

Briefing Note No. 5

“Global Climate Risk Index 2015: Who suffers most from extreme weather events? Weather-related loss events in 2013 and 1994 to 2013”

Report by Germanwatch, December 2014

Summary

In the 20 year period 1994 through 2013, over 500,000 people died in over 15,000 natural disasters. On the occasion of COP20 in Lima, the Bonn-based NGO Germanwatch published its Global Climate Risk Index (CRI) 2015 to register these data and track patterns. The report presents statistics from the two-decade period and from 2013.

This is the CRI’s 10th edition. A team of five authors focuses on economic losses and fatalities and analyses the extent countries have been affected by weather-related loss events like storms, floods or heat waves. In 2013, the **Philippines, Cambodia and India** were the most affected countries. From 1994 to 2013, **Honduras, Myanmar and Haiti** rank highest.

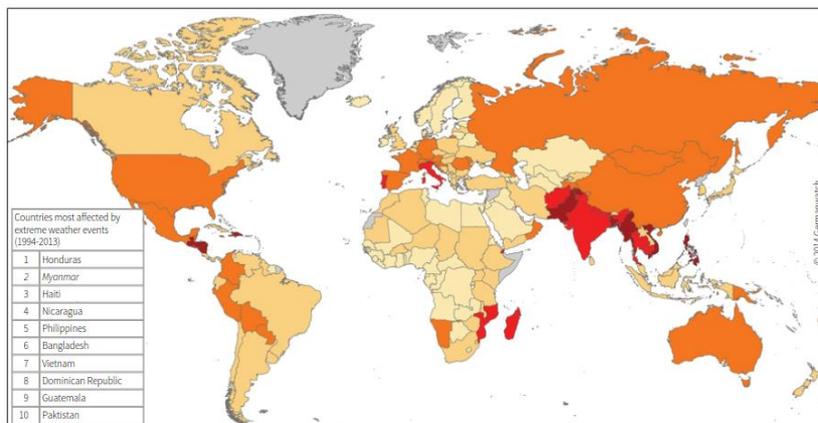
The Climate Risk Index confirms the widely held view that climate risks generally affect less developed countries more than industrialised countries. The report aims to serve as an early warning resource by highlighting which vulnerable developing countries are frequently hit by extreme weather events. **South East Asia** is the region that has suffered most from extreme weather events during the last two decades. In some countries disasters are rare; low frequency, high impact events are a difficult challenge for risk management and readiness and poor countries will often sideline them. This can be illustrated by the case of Myanmar: Although the country ranks second, it is the country with the lowest total number of events between 1994 and 2013 among the ten most affected states.

The CRI is a register, an index and a source of information. It is not a policy analysis and, apart from encouraging action at the Lima COP and beyond on reducing GHG emissions and on making national adaptation plans effective, makes no specific recommendations.

In detail

The Methodology: The CRI is based on some of the most reliable data sets available on the impacts of extreme weather events and associated socio-economic data. Insurance giant Munich Re has provided the core data for the index. The CRI is not a comprehensive assessment of climate vulnerability and the authors stress that past data cannot be used for a linear projection of future climate impact. The CRI indicates a level of exposure and vulnerability to extreme events today that can be understood as a warning to be prepared for more frequent and/or more severe events in the future. The data, however, only reflect direct impacts (direct losses and fatalities) of extreme weather events. The CRI does not include the indirect impact, such as food and water scarcity as a result of heat waves in African countries.

The results of CRI 2013: The Philippines, Cambodia and India lead the list of the most affected countries, followed by **Mexico, St. Vincent and the Grenadines and Pakistan**. 2013 was strongly marked by Typhoon Haiyan, which struck the Philippines in November 2013 and was responsible for over US\$ 13 billion in economic loss and 6,000 casualties. Haiyan was



Cursive: Countries where more than 90% of the losses/deaths occurred in one year/event

Climate Risk Index: Ranking 1994 – 2013

■ 1 - 10 ■ 11 - 20 ■ 21 - 50 ■ 51 - 100 ■ > 100 ■ No data

Figure 1: World Map of the Global Climate Risk Index 1994-2013

Source: Germanwatch and Munich Re NatCatSERVICE

the strongest tropical cyclone on record to hit land. **Mozambique** also ranks among the top ten countries because of severe flooding that occurred in 2013 and temporarily displaced 140,000 people. The most severely affected region is South and Southeast Asia with 6 out of the top 10 countries.

