavirus, the returning migrants have to escape an acute emergency. The lack of emergency aid must be compensated by the level of security that family structures and the village household can offer. Economic and social reintegration requires unparalleled efforts, especially since the risk of infection and the rapid spread of the virus is making the situation immensely worse. One must assume that there will be 120 or even 140 million returnees in India (Dandekar / Ghai 2020). Perhaps never before have so many people found their way back to their home villages simultaneously, whether in India or elsewhere. The research literature is familiar with findings from southern Africa, although spontaneous migrations of large numbers of returnees in this region were by no means always due to emergencies.

The need for reintegration assistance is underlined by experiences in Sub-Saharan Africa after the end of independence struggles and civil wars at the end of the 20th century. When, at that time, numerous refugees, internally displaced persons and migrant workers were able to return to their rural regions of origin due to the changing political situation, reintegration programs were mostly spontaneously created in emergencies, supported and driven by donor organizations (Arowolo 2000). As was the case in sub-Saharan Africa at that time, there is currently a risk in India that support will be insufficient and will end before reintegration into local civil society is stabilized (Arowolo 2000). Thus, there are increasing calls to improve health care in the areas of return and to offer integration assistance in creating income and employment opportunities in the periphery (Anis / Akram 2020; Singh 2020). Among other things, there is a threat of a growing surplus of cheap labor in rural areas (Dandekar / Ghai 2020).

Conclusion

The fact that so many migrant workers in India now, due to the curfews, see no other way than returning to the rural periphery, despite the fact that this step is associated with many threats and health risks in the face of the pandemic, sheds light on the reality of life there. Support services are not envisaged that would enable informal workers to stay. Migrant labor minimizes household risks by alleviating rural poverty through income from employment in India's growth centers, which, however, offers no security (Dandekar / Ghai 2020). It does not take much to upset this system of livelihood security; often an illness or accident is enough. Due to the pandemic and the lockdown, almost the

entire Indian population is affected, in particular those 90 percent of the population who are largely unprotected in the informal sector (ILO DWT / CO-NEW DELHI 2020), especially migrant workers.

Like all extreme natural events with catastrophic consequences, the current pandemic shows that the situations of societies are the result of an inequal distribution of resources and capacities. Those who must live from hand to mouth cannot retreat into self-quarantine until the pandemic is over. Those who can only hope for support from relatives must place themselves in the care of these relatives, even if the way back is arduous and dangerous. People on the road can hardly respect the rules of social distancing and are thus exposed to a higher risk of infection. If starvation is imminent, infection with the coronavirus or its transmission appears to be the lesser risk. Social and economic inequalities are the reasons that increase the risk of marginalized and vulnerable populations (Raju / Ayeb-Karlsson 2020), and these obviously include many of the world's migrants.

For countless households, everyday life was already precarious before the pandemic, especially in the Global South. Almost reflexively, many governments and administrations reacted by sealing themselves off, as if the nation state were the best guarantor of protection against global dangers. Measures to contain pandemics and disasters are undoubtedly important, but they must also be feasible. The situation of migrant workers in India shows that this is often not the case and that vulnerable groups are left to their own devices to cope with crises and disasters.

The aspired recovery from the pandemic reveals opportunities to initiate more equitable and, therefore, more desirable developments from a humanitarian perspective. The International Labour Organization of the United Nations, for example, calls for a move away from the informal sector towards the formal sector, which requires corresponding political efforts and regulations and cannot be left to economic processes (ILO 2020c). Workers in the formal sector are less vulnerable, they can assert their rights and are not entirely on their own. The vulnerability would be reduced even more effectively if all those in need in emergencies were entitled to welfare state benefits. To repeat an old insight from disaster and development research (O'Keefe et al. 1976, 567): "The time is ripe for some form of precautionary planning which considers vulnerability of the population as the real cause of disasters – a vulnerability that is induced by socio-economic conditions that can be modified by man, and is not just an act of God."

Not listed in WorldRiskIndex due to incomplete data availability*

WorldRiskIndex	No calculation
Exposure	Missing Data
Vulnerability	Missing Data

* If countries have weak administrative structures and cannot therefore collect sufficient data, they are more often not included in indices. As a result, these countries and their structural deficiencies risk being overlooked. We would like to counteract this with this case study.

Somalia

Disaster in Times of Crisis

Country profile

In the coastal state of Somalia in the Horn of Africa, about two-thirds of the population earn most of their livelihoods from pastoralism, farming and horticulture, making them highly dependent on the weather.

Two rainy seasons a year are usually followed by two dry seasons – a pattern that, however, has been decreasingly reliable in recent years. If rainy seasons are weak or completely absent, hardly any food for the foraging animals grows. If it rains too much, dangerous floods occur along the rivers.

Since 2016, a prolonged drought, followed by large-scale flooding and a persistent locust plague, have led to an increase in emergency situations. The climate crisis, largely caused by the industrialized nations, is exacerbating weather extremes and changing weather patterns.

In Somalia, this is destroying the livelihoods of people who, in turn, make little contribution to climate change. The development of state institutions that could adequately respond to extreme natural events is progressing slowly. Somalia has been in crisis almost continuously since 1991, beginning with several years of civil war up to the terror of the Al-Shabaab militia, which, at times, controlled large parts of Somalia and is still restricting the freedom of movement.

A national civil protection strategy and a corresponding authority exist. However, the circumstances give rise to a lack of capacities and financial resources to implement effective measures nationwide. As a

Forced Displacement and Migration Data

15,442,905
Inhabitants (2019)

479,000
New internal displacements in the context of extreme natural events (2019)

905,122
Refugees, leaving (2019)

17,883
Refugees, coming (2019)

result, natural events, from which people could actually be protected, become disasters.

Natural hazards, terror, armed hostilities as well as domestic political tensions lead to massive migration – especially in metropolitan areas, but also in refugee camps outside Somalia. Nearly 900,000 people from Somalia are forced to live abroad. In Somalia, 2.6 million people are internally displaced and live in about 2,000 makeshift settlements. Nearly a third of the estimated 15 million inhabitants of Somalia are dependent on humanitarian aid.

Project context and activities

In many Somali emergency shelters, including urban areas, there is no access to clean water or health services. Rapid urbanization aggravates this situation, as there is no planned expansion of water supply. In urban centers in particular, severe diarrhea diseases such as cholera are therefore becoming more prevalent.

Displaced persons in Banadir, the metropolitan area around the Somali capital Mogadishu, are also confronted with this situation. An estimated 500,000 people live as internally displaced persons in this area on the southern coast of Somalia. Effective hygiene practices are hardly implemented in emergency shelters. Due to the high population density and poor supply situation, there is a lack of access to soap and clean water. Since there are often no income opportunities for the residents, they also suffer from a shortage of foodstuffs. The situation is similar to that in other camps for internally displaced persons in Somalia, for example in the camps in the Galmudug region on the border with Ethiopia.

In both areas, the medico partner organization Nomadic Assistance for Peace and Development (NAPAD) is working to strengthen hygiene and sanitation capacities. They carry out information campaigns and distribute hygiene kits to the residents at schools and health stations in and around the camps. For instance, community health workers build trust through personal visits and advice on health issues. In order to provide marginalized families in unhealthy living conditions with basic hygiene, they are supplied with soap, tablets for water purification and clean water containers. At the same time, the families receive cash via mobile phone (mobile money). This enables them to meet their most urgent needs – the purchase of food, clothing, or medicine.

To counteract the shortage of clean water in the long term, NAPAD, also supported by the Federal Foreign Office, repairs wells in various settlements for refugees and displaced persons and equips them with solar systems. In self-initiated water committees, the residents operate these facilities themselves at low cost.

Results and impact

For displaced persons within Somalia, building a reliable water supply is a major step towards improving their situation. Access to clean water means fewer health risks. It implies, for example, that regular handwashing is possible in order to slow down the spread of diseases such as Covid-19. But even more "common" diseases such as diarrhea can be prevented. Access to water also means being able to cultivate fields and water animals – especially in times of drought.

Facing the climate crisis, which is having a severe impact on the people of Somalia, the further use of diesel generators is no option for NAPAD. Although the emission of climate-damaging gases via these small generators is of little significance compared to the outputs of industries, agriculture or the transport sectors of other countries, NAPAD shows that the solar conversion is possible – even in ongoing crises.

The support via Mobile Money helps families to meet their basic needs without having to run further into debt or to sell their last young animal at knockdown prices. In this way, they can get through times of crisis without further impoverishment. Taken together, these measures are not a substitute for solidarity-based health and public services. But they are feasible under the current circumstances for the project partners and help the displaced persons now and in the long term.

Hendrik Slusarenka, Project Coordinator Emergency Aid, medico international

2.3 Impact of the Covid-19 Pandemic and Extreme Natural Events on Refugees and Displaced Persons

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As the 70th anniversary of the Geneva Refugee Convention approaches in 2021, Covid-19 threatens to become a new refugee crisis. The exact impacts of the pandemic will only become imminent and assessable in the upcoming months or even years. Refugees and displaced persons are particularly vulnerable because of their social, legal and political situation – this is evident in the case of the Covid-19 pandemic as well as extreme natural events included in the WorldRiskIndex. The refugee camps Moria on the Greek island of Lesbos and Kutupalong in Bangladesh clearly show that social and economic human rights, in particular, are not, or only inadequately, fulfilled in emergency shelters. For example, the lack of physical protection and inadequate water and health care services in emergency shelters are among the factors that increase the risk for migrants and refugees from both the coronavirus and extreme natural events.

The current Covid-19 pandemic is keeping the world in suspense. Just as in the case of extreme natural events, not all people are equally affected by the negative consequences. Pandemics and extreme natural events do not discriminate, but their consequences are far more dangerous for vulnerable groups such as refugees (UNHCR 2020a; UN OCHA 2020).

Moria, a former military prison on the Greek island of Lesbos, which has been converted into a refugee camp, has become a symbol of the vulnerability of refugees to the virus in the current coronavirus crisis. Currently, more than 20,000 people live in the camp, which was originally planned for 3,000 people, under precarious hygienic conditions – around 40 percent of those who fled are children, many of them unaccompanied (UNHCR 2020c; Mavropoulos 2020). Several hundred people are forced to share a toilet and a shower, more than a thousand a tap. Families of six people live together in one single accommodation confined to a very small area, with only three square meters of living space at their disposal (European Parliament 2020; Doctors Without Borders 2020a; Bormann 2020). In addition, there are only three doctors and eight nurses in Moria (RSA / Pro Asyl 2020). In Kutupalong, the world's largest refugee camp in Cox's Bazar (Bangladesh), the people living there are also almost unprotected against extreme natural events. Approximately 900,000 people live in Cox's Bazar, mostly members of the Rohingya minority who fled Myanmar (Human Rights Council 2019a, para. 16). The annual monsoon rains and the resulting floods and landslides not only directly endanger the lives of the inhabitants. The summer monsoon also undermines shelters and floods wells, latrines and sewage systems, spreading waste and faeces. The polluted water can easily contaminate clean drinking water and become a transmission route for infectious diseases (WHO 2018).

The particular vulnerability of people in emergency shelters

There are a variety of reasons for the particular vulnerability of refugees and displaced persons, the most important of which are described hereafter (European Parliament 2020). The very location of camps can be a risk factor. The surroundings of Cox's Bazar, for example, are dominated by sandy slopes and hills, in contrast to most of Bangladesh. These are particularly prone to landslides during heavy rainfall (UNDP 2018). The shelters themselves are often built on a makeshift basis and can hardly withstand this kind of weather. Inadequate shelters increase the risk of respiratory and other diseases (WHO 2018) and offers little protection in the event of extreme natural events (Zaman et al. 2020).

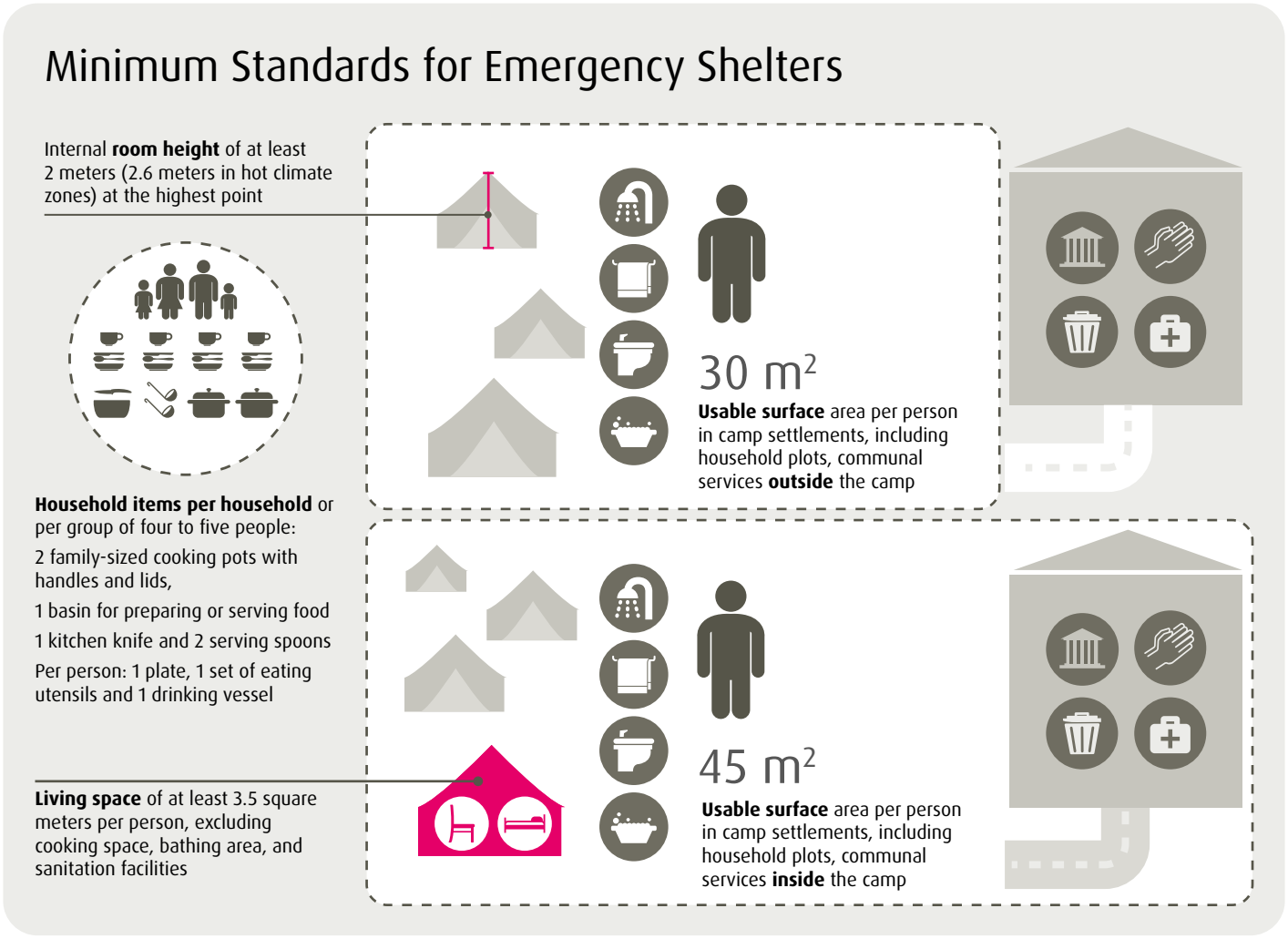

Figure 6: Minimum standards for settlement, living space and household items in emergency shelters according to SPHERE standards (Data source: Sphere Association 2018)

The housing situation is also particularly problematic because residents in camps often live in very confined spaces. In Kutupalong, for example, there are on average about 40,000 people per square kilometer (Zaman et al. 2020), about ten times as many as in Berlin. In Moria, the population density is even higher with about 200,000 people per square kilometer (IRC 2020). This puts both camps among the areas with the highest population density worldwide. The confined living space further increases the risk of spreading diseases and makes protective measures such as social distancing or (self-) quarantine impossible.

The necessary protective measures are also hampered by the insufficient supply of essential resources such as clean water, food, soap, masks, medical equipment and care. Without masks, disinfectants, Covid-19 tests and respiratory equipment, for example, the implementation of the World Health Organization's hygiene recommendations and the testing, diagnosis, contact tracing and treatment of Covid-19 are severely restricted (WHO 2020).

All these factors not only lead to acute vulnerability to diseases. They are also the cause of underlying illnesses, malnutrition and a poor

general state of health, which permanently weakens residents and increases the risk of serious health complications in the event of a pandemic (UN CESCR 2020). For instance, approximately 30 percent of the patients treated in Cox's Bazar suffer from respiratory diseases (Doctors Without Borders 2020b).

In addition, the communication of crisis strategies and of information on protective measures is made difficult in refugee camps due to technical, legal and social barriers. In Cox's Bazar, for example, governmental restrictions on the Internet and mobile phone network hinder the dissemination of information on crisis prevention (HRW 2020). One example of social and legal barriers is the often unresolved and insecure residence status of many people seeking protection. This can contribute to the fact that those affected are not able to seek help without fear of repressive measures. For this reason, female refugees, in particular, are prevented from contacting government agencies (GPC 2020). This entails the risk that Covid-19 cases are not documented and that health protection measures are ineffective.

Lastly, acute crises can obstruct access for humanitarian organizations by creating natural barriers, such as landslides and flooded access routes, as well as legal restrictions, such as border closures. The United Nations currently assumes that the restrictions in humanitarian aid lead to greater dangers than the coronavirus itself (UN 2020b).

Protection of the rights of refugees and displaced persons

These grievances are in stark contrast to the rights of refugees and displaced people, in particular human rights and the rights under the Geneva Refugee Convention. With regard to the living situation in collective accommodation centers for refugees and displaced persons, social and economic human rights play a central role, which are largely enshrined in the International Covenant on Economic, Social and Cultural Rights (ICESCR). They prohibit accommodation of refugees in inhumane living conditions with insufficient access to water, food and medical care. States that have signed the Convention have to "take steps, individually and through international assistance and cooperation [...], to the maximum of [their] available resources, with a view to achieving progressively the full realization of the rights recognized (...) by all appropriate means" (Art. 2 ICESCR). States may not discriminate on the basis of alleged "race", color, sex, language or origin (UN CESCR 2009, para. 15). Thus, the rights also apply to refugees, stateless persons and other persons without citizenship if they are under the jurisdiction of a state (UN CESCR, para. 30).

The ICESCR guarantees, among others, the right to health (Art. 12 ICESCR), the right to social security (Art. 9 ICESCR) and the right to an adequate standard of living, which includes the right to food and housing (Art. 11 ICESCR). Particularly important for reduced vulnerability to pandemics and extreme natural events is the right to health, which includes four dimensions: availability, accessibility, acceptability and quality of medical care. This right is only fulfilled if sufficient medical goods and services are available, health services are accessible, for example there are no cultural barriers, and they are of good quality from a scientific and medical point of view (UN CESCR 2000).

The examples of Moria and Cox's Bazar have vividly demonstrated that many refugees and displaced persons live in refugee camps where these rights are not or insufficiently fulfilled. The human rights violations in such shelters for refugees and displaced persons have long been well documented and are regularly reprimanded by human rights institutions (OHCHR 2017).

The reasons for the violation of human rights of refugees and displaced persons are manifold. For example, not all countries have signed and ratified the relevant international treaties (as in the case of the ICESCR, for example, the USA, Malaysia or Southern Sudan). Although many provisions are also part of customary international law and thus apply to all states, rules of customary international law are often more difficult to enforce, among other things because their content and scope must be determined by extensive studies. Legal implementation can also fail due to factual hurdles. For example,

many of the receiving countries are struggling with severe poverty and crises. For instance, half of the world's refugees and displaced persons reside in countries facing food shortages (WFP 2020). The ICESCR takes this into account by making the protected rights subject to the principle of progressive realization, which, however, hinders comprehensive protection. At least certain core areas, such as the principle of non-discrimination, must nevertheless be complied with without restriction (UN CESCR 2000). Support from the international community could compensate for the restrictions on the capacity of host countries but is often insufficient. Of the UNHCR Covid-19 emergency appeal (UNHCR 2020d) for 745 million US dollars, only a third has been covered – as of June 2020 (UNHCR 2020e).

Risks posed by state's emergency measures

Of all the currently imposed emergency measures, restrictions on mobility particularly endanger the lives and physical integrity of refugees. Refugees, as defined under international law, have a right to seek and enjoy asylum (guaranteed inter alia in Article 14 of the Universal Declaration of Human Rights, Article 18 of the Charter of Fundamental Rights of the European Union; Article 12 (3) of the African Charter on Human and Peoples' Rights). However, in the wake of the Covid-19 outbreak in the spring of this year, 167 states closed their external borders partially or entirely (UN 2020c).

As an expression of their sovereignty, states may in principle close borders to protect their populations, for example, against the spread of infectious diseases. However, border closures must always be adequate to achieve the intended purpose, necessary, proportionate and appropriate and non-discriminatory. In this context, the protection of the population and the obligation to protect refugees are not mutually exclusive but must be reconciled. In particular, border closures must not result in people being denied an effective opportunity to seek asylum (UNHCR 2020b). Specifically, the principle of non-refoulement prohibits states from extraditing, deporting or rejecting refugees to another country if there are substantial grounds to believe that their right to life would be violated in the country of destination (HRC 1993, para. 14.3; see Chapter 2.3). The principle of non-refoulement is also violated if states expel refugees at the border without examining the individual case (ExCom 1977).

To the extent that the current border closures do not contain exceptions for asylum seekers, as is the case in at least 56 states (Hale et al. 2020), and completely prohibit the entry of asylum seekers, there are considerable doubts as to whether they are in line with the non-refoulement principle (UNHCR 2020b, para.6). Remarkably, even among European states, only a few have formulated explicit exceptions for asylum seekers (Carrera / Chun Luk 2020, Annex II).

Border closures can also constitute a violation of human rights if they are not necessary or disproportionate. For example, they are not suitable for preventing infections if the persons concerned are not infected with the coronavirus at all. They are also disproportionate if equally suitable and less restrictive measures can be considered, such as testing the asylum seekers for Covid-19, quarantine measures or the use of contactless (digital) asylum procedures (UNHCR 2020b, para. 6).

In addition to border closures, other measures are currently preventing refugees from obtaining a secure residence status. For instance, the UNHCR suspended its resettlement program, and the office of the European Asylum Support Office and many national authorities have closed or massively restricted their work in the wake of the coronavirus crisis (Meisner 2020).

A further risk arises if the coronavirus crisis was used by states as a mere pretext for already planned restrictions on the right of asylum and these are upheld in the long term. Insofar as restrictions of the right of asylum are lawful for reasons of health protection, their legality and proportionality must, therefore, be constantly reviewed, and any measures should not be upheld for longer than necessary.

Many of the government measures to combat the coronavirus crisis also have an impact on

social and economic human rights. The UN has stressed that Covid-19 is not only a crisis of refugee's health and protection of rights but also a socio-economic crisis (UN 2020b). In this context, it is worrying that an above-average number of refugees and displaced persons work in informal employment and in the low-wage sectors. The economic recession is, therefore, hitting them particularly hard. In the first months since the outbreak of Covid-19, many refugees have already lost their sources of income (UNHCR 2020d; UN 2020b). This also increases the risk of people entering dangerous and human rights-violating working environments such as child labor, forced labor and involuntary prostitution (UN 2020b). Women are particularly affected, as they are more frequently employed in precarious jobs than average (UN OCHA 2020). Curfews, restrictions on social life and on health and social services, as well as the loss of income also lead to an increase in sexualized and domestic violence in refugee camps (UNHCR 2020d). In addition to women, children fleeing their homes are also particularly at risk: the already precarious educational opportunities have been further restricted (WEF 2020) and in Moria, the food supply for children has been reduced to only 1,000 kcal/day (Demirci 2020).

Conclusion

One response to the vulnerability of refugees and displaced persons is to strengthen human rights, especially their social and economic rights. In the fight against a pandemic or extreme natural events, states must pursue and reconcile three different objectives for a comprehensive protection of human rights: to respond effectively to immediate threats, to mitigate the indirect effects of the crisis and of government action, and to prevent protective measures from creating new threats and risks or exacerbating existing ones (UN 2020c). In doing so, the special needs and particular situation of vulnerable groups must always be considered and taken into account. In particular, measures should be adopted to compensate for the disproportionate burden on those who are particularly vulnerable to protective measures. Denying minimum social and economic standards to refugees and displaced persons, on the other hand, not only endangers the lives of those directly affected, but also obstructs the entire pandemic or crisis strategy. In the words of UN Secretary-General António Guterres (UN 2020a): "No one is safe until all of us are safe."

2.4 Human Rights as Means to Challenge Climate Change Injustices

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Extreme natural events and adverse effects of climate change make the homes of many uninhabitable and perpetuate existing inequalities. In January 2020, the case of Kiribati national Ioane Teitiota caused quite a sensation. For the first time, an international judicial body considered a case of a person invoking adverse effects of climate change as arguments against an expulsion admissible. Teitiota had worked in New Zealand for some years and afterwards claimed international protection, alleging that his home state had become uninhabitable owing to sea-level rise, shrinking freshwater resources and land degradation. From a legal point of view, this article explores how "climate migrants" can use human rights as a means to challenge persisting injustices.

The claims to protection by people fleeing their homes from the adverse effects of climate change can be construed not only as a cry for help but equally as a protest against global inequalities which are perpetuated when the very foundation of their livelihoods is destroyed. International human rights law can provide these people with means to raise awareness and increase pressure on industrialized nations to consider the consequences of their CO_2 emissions. Most importantly, the non-refoulement obligation, which means the prohibition to return persons to territories where their lives or freedom are in danger, as construed by the Human Rights Committee (HRC) in the Teitiota case in January 2020, turns out to be key in addressing the injustices climate change amplifies.

Limitations of international refugee law

International refugee law, in particular the 1951 Convention Relating to the Status of Refugees (Refugee Convention), offers migrants, who leave their country of origin because of extreme natural events or climate change impacts, no legal protection. This is due to its narrow scope of application. The Refugee Convention is applicable only to persons who meet the restrictive refugee definition set forth in its Article 1 (A) (2) as amended by the 1967 Protocol Relating to the Status of Refugees. This provision defines a refugee as a person who had to flee their country of nationality or habitual residence "owing to well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, is unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, is unwilling to return to it." It has often been noted that this definition does not encompass many of today's forced migrants, including internally displaced persons, and those who flee from (civil) wars, poverty or (climate change-related) extreme natural events (for example Chetail 2019).

The refugee definition is informed by international human rights law (Chetail 2014). "Persecution", for example, is defined as the "sustained or systematic denial of basic human rights demonstrative of a failure of state protection" (Hathaway / Foster 2014). However, this does not make up for the narrowness of the definition. Even though a human rights-based definition of "persecution" might potentially allow for considering state inaction (the word "failure" in the above definition implies an omission), it is questionable whether most states' omission to take effective action to combat climate change can be considered "systematic". Moreover, the inaction is not directed against one of the groups mentioned in the Convention's definition. It is certainly

true that specific groups of individuals are more vulnerable to climate-related changes in the environment and hazard characteristics than others, for instance many of those living closer to the sea or poorer parts of a given population that cannot protect themselves. Given that the element "membership of a particular social group" is not further defined, one could think of construing it in this direction. However, the international legal regime concerning refugees is a "compromise between unfettered state sovereignty over the admission of aliens, and an open door for non-citizen victims of serious human rights violations" (Bhabha 2002, 167). This inherent compromise is why the Convention's scope of application is so narrow and why it is so difficult to convincingly argue in favour of a widening of this scope. "It was always clear that only a subset of forced transnational migrant persecutes were intended beneficiaries" (ibid.), and at the time of the drafting of the Convention, states were well-aware of this (Chetail 2019).

Other – regional – documents have a broader scope of application that might encompass migration related to climate change, for example the 1969 Convention Governing the Specific Aspects of Refugee Problems in Africa. Yet, developments in recent years show that a broadening of the scope of the refugee definition at a global level remains unrealistic. For example, when the UN General Assembly addressed the issue of climate change in its Global Compacts for Safe, Orderly and Regular Migration, and for Refugees, in 2018, as well as in its 2016 New York Declaration for Refugees and Migrants – all non-binding "soft law" documents – it recognized the threat climate change and consequent extreme natural events pose to displaced persons and refugees and its potential as a trigger for future migration. However, it did not address, whether individuals fleeing their home states from adverse effects of climate change such as the altered likelihood and magnitude of floods or droughts fall under the refugee definition, even though the discussion had been going on for some time. This silence makes it quite clear that there is at least no broad international consensus on this issue. UN Treaty Bodies even avoid using the term "climate refugee" in order "not to undermine the international legal regime for the protection of refugees" (OHCHR 2009, para 58). Altogether, its narrow scope of application, the international community's reluctance to broaden it and a lack of (judicial) enforcement mechanisms render international refugee law more or less useless for "climate migrants" to challenge global injustices.

Advantages of international human rights law

International human rights law, in contrast, provides for much more promising means for migrants to challenge global injustices. The field focuses on individuals and it grants all those who find themselves under a state's jurisdiction rights vis-à-vis that state, regardless of their legal status. Displaced persons typically have claims against their home state and their host state. To explain this, the multi-dimensional nature of international human rights law shall be brought to mind. Article 2 (1) of the International Covenant on Civil and Political Rights (ICCPR) expresses this when it stipulates that states "protect and ensure" the human rights of individuals under their jurisdiction. The provision encapsulates the fundamental difference between negative and positive obligations.

On the one hand, human rights have to be respected. States must refrain from violating certain liberties. On the other hand, human rights also entail positive obligations for states, the flip side of which are positive rights, for example legal claims to positive action against a state. The positive obligations can be broken down into two subcategories. First, states bear an obligation to "protect" human rights. These are endangered not only by states but also by private actors (for instance large corporations) or extreme natural events. To compensate for the inapplicability of human rights law to such constellations, the "protect" obligation requires states to create "an environment in which rights are enjoyed" (Mégret 2018, 97). The state has to protect individuals from human rights abuses by third parties or risks due to natural hazards or human-made disasters. With regard to the adverse effects of climate change, this might imply, for example, building dams, having in

place early warning systems for floods or cleaning salinized water. Second, states must "fulfill" human rights, that means they have to "ensure that [human rights] are realized in practice as comprehensively as possible" (Kälin / Künzli 2019, 88). So, they might have to react to natural hazards and adverse climate change effects by providing for material means to deal with losses. In very dire circumstances, when parts of a state's territory have become completely uninhabitable, states might even have to have in place relocation programs.

The positive obligations to protect and fulfill are relative to the means of the state in question. Where state authorities are or should be aware of an actual or imminent danger for human rights of persons under their jurisdiction, they must take "such protective measures as [can be] taken with available resources and might reasonably [be] expected to avert the danger" (Kälin / Künzli 2019, 104). This relativity severely limits the legal protection of persons negatively affected by natural hazards and climate change impacts against their home states. A great tragedy of climate change is that the countries most severely affected by its adverse effects are primarily poorer countries that have not contributed as much to climate change as some industrialized nations and have fewer means to cope with its fallouts (Human Rights Council 2019b, para. 14). Ultimately, said individuals have to pay the bill as they do not even have effective legal claims against their home states.