The results 1994-2013: Honduras, Myanmar and Haiti were the countries affected most by extreme weather events between 1994 and 2013. These rankings can be traced back to the aftermath of exceptionally disastrous events such as Hurricane Mitch in Honduras (1998) and Hurricane Sandy in Haiti (2012). Similarly, Myanmar was struck hard by Cyclone Nargis in 2008, inflicting an estimated loss of 140,000 lives as well as property loss of approximately 2.4 million people. Myanmar was also the country with the largest death toll (annual average of 7,137 deaths, with 95% due to Cyclone Nargis) and Honduras had the highest loss per GDP (more than 3% mainly due Hurricane Mitch) in the respective time period. *Accordingly, these countries only rank high due to exceptional catastrophes.* Altogether, more than 530,000 people died as a direct result of approx. 15,000 extreme weather events, and losses between 1994 and 2013 amounted to nearly 2.2 trillion USD (in Purchasing Power Parities).

Economic status of most affected countries: Between 1994 and 2013, nine of the ten most affected countries were classified as developing countries in *the low income or lower-middle income country group*, while only one belonged to the group of upper-middle income countries.

Regions at risk: Southeast Asian countries have been exposed to the highest number of events: the **Philippines** (328), **Bangladesh** (228), **Vietnam** (216) and **Pakistan** (141) have all experienced more than 100 events within two decades – significantly more than the other countries and regions. The Philippines stands out as it is struck by eight to nine typhoons per year on average and the victim of exceptional catastrophes, namely Typhoon Haiyan. A special chapter is dedicated to the diverse and severe situation in **Latin America and Caribbean** region which is mainly used to encourage a clear leadership role of the host of COP 20, Peru, and its partners in the region.

Impacts on other specific country groups (fragile states; industrialised countries): Some European countries are ranked in the top 30 countries due to the extraordinary number of fatalities in the 2003 heat wave. More than 70,000 people died across Europe. The report does not address fragility as such and does not analyse specific political risks associated with climate change and extreme weather events. Although Haiti and Pakistan are among the top ten of both lists, the results of the CRI do not indicate that countries most susceptible to extreme weather events are necessarily political instable.

Contextualizing the Fifth IPCC Assessment Report (AR5): The authors reflect the results of the CRI against the backdrop of IPCC's AR5, which projects increasing risks of extreme weather events as global mean temperature rises (increase in annual mean precipitation, increase in extreme precipitation events; increase in intensity and duration of monsoon precipitation among other trends).

The political implications: The authors do not make detailed policy recommendations. They do emphasize that decision-makers in the COP20 processes and associated efforts should follow a strategic approach for long-term adaptation with flexible design and adequate funding. Apart from UNFCCC, the authors highlight the importance of the upcoming March 2015 meeting in Sendai, Japan, to decide on the post-2015 framework for disaster risk reduction (building on the Hyogo Framework for Action (HFA)).

International media coverage of the CRI 2015 (by December 9, 2014)

- Spiegel Online, "[Klima-Risiko-Index: Wo Extremwetter am häufigsten zuschlägt](#)", December 2, 2014
- El País CR, "[Índice riesgo climático: fenómenos extremos afectan países más pobres](#)", December 4, 2014
- Washington Post: "[The countries that have been hit hardest by extreme weather](#)", December 5, 2014
- Bloomberg: "[Typhoon Slams Philippines, Threatens Recovery From Haiyan; Test for Aquino](#)", December 7, 2014