The prohibition of refoulement

Individuals forced to flee their homes have human rights not only against their home state but also against their host state. Most importantly, they enjoy a right not to be returned to their state of origin if their life or freedom are at great risk there (HRC 1993, para. 14.3). This right is derived primarily from the right to life and the prohibition of torture and inhuman and humiliating treatment (HRC 2004, para. 12). Does this prohibition of refoulement also apply in the context of extreme natural events and climate change impacts?

The HRC took the first steps towards making this obligation central to the protection of "climate migrants" with its General Comment No. 36 on the right to life in 2018. First, it shared important observations on the interplay of international refugee law and the human right to life. It held that the protection from refoulement as required under the ICCPR may be broader than the protection warranted under international refugee law as it does not depend on whether the protected person meets the requirements of the refugee definition (para. 31). The HRC acknowledged that climate change was one of "the most pressing and serious threats to the ability of present and future generations to enjoy the right to life" (para. 62), and that international environmental law and international human rights law must be interpreted in close connection with each other. Even though the HRC did not explicitly state in the general comment that adverse effects of climate change were a trigger for non-refoulement obligations, the document laid the groundwork for what was going to follow roughly two years later, with its opinion in the case of Ioane Teitiota (HRC 2020, Teitiota v. New Zealand). In that case, the HRC tied the two threads it had spun in the general comment No. 36 together and addressed the connection between the non-refoulement obligation and climate change. Although not binding in a legal sense, the opinion highlights the potential of the prohibition of refoulement for challenging global inequalities and thus represents a potential door opener for the successful enforcement of "climate migrants'" rights.

The Teitiota case

Ioane Teitiota, a Kiribati national, applied for international protection in New Zealand in 2012. Previously, his and his family's resident permits in New Zealand had expired (HRC 2020, para. 4.1), which does, however, not impact the legal assessment of the case. To substantiate his application, he asserted that – being a small-island state – Kiribati was already heavily affected by sea-level rise and likely to become uninhabitable within the next 15 years. He claimed that saltwater contamination and overcrowding had led to scarcity of fresh water. Moreover, land erosion had caused a housing

crisis and land disputes. Thus, Kiribati had become a violent and untenable environment for him and his family. The application was denied on the grounds that it was still quite some time to react before Kiribati's eventual "sinking".

In response, Teitiota lodged an appeal. His case was finally considered by the New Zealand Supreme Court which upheld the denial of his application. The Court held that while it was generally not ruled out to attain refugee or other protected person status as a "climate migrant", the requirements were at no rate fulfilled for Teitiota, as Kiribati had enough time to find other solutions. Accordingly, under New Zealand law, Teitiota was not eligible for such a status. He was eventually deported together with his family. Thereafter, Teitiota filed a communication with the HRC, arguing that New Zealand had breached its obligations under Article 6 ICCPR, the right to life. To support his claim, Teitiota provided expert testimony by a scientist researching climate change effects in Kiribati which characterized the country as "a society in crisis owing to climate change and population pressure" (HRC 2020, para. 2.4). The testimony is represented in the HRC's opinion and reads: "Increasingly intense storms occurred, submerging the land in certain places [...] and rendering it uninhabitable. Rising sea levels caused more regular and frequent breaches of sea walls [...]." Moreover, it describes how the local water supply suffered severely from increasing contamination and how waste washed onto the beach poses health hazards for the local population.

In the ground-breaking opinion, the HRC admitted Teitiota's case for further review on the merits, holding that his claims did not concern a merely hypothetical future harm, but "a real predicament". It did not reject the case on preliminary grounds, as Teitiota had sufficiently demonstrated that "due to the impact of climate change and associated sea-level rise on the habitability of the Republic of Kiribati and on the security situation in the islands, he faced as a result of the State party's decision to remove him to the Republic of Kiribati a real risk of impairment to his right to life under Article 6 of the Covenant". The case represents a real first in the history of human rights litigation. Never before had such a case been admitted for further review.

Teitiota eventually lost the case, with the HRC relying mainly on the same line of argumentation as the New Zealand courts. The Committee found that – although completely credible – the author's statements had failed to substantiate his claims. In particular, there was no imminent threat to Teitiota's life as there was yet sufficient time for Kiribati to address the adverse effects of climate change. However, the Committee made some important remarks that allow for the interpretation of the opinion as a "warning shot" towards the international community. Especially where a country is facing the risk of being submerged under water, the HRC held, the "conditions of life in such a country may become incompatible with [...] [the requirements of the right to life already] before the risk is realized." It continued that "without robust national and international efforts, the effects of climate change in receiving states may expose individuals to a violation of their rights under [...] the Covenant, thereby triggering the non-refoulement obligations of sending states". With the Committee not rejecting Teitiota's legal argument but merely the substantiation of it, the case is proof of the potential of the prohibition of refoulement.

The momentum such human rights-based approaches in climate change litigation are gaining can also be witnessed in other cases. Environmental activist Greta Thunberg, for example, together with other young activists, filed a communication against Argentina, Brazil, France, Germany and Turkey under the Convention on the Rights of the Child, alleging that the respondent states had violated their obligations under the Convention by extensively emitting greenhouse gases and exacerbating climate change impacts (Sacchi et al. v. Argentina et al. 2019). Similarly, Australian nationals filed a communication with the HRC (Banister 2020).

Challenging inequalities

In his book "Humanity at Sea", Itamar Mann suggests a new theory of human rights as

"rights of encounter" based on observations about maritime migration. When a powerful and a powerless party meet (for example a coast guard and a migrant boat which is about to sink), the powerful party experiences a "command of the conscience triggered by defenceless human presence" which is "at the core of human rights law, properly conceived" (Mann 2016, 12). For Mann, the "raison d'être" of human rights law lies in the "constitutive violence that the foundation of sovereignty entails" (ibid., 131). Because the social contracts of potential host states do not include forced migrants, they offer them no protection. It is this violence that human rights respond to, according to Mann, and forcibly displaced persons rely on them to challenge this violence. "Climate migrants" do not only challenge the exclusivity of particular constitutions but the inequalities that define the international order as it stands today. Human rights, and in particular the prohibition of refoulement, provide them with means to do so.

The ground-breaking opinion of the HRC in the Teitiota case is proof of international human rights law's fitness to tackle the issue of migration related to climate change normatively. In this specific case, New Zealand as the respondent state even acknowledged the general possibility of non-refoulement obligations vis-à-vis "climate migrants". However, what would be if the HRC had accepted not only the principle possibility, but had ruled in favor of the applicant also on the merits? Would New Zealand be willing to accept such a legal pronouncement as well? Would they have taken Teitiota and his family back? Would New Zealand still issue temporary resident permits to Kiribati nationals? Moreover, what would happen if a state known for its anti-migrant stance such as Australia or Hungary were the respondent state in a similar case? The uncertainty these questions evoke highlights an important point that everyone asking for human rights-based protection of migrants must be aware of: After all, the well-being of individuals depends on the readiness of the international community and states to implement the standards that international law sets. This is the limitation of international law as it stands. We can be certain that more and more persons will be displaced due to extreme natural events linked with climate change (Klepp 2017). Yet, their actions will continue to challenge the inequalities climate change is set to perpetuate. There is hope that this challenge might in the end make a difference for the better.

Rank 15 in WorldRiskIndex 2020

WorldRiskIndex	16.00
Exposure	34.63
Vulnerability	46.21

Fiji

A Race Against Time

Country profile

The Republic of Fiji consists of 333 islands, of which only 100 are inhabited. These 100 islands have a population of almost one million inhabitants. Like all South Pacific islands, Fiji is affected by increasingly intense extreme natural events and creeping climatic alterations resulting from climate change. Floods, coastal erosions, landslides, and tropical cyclones occur more often. Given its geographical location in the Pacific Ring of Fire, Fiji is particularly exposed to earthquakes.

In 2016, Cyclone Winston reached the highest classification in the storm scale for the first time in Fiji's recent history. Moreover, sea-level rise is already having a negative impact on people's lives in Fiji, as the vast majority of the population lives in coastal areas. Depending on the emission scenario, sea levels could rise by 30 up to 110 centimeters by the end of the century. The severity of the increase depends significantly on international efforts to prevent global warming.

Compared to most other South Pacific island states, Fiji has a well-developed economy. However, the effects of climate change are increasingly impeding this development. For example, ocean acidification caused by rising water temperatures is responsible for dwindling fish stocks. As a result, important sources of income, as well as food security of the population are endangered.

Project context and activities

Due to climatic changes and their impact on the livelihoods of many people, resettlement processes are increasingly

Forced Displacement and Migration Data

889,953
Inhabitants (2019)

5,000
New internal displacements in the context of extreme natural events (2019)

593
Refugees, leaving (2019)

13
Refugees, coming (2019)

taking place in Fiji. The first official resettlement was already initiated in 2006: A village was moved about two kilometers uphill to a more protected location. Meanwhile, more than 800 villages are affected by erosion and sea-level rise to such an extent that the villages need to be relocated urgently.

Besides domestic relocations, there are processes of relocation between different island states. For example, the island state of Kiribati has bought land in Fiji because it will be ultimately uninhabitable due to sea-level rise. Consequently, Kiribati is already preempting this fact by means of future resettlement for a part of its population. The question remains what nationality these people will have after the resettlement. The islanders not only have to leave their homeland and give up their land ownership, they also run the risk of losing their culture, language, nationality, and social fabric in the long term.

In addition, there are migratory movements to the Australian and the New Zealand mainland. However, people who are forced to relocate or are displaced due to increasing extreme natural events do not enjoy an internationally recognized protection status.

It is particularly unfair as the South Pacific island states have only made little contribution to climate change: Their proportion of global emissions is less than one percent. However, they are among the first to suffer directly from the consequences of climate change and do not receive adequate international support. The people of the South Pacific are therefore demanding climate justice. Meanwhile, the main perpetrators of climate change – the large industrialized countries – fear compensation claims and have successfully blocked negotiations for years.

The Pacific Conference of Churches (PCC), which is an ecumenical association of churches in the Pacific region, is supported by Brot für die Welt to advocate the interests of small island states at an international level and to assist communities, for instance, in resettlement. Through seminars, the provision of topical information and the organization of regional meetings, PCC supports its members to position themselves strategically in international negotiations. As a result of its continuous lobbying and advocacy activities towards governments and international bodies as well as effective press work, PCC gains attention in the context of global climate negotiations.

The lobbying also addresses the Pacific island states' governments to stand up for climate justice. In addition, PCC prepares communities for future resettlement processes and advises them during resettlement. The aim is to minimize the negative social consequences of relocation.

Results and effects

PCC's projects have made an important contribution to placing the concerns of the small island states on the international negotiation agenda, as the political pressure to act has grown significantly due to the South Pacific states and civil societies' appeals. Back in 2013, a special working group on climate-related damage and losses was established for the Framework Convention on Climate Change. In reaction to the pressure from the island states, a separate article in the Paris Climate Agreement has been dedicated to the issue of "loss and damage" – recognizing that states such as Fiji require support regarding the issue. Nevertheless, industrialized countries still refuse to make binding commitments to deal with climate-related loss and damage.

Due to PCC's strategy processes, member churches are effectively involved in the UN climate negotiations. Their demands are prominently covered by the international media, and the concerns of the South Pacific island states can no longer be excluded from the negotiating agenda. Although there is still no protection status for people displaced because of climate change, the issue has at least been recognized as a reason for migration in the United Nations Global Compact for Migration. The Pacific Council of Churches plans to continue its work for climate justice until it is fully achieved.

Sabine Minninger, Program Officer Climate Policy, Brot für die Welt

3 The WorldRiskIndex 2020

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The WorldRiskIndex is a statistical model for assessing the global risk of disasters that arise directly from extreme natural events such as earthquakes, storms, floods, droughts or sea-level rise. It is based on the notion that disaster risk is particularly high where extreme natural events hit vulnerable societies. This year, the WorldRiskIndex provides a disaster risk assessment for 181 countries worldwide. It shows that Oceania is the continent most at risk, followed by Africa and the Americas. As in previous years, Vanuatu is the country with the highest disaster risk worldwide. The country is followed by other island states in the highest risk ranks. The reason for this is their high exposure to extreme natural events and the fact that they are particularly affected by sea-level rise caused by global warming. Africa, on the other hand, is the hotspot of vulnerability. More than two-thirds of the most vulnerable countries in the world are located there. The Central African Republic is the most vulnerable country, followed by Chad, the Democratic Republic of Congo, Niger and Guinea-Bissau.

Although the Covid-19 pandemic has dominated large parts of the public discourse and policy-making for most of this year, several natural events have affected many countries around the world. So far, large bushfires have kept vast areas of Australia in suspense. At the same time, floods have ravaged the greater area of the Indonesian capital Jakarta or the East Timorese capital of Dili, storms have affected Europe and earthquakes hit Croatia, Puerto Rico, Turkey and Iran. As the pandemic threatens every country in the world, it makes it very clear that not only countries of the Global South struggle to keep the number of people affected at bay, but that wealthy countries such as the United States and many European countries had difficulties in responding adequately. A crucial lesson from the pandemic is that the impact of the crisis was significantly reduced if societal capacities to implement measures to protect the population were available and well developed. In this respect, there is a parallel to the model of the WorldRiskIndex, which aims to draw public attention to the social factors and dynamics that are ultimately responsible for whether a disaster occurs in the wake of extreme natural events.

The concept

The WorldRiskIndex is based on the understanding that disaster risk is not determined solely by the occurrence, intensity and duration of extreme natural events. Yet it assumes that social factors, political conditions and economic structures are also responsible for whether or not a disaster occurs in the wake of extreme natural events (see also page 15). Following this, every society is in a position to take direct or indirect precautions to reduce the effects of natural hazards. Some examples of such precautions are the enactment of adequate building regulations, the establishment and maintenance of effective disaster management or consistent reduction of extreme poverty and inequality among the population (Bündnis Entwicklung Hilft 2011; IPCC 2018). In this sense, the WorldRiskIndex aims to assess the general risk of countries to face a disaster in the wake of extreme natural events, but it does not predict the probability or timing of the next disaster.

The initial model was developed by scientists from the Institute for Environment and Human Security at the United Nations University in Bonn and associates from Bündnis Entwicklung Hilft in the years 2009 to 2011 (Bündnis Entwicklung Hilft 2011; Welle / Birkmann 2015). Since 2017, the model has been continuously revised and adapted by the Institute for International Law of Peace and Armed Conflict at the Ruhr University Bochum and the WorldRiskReport team of Bündnis Entwicklung Hilft based on new insights in the field of risk analysis and the latest changes in the availability of data.

To show the interaction of natural events and social factors, the WorldRiskIndex multiplies the values of two dimensions: exposure to extreme natural events and vulnerability.

The terms and components of the WorldRiskIndex are described below (Bündnis Entwicklung Hilft 2011):

+ **Risk** is understood as the interaction of hazard and vulnerability, in other words, the interaction of exposure to extreme natural events and the vulnerability of societies.

+ **Hazard / Exposure** means that a particular object of protection, for example a population or an area, is exposed to the effects of one or more natural hazards – earthquakes, storms, floods, droughts or sea-level rise.

+ **Vulnerability** is composed of the components susceptibility, lack of coping capacity and lack of adaptation capacity. It refers to social, physical, economic and environmental factors that make people or systems vulnerable to the effects of natural hazards, the negative impacts of climate change or other processes of change. Vulnerability also includes the ability of people or systems to cope with and adapt to the negative impacts of natural hazards (Birkmann et al. 2011).

+ **Susceptibility** is understood as the likelihood of generally suffering damage in case of an extreme natural event. Susceptibility describes structural characteristics and framework conditions of a society.

+ **Coping** with natural hazards includes various abilities of societies to minimize negative impacts of natural hazards and climate change through direct actions and available resources. Coping capacities include measures and capabilities that are immediately available during an incident to mitigate damage. For the calculation of the WorldRiskIndex, the opposite value, in other words, the lack of coping capacities, is used.

+ In contrast to coping, **adaptation** is understood as a long-term process that also includes structural changes (Lavell et al. 2012; Birkmann et al. 2010) and includes measures and strategies that deal with the negative impacts of natural hazards and climate change in the future. In analogy to coping capacities, the lack of adaptive capacities is included in the WorldRiskIndex, which is the value one minus adaptive capacities.

A total of 27 indicators is included in the calculation of the WorldRiskIndex, whose distribution and weighting are shown in Figure 7. To comply with principles of transparency and reproducibility, the analysis considers only indicators from highly reputable and publicly accessible data sources (for example World Bank, WHO, UNESCO). Following the model, values in the range from 0 to 100 are obtained for each component of the WorldRiskIndex, enabling the countries to be divided into five classes (quintile method) and the results to be presented graphically in the form of maps using geographic information systems (GIS). In this way, a comparison of the 181 countries for each component of the WorldRiskIndex is possible, while keeping the results easily accessible and discussable.

Updating the WorldRiskIndex

Over the last three years, the model of the WorldRiskIndex has steadily been adapted to account for changes in the availability of data. These revisions focused on a computational process for updating all exposition data with a single population data set as well as a new procedure for dealing with missing values (Radtke / Weller 2019). On this basis, it has

been possible to update all exposure data from the PREVIEW Global Risk Data Platform of the United Nations Environment Programme (2019) with the most recent population data from Oak Ridge National Laboratory (2019) in this year's analysis. After most of the vulnerability indicators have been updated once new data became available and the procedure for dealing with missing values has been applied, it was possible to include the island state of Dominica in this year's WorldRiskIndex.

These updates have a noticeable impact on the exposure, vulnerability, and risk values of individual countries, which is particularly noteworthy for the exposure data since population numbers and their spatial distribution are highly dynamic and change considerably over time. Therefore, a direct comparison of the result with earlier WorldRiskIndex results is only possible to a limited extent. In the tradition of previous issues of the WorldRiskReport, methodological notes and data are available on the website **www.WorldRiskReport.org**.

Chances and limitations of the WorldRiskIndex

As a statistical tool, the WorldRiskIndex is seeking to raise awareness among the public and decision-makers in all sectors of society about the crucial issue of disaster risk and to provide guidance for practitioners in the prevention of humanitarian crises. Therefore, the focus should be on people, countries and regions affected, and an understanding should be created that disasters arise to a large extent from social causes. To achieve this goal, it is necessary to reduce complex situations to individual values using a modular structure, which enables faster orientation, clearer communication and visualization of the results. However, this high degree of abstraction always carries the risk that valuable information may be lost or cannot be depicted. Furthermore, the construction of the WorldRiskIndex reaches its limits when there are large amounts of missing values in the data sources as the completeness and quality of data are of central importance for an index (Freudenberg 2003; Meyer 2004).

Regarding the completeness of indicator data, it should be noted that recent data are not available for all 193 member states of the United Nations. Even though the new procedure for replacing missing values has been successfully integrated into the concept of the WorldRiskIndex, Andorra, Liechtenstein, Marshall Islands, Monaco, Nauru, North Korea, Palau, San Marino, Somalia, South Sudan, St. Kitts and Nevis and Tuvalu could not be included due to an excessive number of missing values in the vulnerability indicators. Missing values for these countries are a direct consequence of the fact that, for various reasons, global data archives do not record, obtain or provide data of the required quality. This problem also applies to states that are not full members of the United Nations General Assembly or whose sovereignty has not yet been recognized, which is the reason why states like the Sahrawi Arab Democratic Republic and the Holy See are not included in the WorldRiskIndex. Unfortunately, this severely limits the scalability of the WorldRiskIndex as missing values for vulnerability indicators are now the main barrier for utilizing the higher resolution of the exposure for practical analyses of smaller or even subnational regions. In this respect, the selection and updating of vulnerability indicators will be a challenge for future reports.

Another relevant aspect is that the indicator data do not always show whether and, if so, which areas or territories (for example, overseas territories and islands) have been included in the country data. If possible, no allocation of external territories to the respective sovereign country was made to reduce the influence of this type of inaccuracies. From a methodological point of view, there are reasonable doubts about the validity of such allocations for a large number of indicators. Nonetheless, the territories of Kosovo, Palestine and Taiwan were assigned to the territories of Serbia, Israel and China for reasons of methodological consistency, as there are severe differences in global data sources concerning the treatment of these territories. In some cases, these territories are viewed as independent entities for which individual values for vulnerability indicators are reported. At the same time, they are considered to be part of Serbia, Israel and China by other data sources, which made a reclassification necessary to avoid substantial distortions of

Calculation of the WorldRiskIndex

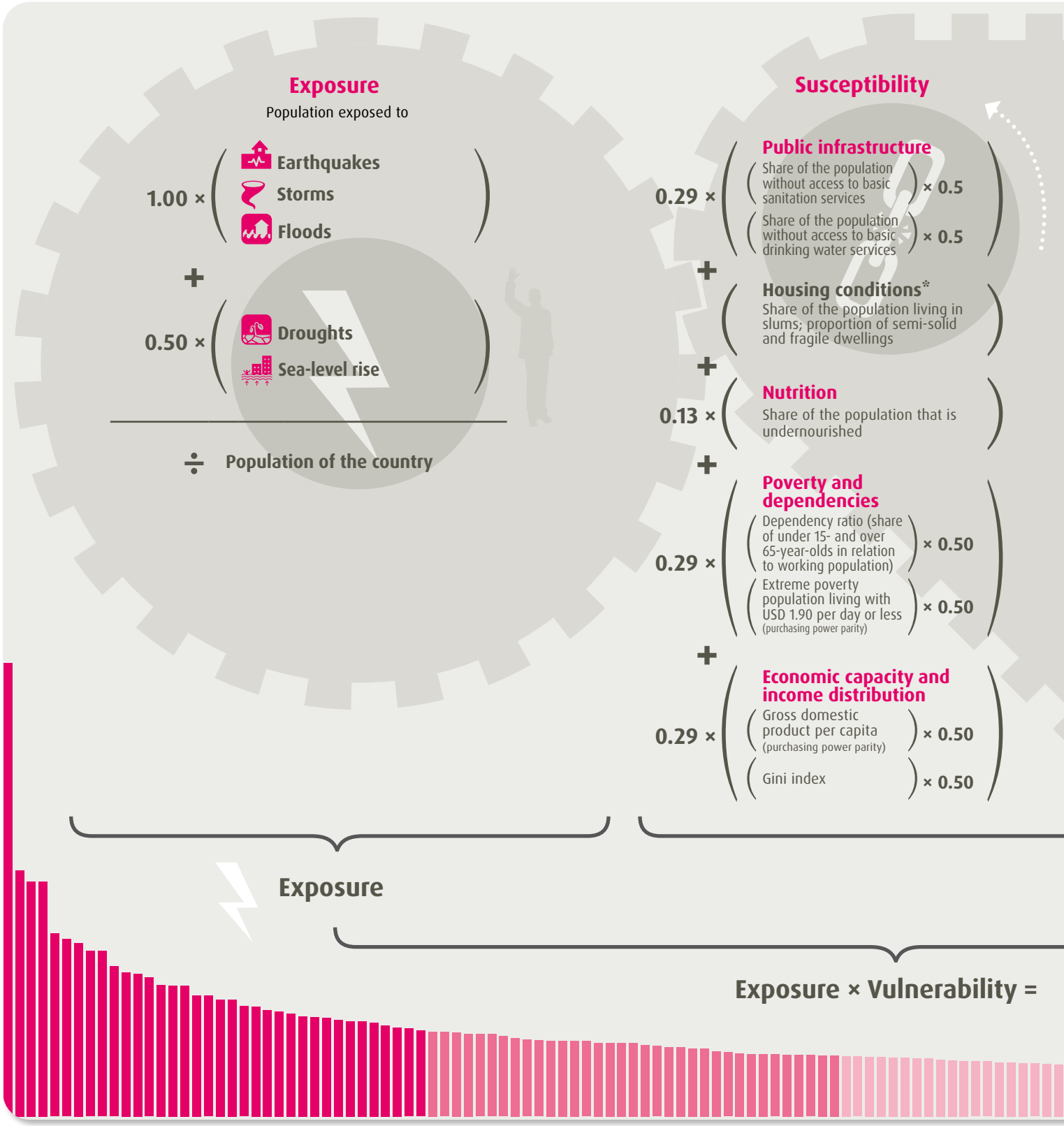

Figure 7: Calculation of the WorldRiskIndex

Coping

0.45 ×

- **Government and authorities**
  - Corruption Perceptions Index × 0.50
  - Fragile States Index × 0.50

+

- **Disaster preparedness and early warning***
  National disaster risk management policy according to report to the United Nations

+

0.45 ×

- **Medical services**
  - Number of physicians per 1,000 inhabitants × 0.50
  - Number of hospital beds per 1,000 inhabitants × 0.50

+

- **Social networks***
  Neighbors, family, and self-help

+

0.10 ×

- **Material coverage**
  Insurance
  (life insurances excluded)

Adaptation

0.25 ×

- **Education and research**
  - Adult literacy rate × 0.50
  - Combined gross school enrollment × 0.50

+

0.25 ×

- **Gender equality**
  Gender Inequality Index

+

0.25 ×

- **Environmental status / Ecosystem protection**
  - Water resources × 0.25
  - Biodiversity and habitat protection × 0.25
  - Forest management × 0.25
  - Agricultural management × 0.25

+

- **Adaptation strategies***
  Projects and strategies to adapt to natural hazards and climate change

+

0.25 ×

- **Investment**
  - Public health expenditure × 0.33
  - Life expectancy at birth × 0.33
  - Private health expenditure × 0.33

Vulnerability = ⅓ × (Susceptibility + (1 – Coping) + (1 – Adaptation))

WorldRiskIndex

* Not incorporated because of insufficient availability of indicators.

the WorldRiskIndex. For this purpose, weighted averages were calculated for the indicators insofar as separate values were available in the data for these territories and countries. In such cases, population numbers of the single areas were set in proportion to the population numbers of the entire classification areas to obtain the weights. Nevertheless, it is crucial to point out that this reclassification was made solely for methodological reasons and reflects neither political positions nor acceptance of legal and political claims.

As a final remark, it should be noted that the calculation of the WorldRiskIndex and the classification of countries using the quintile method allow comparison of countries within the annual issues. However, small differences in the indicators, their index levels or the number of countries in the index can lead to significant changes in rank compared to previous issues. Despite these slight disadvantages for comparability, continuous updates and adjustments are necessary to ensure that the WorldRiskIndex is up to date.

Results of the WorldRiskIndex 2020

The main results of the WorldRiskIndex are the considerable degree of heterogeneity of global disaster risks and their strong link to geographic locations as well as societal aspects of poverty or inequality, as can be seen from the additional world maps in this report. While continental states bear a low to moderate risk, island states, particularly in the South Pacific Ocean and the Caribbean, face very high risks: With Vanuatu, Tonga, Dominica, Antigua and Barbuda, Solomon Islands, Brunei Darussalam, Papua New Guinea, Philippines, Cape Verde and Fiji, a total of ten island states are among the 15 countries with the highest risk. Other island states follow closely behind with Kiribati, the Comoros and Timor-Leste ranking 18, 19 and 20.

While the sea-level rise is a crucial factor for these high risks, storms and earthquakes also contribute to the risk profile of many island and mainland states. Among the 15 highest risk countries, twelve countries also belong to the group of 15 countries with the highest exposure: Nine of them are island states (Vanuatu, Antigua and Barbuda, Dominica, Tonga, Brunei Darussalam, Philippines, Solomon Islands, Cape Verde and Fiji) and three countries (Guyana, Costa Rica and Guatemala) are located on the mainland. Although the direct link between high risk and high exposure is particularly strong for the 15 countries most at risk, it is not limited to these countries as other members of the highest risk group — Cambodia (rank 16), El Salvador (rank 17) and Timor-Leste (rank 20) — are on a very high exposure level (ranks 20, 17 and 24), too. By taking a look at risk profiles of countries, valuable insights are gained on how exposure to natural hazards and societal capacities interact in terms of disaster risk. Latent causes of risk can then be assessed, as the examples of Japan, Uruguay and Chile clearly show. Due to their location near the edges of tectonic plates, these countries are particularly prone to earthquakes, which places them on exposure ranks 10, 13 and 15. A similar point has to be made for to the Netherlands, which is threatened by sea-level rise and ranked 16th in terms of exposure to natural hazards. However, all four countries can drastically reduce their risk due to their low vulnerabilities; Japan and the Netherlands are even among the 15 least vulnerable countries in the world. In terms of the WorldRiskIndex, these countries rank 65 (Netherlands), 46 (Japan), 30 (Chile) and 27 (Uruguay), which is much lower than their exposure alone would have suggested. In contrast, the most vulnerable country in the world, the Central African Republic, shows how a very high vulnerability combined with moderate exposure (rank 139) leads to high disaster risk (rank 71). A look at the continental ranking shows that Oceania, followed by Africa, the Americas, Asia and Europe, bears the highest risk based on the median values of the country groups.

Oceania: As in previous years, Oceania has the highest median of all continents in the WorldRiskIndex with a value of 15.47 for ten

Country group	Risk $\tilde{x}$	Exposure $\tilde{x}$	Vulnerability $\tilde{x}$	Susceptibility $\tilde{x}$	Lack of coping $\tilde{x}$	Lack of adaptation $\tilde{x}$
Africa	8.89	13.56	63.79	49.50	84.65	54.97
Americas	7.88	16.53	45.08	24.17	73.91	35.67
Asia	5.76	11.87	45.97	23.73	76.26	38.57
Europe	3.41	11.39	31.54	16.44	58.65	21.68
Oceania	15.47	28.42	49.67	30.28	79.76	44.40
Worldwide	**6.42**	**13.06**	**46.08**	**24.17**	**75.63**	**38.18**

Figure 8: Comparison of the medians of the country groups (based on WorldRiskIndex 2020)

countries. This is partly due to the high proportion of island states. A total of five countries of the continent – Vanuatu (rank 1), Tonga (rank 2), Solomon Islands (rank 5), Papua New Guinea (rank 8) and Fiji (rank 15) – are among the 15 countries with the highest disaster risk, and Kiribati (rank 18) following closely behind. Once again, Vanuatu is the country facing the highest disaster risk with an index value of 49.74. In general, the Oceanian countries are very heterogeneous in terms of exposure, ranging from 86.77 for Vanuatu (rank 1) to 12.19 for Samoa (rank 107). At the same time, the differences in vulnerabilities are much smaller. Except for Australia, New Zealand and Fiji, which are ranked 170, 162 and 90 and are thus in a very good or moderate position, all other countries have high or very high vulnerabilities. The lack of coping capacity is equally striking, as apart from Australia, New Zealand, Micronesia and Fiji, every country of the continent is placed in the highest two categories of this dimension. In terms of lacking adaptation capacities, the situation is slightly better. Here, Australia (175) and New Zealand (153) are ranked in the lowest category, while Fiji (74), Samoa (84) and Tonga (96) show moderate deficiencies. Nevertheless, half of the ten countries are members of the groups with the highest lack of adaptive and coping capacities, with Papua New Guinea (8) having some of the greatest deficiencies in terms of adaptation capacities in the world. In terms of the susceptibility, most countries are in the two groups of highest ranking, except for Australia, New Zealand, Fiji and Samoa, which are placed in the moderate to very low category.

Africa: The African continent bears the second-highest risk of continents with a median of 8.89 for 53 countries. In Africa, the highest risks are found in Cape Verde (17.73), Djibouti (16.23), the Comoros (14.88), Niger (13.85), Guinea-Bissau (13.32) and Nigeria (13.09). All these countries, except for the moderately vulnerable Cape Verde, have very high or high exposures and vulnerabilities. The hotspot of vulnerability, however, is located in the Sahel zone and the tropical regions of Africa: A total of eleven of the 15 most vulnerable countries in the world are located in Africa. The Central African Republic is the most vulnerable country in the world, followed by Chad, Democratic Republic of Congo, Niger and Guinea-Bissau. While Cape Verde is in a relatively good position in terms of a regional comparison of vulnerability, the country is, however, only placed in the global midfield of vulnerability. As in previous years, African countries are disproportionately represented in the highest category of the vulnerability component. This is particularly evident in terms of susceptibility as the 15 highest ranked countries are all located in Africa. The lack of adaptation capacities is equally pronounced for the African continent because the lowest capacities worldwide are located – together with the West Asian Yemen – in Chad, Mali, the Central African Republic and Niger.

Americas: While the Americas has a slightly lower risk than Africa with a median of 7.88 for 33 countries, risks are very heterogeneously spread across the continent. A few countries in Central and South America, such as Dominica (28.47), Antigua and Barbuda (27.44), Guyana (22.73), Guatemala (20.09), Costa Rica (17.25), El Salvador (15.33), Nicaragua (14.67) and Haiti (14.62), lead the American ranking, while being part of the highest risk

group. However, there are American countries with very low risk that are also among the countries with the lowest disaster risk worldwide. These include Canada (rank 156), Barbados (rank 176), Grenada (rank 178), and the island state of St. Vincent and the Grenadines (rank 179), which has the third-lowest risk of all with a value of 0.81. A similar heterogeneity is evident in terms of exposure, as Antigua and Barbuda, Dominica, Guyana, Costa Rica and Guatemala are highly exposed to natural hazards, while the countries least at risk previously mentioned are those with low or very low exposure levels. There are similar differences in vulnerability, as Haiti is particularly vulnerable (68.23; rank 15), while many countries on the continent have a moderate or low vulnerability. In the least vulnerable category, the United States of America and Canada are the only American countries.

Asia: Within the comparison of disaster risk, Asia is ranked fourth and stays below the global median with a continental median of 5.76 for 42 countries. A total of five countries are listed in the highest risk category – Brunei Darussalam (22.30), Philippines (20.96), Bangladesh (16.40), Cambodia (15.76) and Timor-Leste (14.67). However, several Asian countries, such as Qatar, Saudi Arabia, Maldives, Singapore, Oman, Bahrain, Israel and Bhutan, perform quite well in the WorldRiskIndex, especially Qatar, with the lowest risk worldwide. This heterogeneity can be attributed to substantial differences in exposure: Philippines, Japan, Bangladesh, Cambodia, Timor-Leste and Viet Nam are ranked in the highest exposure group, while Qatar, Saudi Arabia, Maldives, Oman and Bhutan are amongst the lowest exposures. In terms of vulnerability, only Yemen and Afghanistan are among the most vulnerable countries, while most Asian countries are moderately or slightly vulnerable. The particular case of Japan clearly shows how a very low vulnerability can lead to a significant reduction in risk. Despite its very high exposure (38.67; rank 10) and due to its low vulnerability (24.93; rank 172), Japan is ranked 46th in the WorldRiskIndex and thus not in the highest risk group. In Southeast Asia, however, there is a risk hotspot because a high exposure meets a high vulnerability.

Europe: Due to a median of 3.41 for 43 countries, Europe faces by far the lowest risk of all continents. However, there are intra-continental differences: Albania, the Netherlands, Greece, Montenegro and Romania bear a medium to high risk, while Switzerland, Estonia, Finland, Iceland and Malta are on the lower end of the risk spectrum. Overall, Europe is characterized by a rather low exposure: Only three out of 43 countries are in the group of countries with very high exposures. In contrast, 14 countries are in the lowest exposure category. Vulnerability is also relatively low, with 29 countries in the lowest vulnerability category. The countries with the highest vulnerability in Europe are Bosnia and Herzegovina, Moldova, Albania, Northern Macedonia and Azerbaijan.

Conclusion

In line with the results of previous years, this years's WorldRiskIndex clearly shows that disaster risk is very heterogeneous, and geographically, highly concentrated – global hotspots are in Oceania, South East Asia, Central America as well as West and Central Africa. Furthermore, it is apparent that island states, in particular and across all regions of the world, have a very high risk. This is mainly due to their high exposure to extreme natural events and the fact that they are particularly affected by sea-level rise as a result of global warming. Comparing the disaster risk of continents, Oceania ranks first. The situation is noticeably different for the ability of societies to deal with extreme natural events: The countries with the highest vulnerability are predominantly located in Africa. In general, the temporal stability of the results is hardly surprising as improvements in the societal vulnerabilities take place over longer periods and require measures and cooperation at a local, national and international level until they manifest permanently.

Over the last ten years, the WorldRiskIndex has been valuable in raising awareness of the role of societal capacities in the emergence and development of disasters and thus providing guidance for practitioners in the field of disaster risk reduction. It has shown that the development of societal capacities is crucial for the reduction of disaster risk. However, several disasters and the incipient effects of climate change in recent years point to new challenges for the WorldRiskIndex: As the risk profiles of countries are starting to become more diverse and complex, new hazards will manifest themselves in regions that have not been or have been less exposed to them, thus making it necessary to develop other societal capacities to successfully cope and adapt. Accordingly, a focus for the coming years will be to find new ways to adapt the WorldRiskIndex to these global processes and thus ensure that it can fulfill its important function.

4 Recommendations and Demands

Bündnis Entwicklung Hilft
and
Institute for International Law of Peace and Armed Conflict

Disasters, violence and armed conflicts: every year destroyed livelihoods force millions of people worldwide to flee their homes. Many more millions take long and sometimes dangerous routes from home to work every day to earn their income. What unites them is the pursuit of a safe and dignified life for themselves and their families. Refugees and displaced persons, but also migrant workers and returnees, are confronted with a multitude of challenges and problems, which result, above all, from their particular vulnerability and their associated weak social, legal and economic position. Since the beginning of 2020, the coronavirus crisis has once again made it clear that not all people are equally affected by crises and disasters – not all are equally vulnerable. Refugees, displaced persons and migrant workers often have no other choice but to expose themselves to higher risks of infection to secure their existence or even survival.

However, the coronavirus crisis has also shown how particularly vulnerable population groups can be protected through decisive political action and social cooperation. Given the advancing climate change, the persistence of crises hotspots worldwide and the growing gap between rich and poor, such decisive action is also required at the intergovernmental level. The Sendai Framework for Disaster Risk Reduction, the Paris Climate Targets and Agenda 2030 must guide action in this regard. Achieving these global goals is indispensable for reducing existing risks in the future and counteracting the emergence of new risks. Social and international cooperation is just as necessary as sustainable investments and an appropriate legal framework. The special situation of refugees, displaced persons and migrants must be given greater attention in these long-term transformation processes. The following aspects are particularly crucial in this context:

Political and social aspects

+ Political action in the context of forced displacement and migration should always focus on the needs of the people affected by displacement and resettlement, not on the consideration of keeping these people as far away as possible from European and other industrialized countries. Only in this way can the rights of those affected be safeguarded and prospects created for them.

+ The international community, especially those states that emit CO_2 in large quantities, must finally live up to their responsibility and implement agreements on climate protection more ambitiously. Migration is increasingly a consequence of climate-related damage and losses; this must be more strongly recognized and addressed internationally. To this end, the polluter-pays principle must be politically accepted, more firmly anchored in international regulations and become a guiding principle for action.

+ Resettlement programs must be designed in a participatory manner and, in addition to economic and territorial aspects, take greater account of aspects such as the potential loss of language, nationality and culture. By consistently involving those affected, these impending losses can be counteracted preventively.

+ Self-determined migration should be internationally recognized as a possible strategy for adapting to negative climate change impacts. However, adaptation strategies are no substitute for consistent, sustainable climate policies – both nationally and internationally. Preventive climate protection measures must always be the first response to the negative consequences of global warming.

+ Research on migration and displacement should not only focus on processes of abandonment and resettlement but increasingly also on the previously neglected living conditions of people who stay behind and those who return. Research projects to this end should be more strongly initiated and promoted, especially concerning extreme natural events, increasing weather extremes and the creeping effects of climate change.

Legal aspects

+ International agreements and regulations on disaster prevention and post-disaster rehabilitation require greater consideration of human rights. International law and human rights must take precedence over domestic political considerations in the protection of refugees and displaced persons.

+ Planned resettlement processes must comply with internationally recognized standards and guidelines for the protection of the people affected. Those affected must receive support according to their actual needs, which may vary according to gender, sexuality, age, social status, disabilities and other factors. Access to basic services, to the local labor market, to the education and health systems, to the authorities and the judicial system, as enshrined in human rights, must also be guaranteed.

+ Different protection mechanisms for different groups of migrants and innovative approaches are needed to close existing gaps in protection. This is because people who are forced to leave their homes primarily due to extreme natural events and the effects of climate change are not readily protected by the Geneva Refugee Convention.

+ It is important to avoid a situation in which an increasing disaster risk in the face of climate change is used by states as an excuse for resettlement programs. It must be ensured that resettlement processes are only

The Significance of the Sustainable Development Goals for the Situation of Migrants

Figure 9: Selection of UN Sustainable Development Goals (SDGs) related to the situation of migrants (Text: Bündnis Entwicklung Hilft based on IOM 2018)

initiated with the consent and in consultation with the affected population groups. At an international level, this requires a legal framework for resettlement, which should be negotiated and defined between states or by the United Nations.

+ Clear, internationally recognized criteria are needed for determining when a region is considered uninhabitable, and returning to it becomes impossible. This applies to extreme natural events and creeping environmental changes such as prolonged droughts or sea-level rise. A distinction must be made between temporary and irrevocable uninhabitable places.

Financial aspects

+ To prevent future climate-induced displacement, financial incentives for ambitious climate protection are needed. The implementation of a CO_2 tax, the effectiveness of which has been scientifically proven, is essential here. Subsidies for technology developments for sustainable energy production can also help to persuade countries to stop extracting climate-damaging resources such as coal and oil.

+ Regionally adapted strategies to prevent forced displacement, as well as to support self-determined migration, must be developed more intensively. This requires greater support and financial funding for regional capacities and structures.

+ More support must be given, in particular, to small states with limited financial resources that have only made small contributions to climate change but are particularly affected by its consequences. The Pacific Island states are a case in point. It is not enough to only provide financial resources for adaptation to climate change. It is also necessary to

An ordered, safe, regular and responsible migration and the mobility of humans have to be facilitated by, for instance, a planed and well-managed migration policy.

A participatory settlement plan and regulation should better reach out to refugees and migrants often living in informal urban settlements. Their specific needs should be considered in a more inclusive and sustainable urban development.

Planning and management capacities in the field of climate change have to be strengthened in a participatory way worldwide. This can help to counter the consequences of climate change as a pressure factor for forced displacement and migration.

Children and human trafficking has to be stopped worldwide. Affected persons have to be supported in reintegrating into society and working life.

High-quality data collection and dissemination have to be promoted in countries of the Global South. Refugees and migrants can benefit from an improved information situation.

provide compensation for climate damage and losses already incurred.

+ National contributions to the financing of the United Nations must be made consistently and reliably. For the UN's special and subsidiary bodies, such as the UNHCR, reliable financial contributions are essential to, for example, be able to act in the context of forced displacement and migration.

Aspects of humanitarian aid and development cooperation

+ The social marginalization of various groups of migrants must be decisively counteracted. Gender and age-specific needs and the needs of people with disabilities must be addressed and given greater consideration. In addition, professional psycho-social support must be intensified for people who have fled, been displaced or need to be resettled.

+ The vast majority of the world's displaced persons seek protection within their national borders. Therefore, capacities in the hotspot regions of (forced) displacement need to be strengthened, taking into account, in particular, the neighboring regions.

+ Long-standing local expertise of humanitarian actors must be used effectively to better identify potential risk areas and to more accurately assess potential regional migration caused by extreme natural events and conflicts.

+ Returnees must be given greater support in reintegrating into their region of origin to reduce their potential vulnerability to extreme natural events and prevent further displacement. Social and societal ties are essential here.

+ Informal settlements, such as urban slums, are often particularly exposed to extreme natural events and must, therefore, be given greater attention, in order to reduce the risk of displacement. This is all the more true since people who have already been displaced often only find refuge in such informal settlements, where they are threatened with renewed displacement. Legal security, poverty reduction and good governance can improve this situation in the long term.

+ To coordinate the needs resulting from forced displacement, the situation of the host communities must always be considered. It must be ensured that the population living in the target area is not placed in a worse position than the people to be resettled there or their previous standard of living. Potential conflicts such as access to resources and infrastructure can thus be identified in advance and, at best, avoided.

Appendix

WorldRiskIndex 2020 Overview

Classification	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
very low	0.31 – 3.29	0.91 – 9.55	22.81 – 34.13	8.32 – 16.75	37.36 – 59.21	14.59 – 24.65
low	3.30 – 5.67	9.56 – 12.13	34.14 – 42.38	16.76 – 20.97	59.22 – 71.76	24.66 – 34.35
medium	5.68 – 7.58	12.14 – 14.64	42.39 – 48.12	20.98 – 27.93	71.77 – 78.01	34.36 – 40.64
high	7.59 – 10.75	14.65 – 19.69	48.13 – 61.49	27.94 – 45.13	78.02 – 85.20	40.65 – 52.72
very high	10.76 – 49.74	19.70 – 86.77	61.50 – 76.34	45.14 – 70.83	85.21 – 93.80	52.73 – 69.72

Max. value = 100, classification according to the quintile method

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
1.	Vanuatu	49.74	86.77	57.32	38.81	52.42	80.73
2.	Tonga	29.72	61.21	48.56	28.76	37.08	79.85
3.	Dominica	28.47	62.74	45.38	26.12	38.82	71.21
4.	Antigua and Barbuda	27.44	68.92	39.82	23.33	32.83	63.31
5.	Solomon Islands	24.25	40.04	60.56	45.75	54.73	81.21
6.	Guyana	22.73	44.92	50.60	27.13	47.13	77.55
7.	Brunei Darussalam	22.30	57.61	38.70	14.75	33.35	67.99
8.	Papua New Guinea	21.12	30.79	68.58	55.66	63.85	86.23
9.	Philippines	20.96	42.30	49.55	28.97	39.32	80.37
10.	Guatemala	20.09	36.52	55.02	33.09	46.76	85.21
11.	Cape Verde	17.73	37.23	47.61	29.35	40.65	72.84
12.	Costa Rica	17.25	43.49	39.67	20.03	30.08	68.89
13.	Bangladesh	16.40	28.28	57.98	33.21	54.91	85.81
14.	Djibouti	16.23	26.79	60.60	37.81	59.59	84.39
15.	Fiji	16.00	34.63	46.21	21.98	40.40	76.24
16.	Cambodia	15.76	26.80	58.82	38.94	50.57	86.94
17.	El Salvador	15.33	31.69	48.39	24.67	42.44	78.05
18.	Kiribati	14.94	26.05	57.36	39.27	50.04	82.77
19.	Comoros	14.88	23.77	62.60	46.02	57.34	84.45
20.	Nicaragua	14.67	25.67	57.15	32.00	56.18	83.26
20.	Timor-Leste	14.67	25.85	56.74	42.33	51.41	76.49
22.	Haiti	14.62	21.43	68.23	51.15	63.15	90.40
23.	Niger	13.85	19.26	71.90	60.64	67.19	87.87
24.	Guinea-Bissau	13.32	18.86	70.64	60.23	62.26	89.43
25.	Nigeria	13.09	19.66	66.56	49.50	61.95	88.22
26.	Cameroon	12.97	20.34	63.79	47.71	54.97	88.70
27.	Uruguay	12.54	36.29	34.56	19.23	30.60	53.85
28.	Gambia	12.44	19.70	63.14	43.66	62.44	83.32
29.	Jamaica	12.08	26.05	46.39	25.14	39.50	74.52
30.	Chile	12.05	33.41	36.07	17.83	28.02	62.35
31.	Chad	11.83	15.71	75.32	64.54	68.94	92.49
32.	Dominican Republic	11.57	24.85	46.57	24.03	37.46	78.23
33.	Benin	11.46	17.50	65.48	55.20	60.03	81.20
34.	Burkina Faso	11.19	16.54	67.67	57.63	61.16	84.22
35.	Honduras	11.02	20.25	54.43	32.11	46.45	84.74
36.	Togo	10.97	16.59	66.11	55.74	56.25	86.34
37.	Mali	10.76	15.68	68.65	49.90	67.34	88.70

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
38.	Madagascar	10.51	15.12	69.48	65.68	56.21	86.55
39.	Angola	10.40	15.74	66.10	53.29	58.21	86.80
40.	Indonesia	10.39	20.97	49.54	26.03	44.56	78.02
40.	Kenya	10.39	16.47	63.10	52.14	50.89	86.28
42.	Burundi	10.34	14.74	70.14	62.20	57.53	90.68
43.	Viet Nam	10.30	22.02	46.76	23.88	39.78	76.63
44.	Cote d'Ivoire	10.00	15.54	64.33	47.57	59.76	85.65
45.	Senegal	9.74	16.51	58.97	44.37	54.45	78.09
46.	Japan	9.64	38.67	24.93	17.76	17.83	39.20
47.	Trinidad and Tobago	9.60	23.39	41.05	24.17	34.57	64.42
48.	Sierra Leone	9.44	13.69	68.99	55.80	65.60	85.57
49.	Liberia	9.43	13.56	69.52	56.27	65.02	87.26
50.	Ghana	9.37	16.38	57.18	42.64	49.75	79.15
51.	Zimbabwe	9.32	14.62	63.76	54.37	48.15	88.76
52.	Mozambique	9.18	13.31	68.97	62.61	56.44	87.85
53.	Mauritius	9.17	23.84	38.47	17.46	38.56	59.40
54.	United Rep. of Tanzania	8.96	14.01	63.95	56.78	51.68	83.38
55.	Malawi	8.89	13.22	67.24	59.28	57.80	84.65
56.	Democratic Rep. of Congo	8.77	11.80	74.28	67.78	62.12	92.95
57.	Afghanistan	8.69	12.99	66.93	49.10	59.61	92.09
58.	Uganda	8.63	12.82	67.29	62.55	51.34	87.98
59.	Guinea	8.62	12.70	67.88	51.48	63.34	88.82
60.	Albania	8.46	20.14	42.00	20.03	30.97	74.99
61.	Sudan	8.45	13.13	64.39	45.14	56.21	91.82
62.	Ecuador	8.42	17.96	46.88	25.16	39.53	75.96
63.	Panama	7.96	18.03	44.13	23.85	36.29	72.25
64.	Belize	7.95	16.82	47.24	27.94	40.26	73.53
65.	Netherlands	7.89	31.72	24.87	14.80	17.19	42.63
66.	Bolivarian Rep. of Venezuela	7.88	16.12	48.90	25.50	35.27	85.94
67.	Mauritania	7.85	12.55	62.51	38.87	61.51	87.15
68.	Ethiopia	7.82	11.68	66.93	56.77	57.49	86.52
68.	Uzbekistan	7.82	16.17	48.39	29.48	39.87	75.83
70.	Zambia	7.81	12.15	64.30	61.54	47.92	83.44
71.	Central African Republic	7.79	10.20	76.34	70.83	67.32	90.88
72.	Malaysia	7.71	19.05	40.46	16.90	33.59	70.89
73.	Fed. States of Micronesia	7.59	14.95	50.77	31.79	48.39	72.13
74.	Sri Lanka	7.57	15.99	47.32	22.82	41.83	77.30
75.	Rwanda	7.56	12.30	61.50	52.28	52.38	79.85
76.	Algeria	7.55	16.51	45.75	20.97	39.30	76.97
77.	Suriname	7.40	15.41	48.04	28.66	42.50	72.96
78.	Kyrgyzstan	7.30	16.46	44.33	25.23	32.14	75.63
79.	Equatorial Guinea	7.26	12.77	56.83	40.48	43.64	86.37
80.	Greece	7.25	22.89	31.66	17.15	17.04	60.79
81.	Myanmar	7.18	12.96	55.39	28.97	51.38	85.82
82.	Montenegro	6.93	18.12	38.24	18.71	27.59	68.42
83.	Republic of Congo	6.81	10.65	63.91	53.92	49.24	88.58
84.	Eritrea	6.77	9.65	70.17	61.46	59.53	89.51
85.	Gabon	6.73	13.00	51.74	32.07	47.28	75.88
86.	Lesotho	6.71	11.16	60.17	44.48	54.23	81.79

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
87.	Pakistan	6.68	11.74	56.89	33.13	52.73	84.81
88.	Colombia	6.65	14.65	45.38	22.73	35.97	77.45
89.	India	6.62	12.51	52.94	32.08	48.60	78.15
90.	Thailand	6.54	14.81	44.13	17.52	36.25	78.63
91.	Swaziland	6.42	11.12	57.72	41.73	48.38	83.05
92.	Peru	6.37	14.14	45.08	26.39	32.83	76.03
92.	South Africa	6.37	13.37	47.65	30.75	39.38	72.82
94.	Namibia	6.21	11.36	54.66	42.50	47.36	74.13
95.	Syrian Arab Republic	6.03	10.80	55.87	27.47	49.13	91.02
96.	Iraq	5.99	10.78	55.59	26.60	52.44	87.72
97.	Mexico	5.97	14.09	42.39	20.96	32.30	73.91
98.	Samoa	5.87	12.19	48.13	25.40	39.33	79.66
99.	Romania	5.86	15.41	38.03	19.49	30.00	64.60
100.	Cuba	5.84	16.53	35.34	19.48	32.86	53.67
100.	China	5.84	14.30	40.85	20.98	29.50	72.07
102.	Tajikistan	5.83	11.99	48.63	32.00	36.81	77.09
103.	Morocco	5.82	12.14	47.91	24.70	40.00	79.02
104.	North Macedonia	5.81	14.48	40.12	18.88	31.25	70.23
105.	Armenia	5.73	14.55	39.37	20.21	28.67	69.22
106.	Azerbaijan	5.72	14.31	39.98	17.80	30.71	71.43
106.	Georgia	5.72	14.58	39.23	22.56	31.36	63.77
108.	Tunisia	5.70	13.06	43.67	17.73	37.82	75.46
109.	Yemen	5.68	8.13	69.87	46.10	69.72	93.80
110.	Turkmenistan	5.66	12.25	46.22	27.29	38.18	73.18
111.	Seychelles	5.31	12.53	42.39	18.07	41.97	67.13
112.	Lebanon	5.27	11.43	46.08	20.31	38.95	78.98
113.	Serbia	5.25	13.41	39.17	22.01	27.71	67.80
114.	New Zealand	5.11	17.73	28.81	16.16	21.70	48.57
115.	Hungary	5.07	15.24	33.28	16.01	25.19	58.65
116.	Islamic Republic of Iran	5.03	10.96	45.85	19.78	34.53	83.24
116.	Turkey	5.03	12.29	40.96	18.17	31.80	72.92
118.	Brazil	4.91	11.33	43.33	22.57	31.14	76.28
119.	Bosnia and Herzegovina	4.80	11.18	42.95	18.65	35.95	74.24
120.	Plurinational State of Bolivia	4.78	9.56	50.01	32.36	37.71	79.97
121.	Nepal	4.77	8.62	55.28	33.70	48.81	83.34
122.	Italy	4.75	15.17	31.29	17.25	17.41	59.22
123.	Saint Lucia	4.70	10.24	45.88	24.22	37.74	75.67
124.	Australia	4.54	18.08	25.10	15.61	16.17	43.53
125.	Ireland	4.50	16.68	26.96	15.74	17.64	47.49
126.	Kuwait	4.48	12.43	36.01	13.04	24.63	70.36
127.	Lao People's Democratic Rep.	4.47	8.02	55.76	33.26	51.23	82.79
128.	Bahamas	4.38	11.77	37.25	18.24	35.07	58.45
129.	Botswana	4.20	8.82	47.59	31.46	39.35	71.97
130.	Bulgaria	4.17	11.88	35.12	21.18	24.81	59.38
131.	Croatia	4.13	12.11	34.14	17.06	22.46	62.91
131.	Jordan	4.13	9.18	45.04	23.57	43.28	68.27
133.	Republic of Moldova	4.04	9.59	42.10	22.96	34.36	68.98
134.	United States of America	3.90	12.99	30.06	15.97	21.67	52.54
135.	Portugal	3.66	11.62	31.54	16.76	23.17	54.68

Rank	Country	WorldRiskIndex	Exposure	Vulnerability	Susceptibility	Lack of coping capacities	Lack of adaptive capacities
136.	Spain	3.61	11.74	30.77	16.07	18.82	57.42
137.	Kazakhstan	3.58	9.54	37.54	17.09	28.92	66.62
138.	Russian Federation	3.55	9.59	37.04	18.43	27.80	64.88
139.	Argentina	3.50	9.55	36.70	20.78	30.41	58.91
140.	United Kingdom	3.46	12.58	27.53	16.42	19.09	47.07
141.	Libyan Arab Jamahiriya	3.41	7.38	46.23	21.93	34.25	82.50
141.	Slovenia	3.41	11.39	29.91	14.72	19.27	55.73
143.	Paraguay	3.38	7.04	47.99	24.04	40.79	79.15
144.	Slovakia	3.37	10.10	33.33	14.54	24.66	60.79
145.	United Arab Emirates	3.30	10.99	30.01	9.55	25.86	54.61
146.	Republic of Korea	3.14	11.32	27.74	13.52	20.29	49.41
147.	Austria	3.06	13.19	23.18	14.08	15.35	40.10
148.	Poland	3.04	9.45	32.14	15.34	22.27	58.82
149.	Czech Republic	3.00	10.77	27.89	14.77	20.83	48.08
150.	Cyprus	2.99	8.42	35.57	15.15	24.40	67.16
150.	Latvia	2.99	8.81	33.90	18.60	23.48	59.63
152.	Bhutan	2.97	6.27	47.40	24.17	45.20	72.82
152.	Mongolia	2.97	6.89	43.15	28.40	35.62	65.43
154.	Israel	2.95	8.35	35.27	18.54	22.57	64.70
155.	Bahrain	2.91	7.33	39.64	15.57	27.36	76.00
156.	Canada	2.79	10.36	26.89	15.17	18.77	46.73
157.	Oman	2.76	6.70	41.18	22.49	34.48	66.58
158.	Ukraine	2.75	6.91	39.76	19.65	32.19	67.43
159.	Denmark	2.74	11.85	23.12	14.91	15.31	39.13
160.	Belarus	2.67	7.96	33.50	16.49	25.33	58.67
161.	Belgium	2.66	11.38	23.37	14.79	14.59	40.74
162.	Germany	2.63	11.52	22.81	14.98	16.08	37.36
163.	Sao Tome and Principe	2.58	4.55	56.74	46.44	47.13	76.64
164.	Singapore	2.57	8.87	28.97	11.29	21.60	54.03
165.	Norway	2.52	10.83	23.25	13.92	17.34	38.49
166.	Luxembourg	2.50	9.56	26.18	12.40	20.03	46.10
167.	France	2.47	9.62	25.66	16.61	16.22	44.14
168.	Lithuania	2.26	7.37	30.71	17.98	21.04	53.11
169.	Sweden	2.20	8.82	24.96	15.60	18.08	41.19
170.	Switzerland	2.15	9.01	23.90	13.91	19.32	38.46
171.	Maldives	2.12	4.77	44.40	17.45	39.23	76.51
172.	Estonia	2.03	6.52	31.11	16.44	21.68	55.21
173.	Finland	1.96	8.22	23.80	15.66	15.93	39.81
174.	Egypt	1.78	3.72	47.98	22.01	39.54	82.39
175.	Iceland	1.69	7.12	23.79	14.10	14.94	42.32
176.	Barbados	1.39	3.66	37.94	20.56	32.65	60.62
177.	Saudi Arabia	1.04	2.89	36.07	13.62	26.57	68.03
178.	Grenada	0.97	2.21	43.80	26.83	35.67	68.90
179.	St. Vincent and the Grenadines	0.81	1.85	43.79	28.20	31.39	71.77
180.	Malta	0.66	2.26	29.01	14.91	20.44	51.67
181.	Qatar	0.31	0.91	34.33	8.32	30.08	64.58

WorldRiskIndex 2020, Countries in Alphabetical Order

Country	WRI	Rank
Afghanistan	8.69	57.
Albania	8.46	60.
Algeria	7.55	76.
Angola	10.40	39.
Antigua and Barbuda	27.44	4.
Argentina	3.50	139.
Armenia	5.73	105.
Australia	4.54	124.
Austria	3.06	147.
Azerbaijan	5.72	106.
Bahamas	4.38	128.
Bahrain	2.91	155.
Bangladesh	16.40	13.
Barbados	1.39	176.
Belarus	2.67	160.
Belgium	2.66	161.
Belize	7.95	64.
Benin	11.46	33.
Bhutan	2.97	152.
Bolivarian Republic of Venezuela	7.88	66.
Bosnia and Herzegovina	4.80	119.
Botswana	4.20	129.
Brazil	4.91	118.
Brunei Darussalam	22.30	7.
Bulgaria	4.17	130.
Burkina Faso	11.19	34.
Burundi	10.34	42.
Cambodia	15.76	16.
Cameroon	12.97	26.
Canada	2.79	156.
Cape Verde	17.73	11.
Central African Republic	7.79	71.
Chad	11.83	31.
Chile	12.05	30.
China	5.84	100.
Colombia	6.65	88.
Comoros	14.88	19.
Costa Rica	17.25	12.
Cote d'Ivoire	10.00	44.
Croatia	4.13	131.
Cuba	5.84	100.
Cyprus	2.99	150.
Czech Republic	3.00	149.
Democratic Republic of Congo	8.77	56.
Denmark	2.74	159.
Djibouti	16.23	14.
Dominica	28.47	3.
Dominican Republic	11.57	32.
Ecuador	8.42	62.

Country	WRI	Rank
Egypt	1.78	174.
El Salvador	15.33	17.
Equatorial Guinea	7.26	79.
Eritrea	6.77	84.
Estonia	2.03	172.
Ethiopia	7.82	68.
Federated States of Micronesia	7.59	73.
Fiji	16.00	15.
Finland	1.96	173.
France	2.47	167.
Gabon	6.73	85.
Gambia	12.44	28.
Georgia	5.72	106.
Germany	2.63	162.
Ghana	9.37	50.
Greece	7.25	80.
Grenada	0.97	178.
Guatemala	20.09	10.
Guinea	8.62	59.
Guinea-Bissau	13.32	24.
Guyana	22.73	6.
Haiti	14.62	22.
Honduras	11.02	35.
Hungary	5.07	115.
Iceland	1.69	175.
India	6.62	89.
Indonesia	10.39	40.
Iraq	5.99	96.
Ireland	4.50	125.
Islamic Republic of Iran	5.03	116.
Israel	2.95	154.
Italy	4.75	122.
Jamaica	12.08	29.
Japan	9.64	46.
Jordan	4.13	131.
Kazakhstan	3.58	137.
Kenya	10.39	40.
Kiribati	14.94	18.
Kuwait	4.48	126.
Kyrgyzstan	7.30	78.
Lao People's Democratic Republic	4.47	127.
Latvia	2.99	150.
Lebanon	5.27	112.
Lesotho	6.71	86.
Liberia	9.43	49.
Libyan Arab Jamahiriya	3.41	141.
Lithuania	2.26	168.
Luxembourg	2.50	166.
Madagascar	10.51	38.

Country	WRI	Rank
Malawi	8.89	55.
Malaysia	7.71	72.
Maldives	2.12	171.
Mali	10.76	37.
Malta	0.66	180.
Mauritania	7.85	67.
Mauritius	9.17	53.
Mexico	5.97	97.
Mongolia	2.97	152.
Montenegro	6.93	82.
Morocco	5.82	103.
Mozambique	9.18	52.
Myanmar	7.18	81.
Namibia	6.21	94.
Nepal	4.77	121.
Netherlands	7.89	65.
New Zealand	5.11	114.
Nicaragua	14.67	20.
Niger	13.85	23.
Nigeria	13.09	25.
North Macedonia	5.81	104.
Norway	2.52	165.
Oman	2.76	157.
Pakistan	6.68	87.
Panama	7.96	63.
Papua New Guinea	21.12	8.
Paraguay	3.38	143.
Peru	6.37	92.
Philippines	20.96	9.
Plurinational State of Bolivia	4.78	120.
Poland	3.04	148.
Portugal	3.66	135.
Qatar	0.31	181.
Republic of Congo	6.81	83.
Republic of Korea	3.14	146.
Republic of Moldova	4.04	133.
Romania	5.86	99.
Russian Federation	3.55	138.
Rwanda	7.56	75.
Saint Lucia	4.70	123.
Saint Vincent and the Grenadines	0.81	179.
Samoa	5.87	98.
Sao Tome and Principe	2.58	163.
Saudi Arabia	1.04	177.
Senegal	9.74	45.
Serbia	5.25	113.
Seychelles	5.31	111.
Sierra Leone	9.44	48.
Singapore	2.57	164.

Country	WRI	Rank
Slovakia	3.37	144.
Slovenia	3.41	141.
Solomon Islands	24.25	5.
South Africa	6.37	92.
Spain	3.61	136.
Sri Lanka	7.57	74.
Sudan	8.45	61.
Suriname	7.40	77.
Swaziland	6.42	91.
Sweden	2.20	169.
Switzerland	2.15	170.
Syrian Arab Republic	6.03	95.
Tajikistan	5.83	102.
Thailand	6.54	90.
Timor-Leste	14.67	20.
Togo	10.97	36.
Tonga	29.72	2.
Trinidad and Tobago	9.60	47.
Tunisia	5.70	108.
Turkey	5.03	116.
Turkmenistan	5.66	110.
Uganda	8.63	58.
Ukraine	2.75	158.
United Arab Emirates	3.30	145.
United Kingdom	3.46	140.
United Republic of Tanzania	8.96	54.
United States of America	3.90	134.
Uruguay	12.54	27.
Uzbekistan	7.82	68.
Vanuatu	49.74	1.
Viet Nam	10.30	43.
Yemen	5.68	109.
Zambia	7.81	70.
Zimbabwe	9.32	51.

Countries not included in the WorldRiskIndex due to incomplete data:

Andorra, Liechtenstein, Marshall Islands, Monaco, Nauru, North Korea, Palau, San Marino, Somalia, South Sudan, St. Kitts and Nevis, Tuvalu.

Only countries that are member states of the General Assembly of the United Nations are considered here.

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Cover picture: Migrant workers on their way to Farrukhabad and Sultanpur take a break during a sudden dust storm in New Delhi, India.
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Page 8: Camp Mugunga-3 for internally displaced persons near the city of Goma, Democratic Republic of Congo.
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Page 16: The content in the backpack of migrant Doudou Sonko from Gambia, taken in Mali. Doudou Sonko was in Algeria and Mauritania before that.
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Page 22: Children play in Tongogara Refugee Camp in the province of Manicaland, Zimbabwe.
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Page 28: During a campaign in 2019 local hygiene promoters demonstrate correctly washing hands at the Landheer Camp for internally displaced persons in Abudwak, Somalia.
© NAPAD

Page 40: Because the sea level in the village of Navunisavisavi in Fiji is rising, houses near the water must be abandoned and rebuild higher on higher ground.
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Page 42: View onto the Balukhali Camp for Rohingya refugees from Myanmar in Cox's Bazar, Bangladesh.
© Daniel Pilar / Welthungerhilfe

Page 52: Children play in a school in the Kutupalong Extension Refugee Camp in Cox's Bazar, Bangladesh.
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Graphic data on page 23, 29 and 41: IDMC 2020b, World Bank 2020

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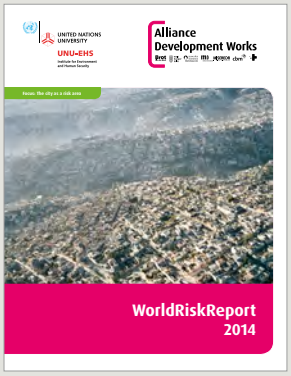

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WorldRiskIndex 2020

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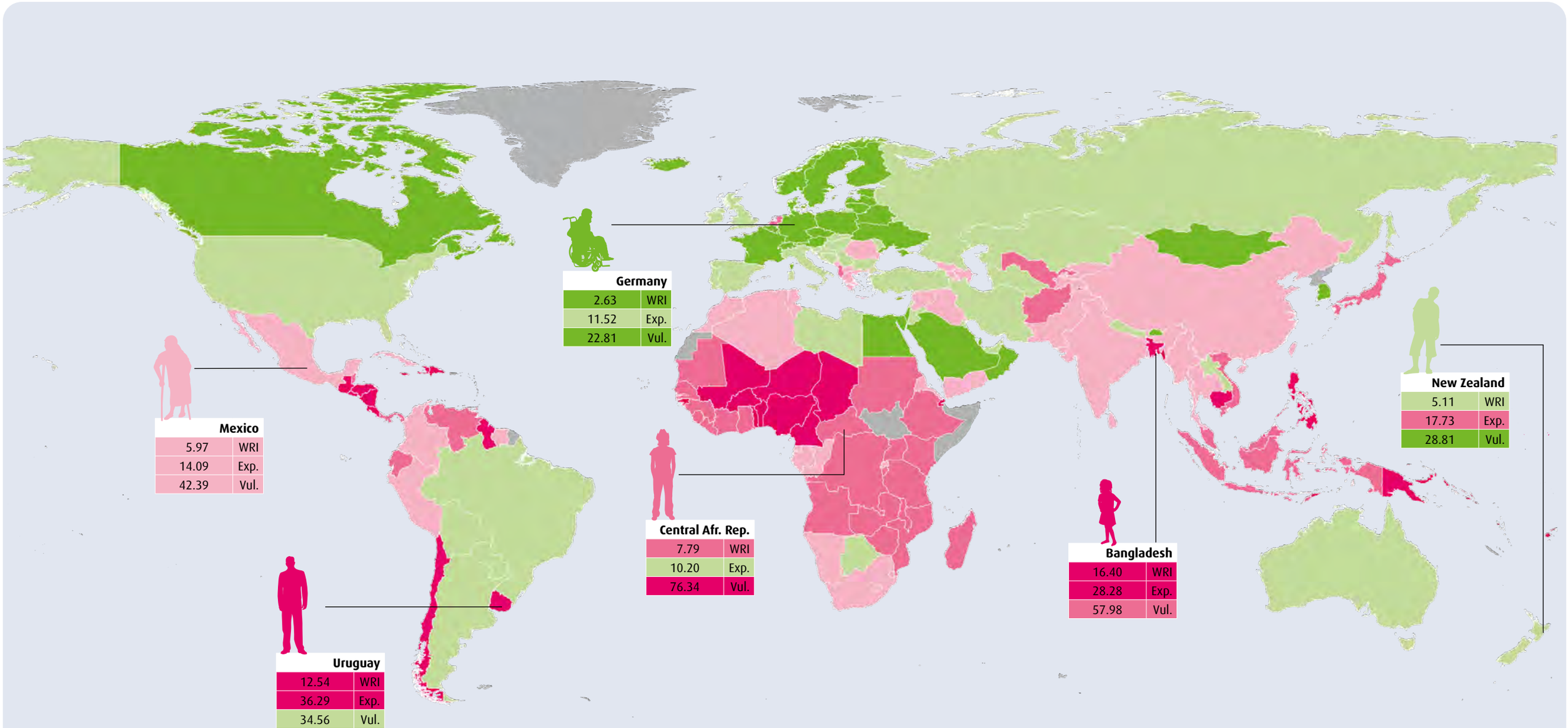
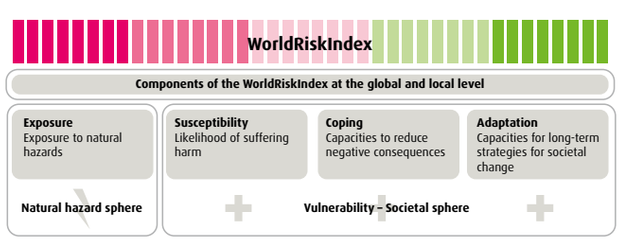


WorldRiskIndex (WRI)		Exposure		Vulnerability	
very low	0.31 – 3.29	very low	0.91 – 9.55	very low	22.81 – 34.13
low	3.30 – 5.67	low	9.56 – 12.13	low	34.14 – 42.38
medium	5.68 – 7.58	medium	12.14 – 14.64	medium	42.39 – 48.12
high	7.59 – 10.75	high	14.65 – 19.69	high	48.13 – 61.49
very high	10.76 – 49.74	very high	19.70 – 86.77	very high	61.50 – 76.34
no data		no data		no data	

Max. value = 100, classification according to the quintile method

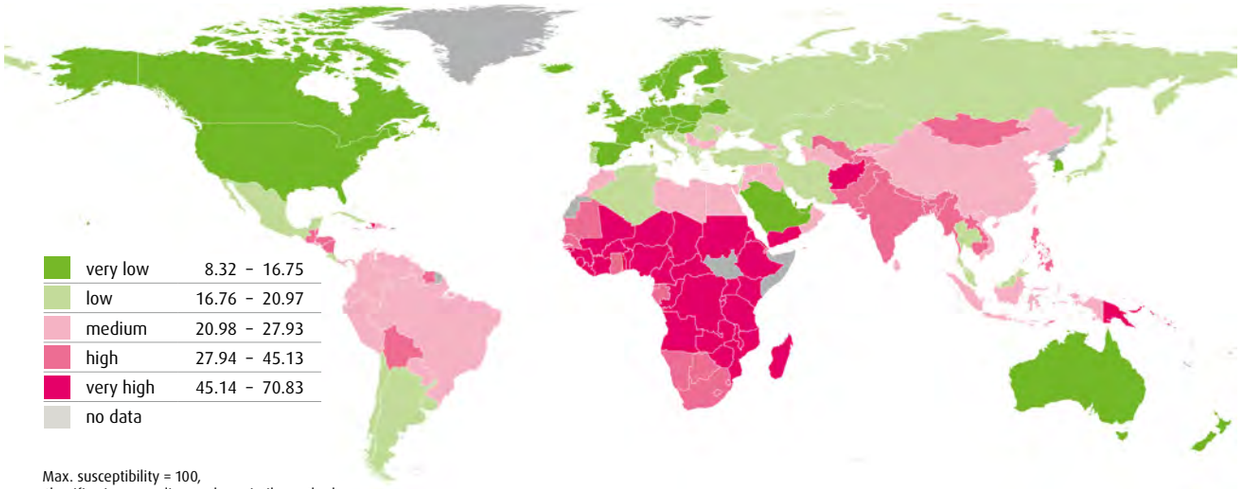


10 countries with highest risk		10 countries with highest exposure		10 countries with highest vulnerability	
Vanuatu	49.74	Vanuatu	86.77	Central African Republic	76.34
Tonga	29.72	Antigua and Barbuda	68.92	Chad	75.32
Dominica	28.47	Dominica	62.74	Demo. Rep. of the Congo	74.28
Antigua and Barbuda	27.44	Tonga	61.21	Niger	71.90
Solomon Islands	24.25	Brunei Darussalam	57.61	Guinea-Bissau	70.64
Guyana	22.73	Guyana	44.92	Eritrea	70.17
Brunei Darussalam	22.30	Costa Rica	43.49	Burundi	70.14
Papua New Guinea	21.12	Philippines	42.30	Yemen	69.87
Philippines	20.96	Solomon Islands	40.04	Liberia	69.52
Guatemala	20.09	Japan	38.67	Madagascar	69.48

Data source: IFHV, based on the PREVIEW Global Risk Data Platform, Oak Ridge National Laboratory LandScan, CReSIS, CIESIN, NatCatSERVICE and global databases; detailed information at www.WorldRiskReport.org

Susceptibility

Dependent on public infrastructure, nutrition, income, and the general economic framework

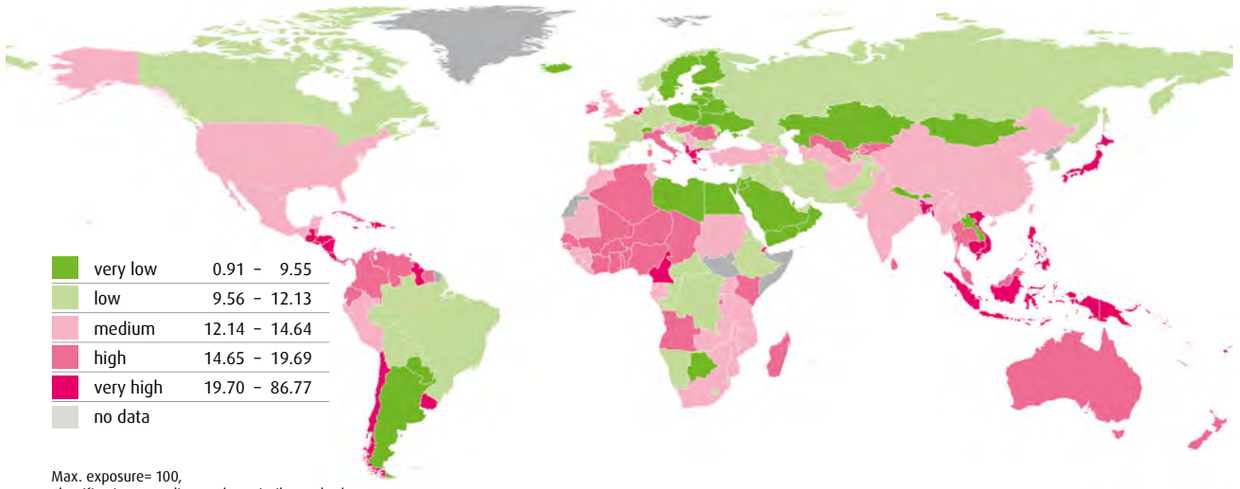


very low	8.32 – 16.75
low	16.76 – 20.97
medium	20.98 – 27.93
high	27.94 – 45.13
very high	45.14 – 70.83
no data	

Max. susceptibility = 100,
Classification according to the quintile method

Exposure

Exposure of the population to the natural hazards earthquakes, storms, floods, droughts, and sea-level rise.

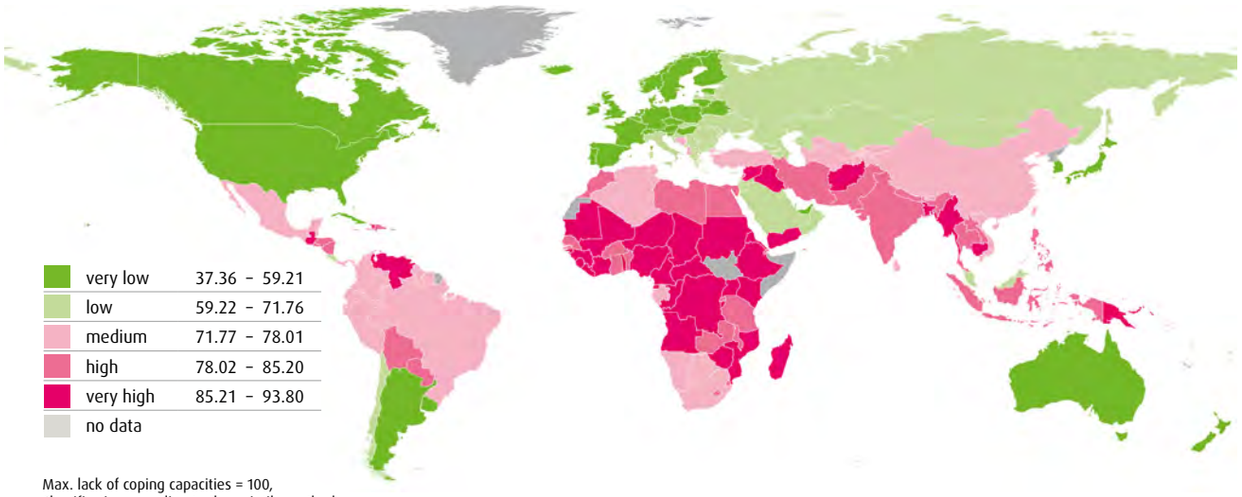


very low	0.91 – 9.55
low	9.56 – 12.13
medium	12.14 – 14.64
high	14.65 – 19.69
very high	19.70 – 86.77
no data	

Max. exposure= 100,
Classification according to the quintile method

Lack of coping capacities

Dependent on governance, medical care, and material security

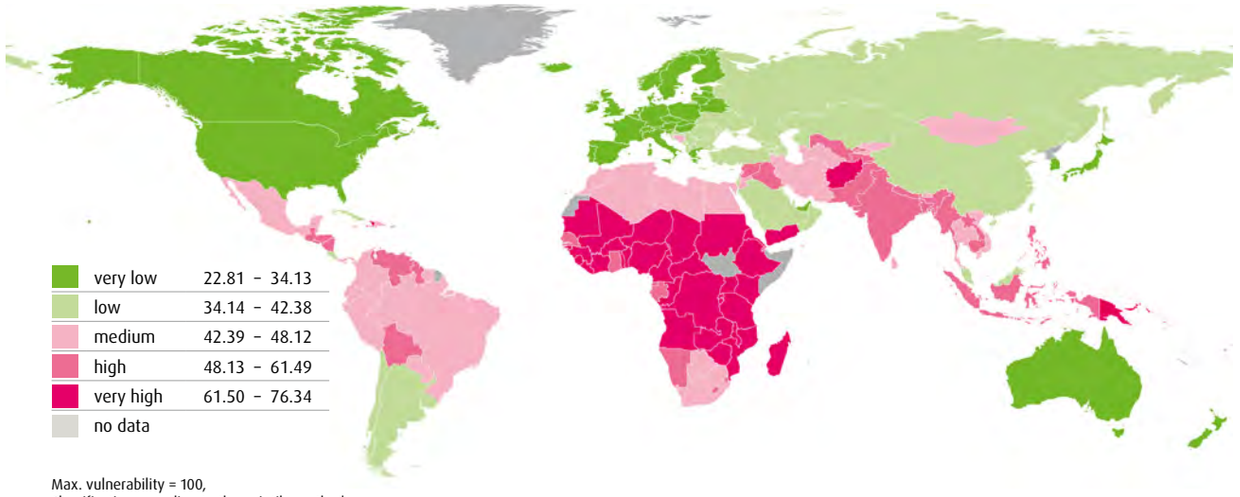


very low	37.36 – 59.21
low	59.22 – 71.76
medium	71.77 – 78.01
high	78.02 – 85.20
very high	85.21 – 93.80
no data	

Max. lack of coping capacities = 100,
Classification according to the quintile method

Vulnerability

Vulnerability of society as the mean of susceptibility, lack of coping capacities, and lack of adaptive capacities

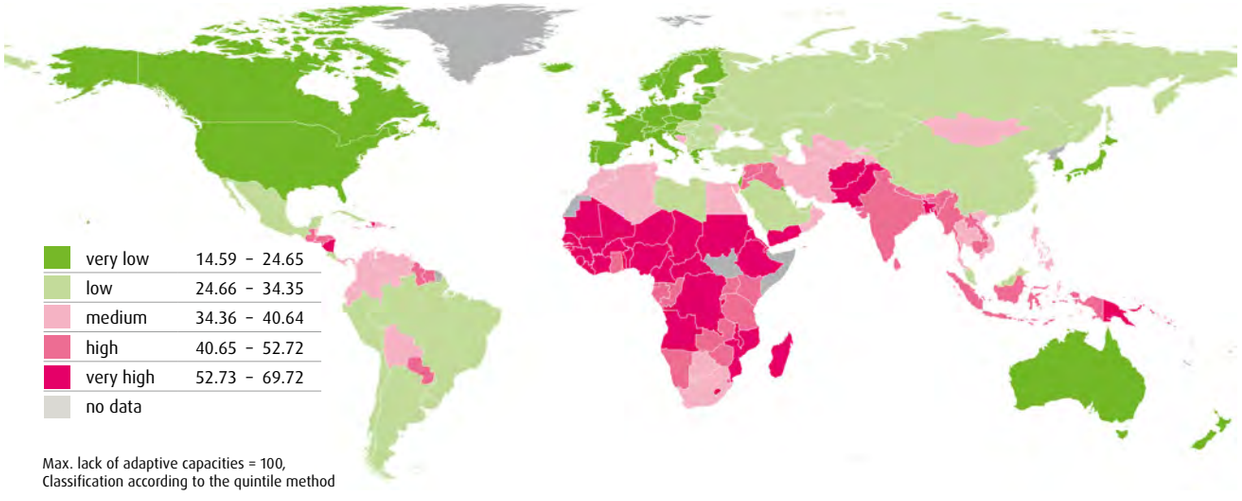


very low	22.81 – 34.13
low	34.14 – 42.38
medium	42.39 – 48.12
high	48.13 – 61.49
very high	61.50 – 76.34
no data	

Max. vulnerability = 100,
Classification according to the quintile method

Lack of adaptive capacities

Related to future natural events and climate change

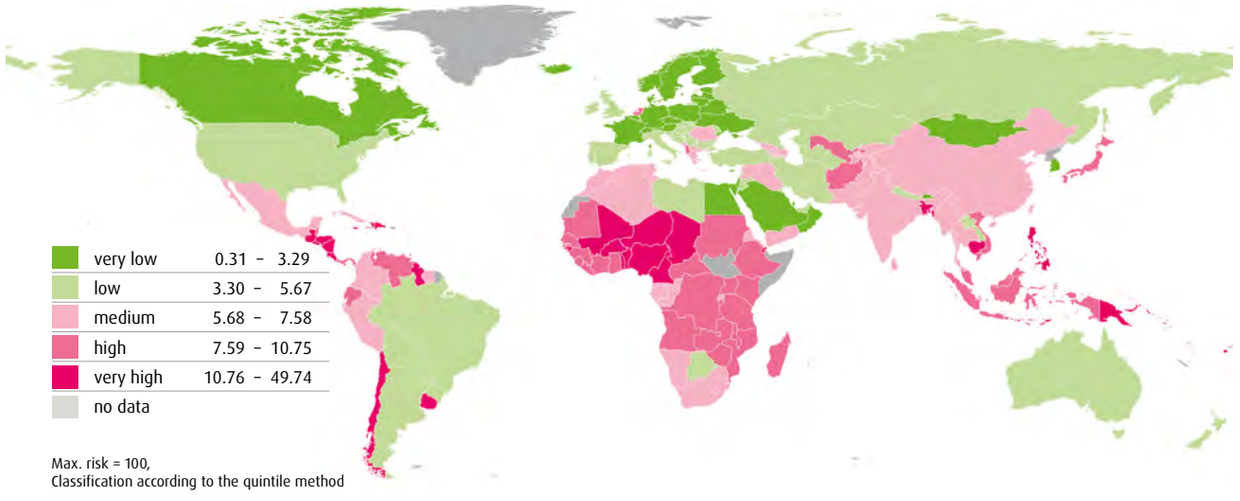


very low	14.59 – 24.65
low	24.66 – 34.35
medium	34.36 – 40.64
high	40.65 – 52.72
very high	52.73 – 69.72
no data	

Max. lack of adaptive capacities = 100,
Classification according to the quintile method

WorldRiskIndex

WorldRiskIndex as the result of exposure and vulnerability



very low	0.31 – 3.29
low	3.30 – 5.67
medium	5.68 – 7.58
high	7.59 – 10.75
very high	10.76 – 49.74
no data	

Max. risk = 100,
Classification according to the quintile method

Data source: IFHV, based on the PREVIEW Global Risk Data Platform, Oak Ridge National Laboratory LandScan, CReSIS, CIESIN and global databases; detailed information at www.WorldRiskReport.org

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Forced Displacement and Migration: Causes, Barriers, Potential Negative Consequences

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Causes

Political determinants

- Armed conflicts
- Fragile state
- Political, religious or cultural persecution and discrimination
- Human-made disasters

Economical determinants

- Lack of jobs
- Unemployment, job insecurity
- Food insecurity, famine
- Poverty

Social determinants

- Overpopulation
- Sexual and gender-based violence
- Social injustice

Individual determinants

- Mobility
- Financial means
- Educational background
- Job opportunities
- Family reunification
- Age
- Dependence
- Mental and physical resilience
- Gender

Environmental determinants

- Extreme natural events
- Loss of habitat and livelihood due to climate change effects
- Agricultural exploitation of the environment
- Resource scarcity

Barriers

- Effects of extreme natural events on migration routes
- Restricted mobility and ability to travel
- Effects of climate change on migration routes
- Lacking financial means
- Lacking access to health care
- Legal uncertainty due to unclear legal status
- Social ties to friends and family
- Emotional aspects like fear, uncertainty or risk perception
- Financial and social commitments

Potential negative consequences

- Low purchasing power
- Unclear prospects for the future
- Legal uncertainty due to unclear legal status
- Restricted access to health care
- No or restricted work permit
- Low living standard
- Discrimination, marginalization and stigmatization
- Language barriers
- Lacking educational offers
- Mental diseases due to traumatic migration experience

Compilation based on the UNHCR 2015, Kuhnt 2019, Becker / Ferrara 2019

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Extreme Natural Events Versus Conflicts as a Driver for Internal Displacement

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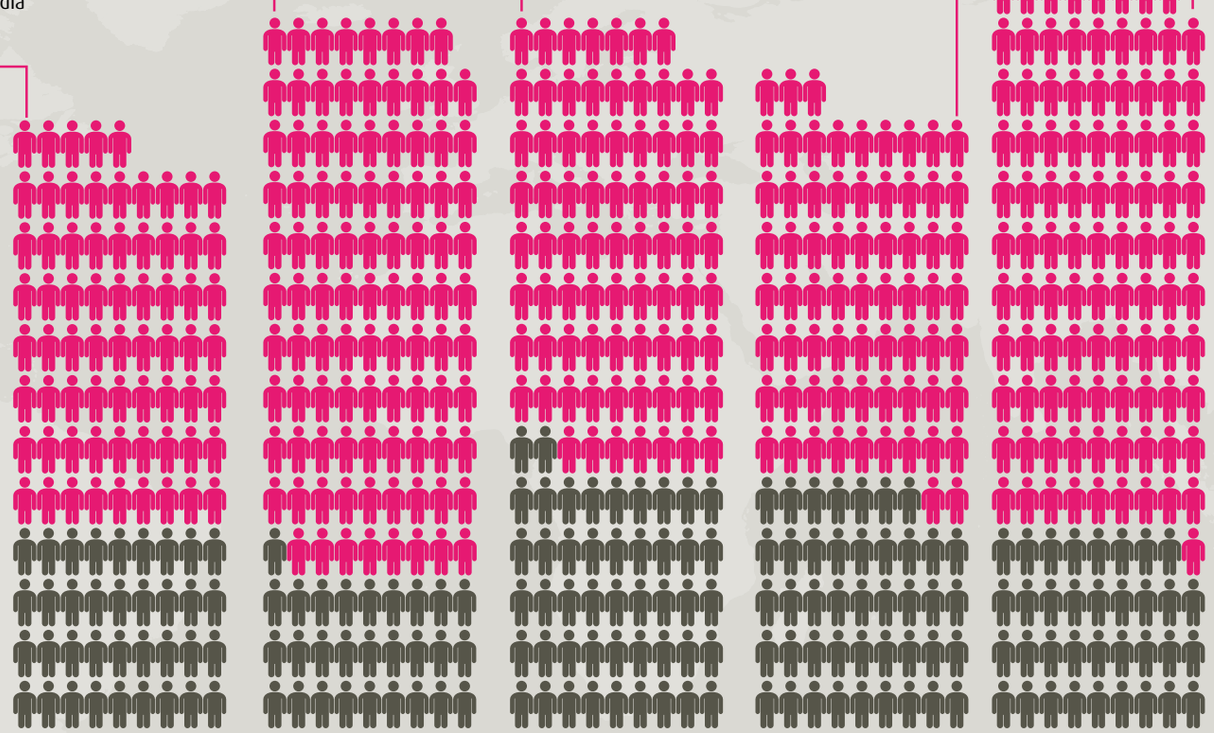
= 250,000

One figure depicted represents 250,000 new internal displacements. Figures depicted in magenta correspond to internal displacement due to extreme natural events. Figures depicted in grey correspond to internal displacements due to conflicts.



2015

19,193,000

- **Storm Komen** Myanmar, Bangladesh, India
- **Earthquake Gorkha** Nepal
- **Flood Chennai** India
- **Storm Chan-hom** Philippines, Japan, Taiwan
- **Earthquake Illapel** Chile

8,989,000

Syria
Afghanistan
Ukraine
Iraq
Nigeria

2016

24,217,000

- **Storm Haima** Philippines, Taiwan, China
- **Storm Nock-ten** Philippines, Viet Nam
- **Storm Matthew** Haiti, USA, Cuba
- **Flood Yangtze** China
- **Flood Bihar** India

6,918,000

Syria
Afghanistan
Iraq
Nigeria
Yemen

2017

18,778,000

- **Storm Irma** Haiti, Cuba, USA
- **Flood Hunan** China
- **Storm Tembin** Palau, Philippines, Malaysia
- **Storm Harvey** USA

11,773,000

Syria
Afghanistan
Iraq
Nigeria
Yemen

2018

17,185,000

- **Storm Mangkhut** Philippines, China
- **Storm Son-tinh** Philippines, China, Viet Nam
- **Storm Maria** Taiwan, China
- **Storm Florence** USA
- **Storm Yutu** Philippines, China

10,780,000

Afghanistan
Syria
Yemen
Nigeria
Somalia

2019

24,855,000

- **Storm Fani** India, Bangladesh
- **Storm Southwest Monsoon** India
- **Storm Bulbul** Thailand, Myanmar, India
- **Storm Lekima** China, Philippines, Taiwan
- **Storm Kammuri** Philippines, China, Viet Nam

8,989,000

Afghanistan
Syria
Nigeria
Somalia
Yemen

The extreme natural events and conflicts listed here are only a selection of the especially relevant events, which led to new significant internal displacement in the years of 2015 to 2019. The figures of new displacements are, therefore, not solely the result of the listed events. Moreover, the numbers refer to the number of new internal displacements, not to the number of new internally displaced persons. A single person can be displaced multiple times. Please note that displacement often has multifaceted causes. The explicit distinction of displacement caused by extreme natural events or conflict leads back to the eventual trigger for the respective displacement. Monocausality may not be deduced from this.

Data source: IDMC 2020b (Data for internal displacement; listing of extreme natural events), Uppsala University 2020 (listing of conflicts)