Economic Losses, Poverty & Disasters 1998-2017

Issue No. 52 Cred Crunch* *October 2018*

Between 1998 and 2017 climate-related and geophysical disasters killed 1.3 million people and left a further 4.4 billion injured, homeless, displaced or in need of emergency assistance. While the majority of fatalities were due to geophysical events, mostly earthquakes and tsunamis, 91% of all disasters were caused by floods, storms, droughts, heatwaves and other extreme weather events.

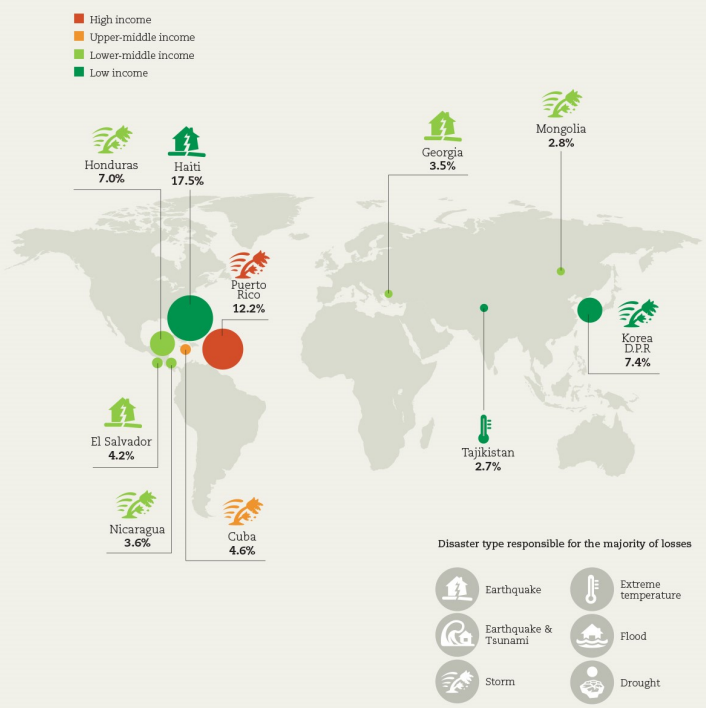
In 1998-2017 disaster-hit countries also reported direct economic losses valued at **US$ 2,908 billion**, of which **climate-related** disasters caused US$ 2,245 billion or **77% of the total**. This is up from 68% (US$ 895 billion) of losses (US$ 1,313 billion) reported between 1978 and 1997. Overall, reported losses from extreme weather events rose by 151% between these two 20-year periods. Such losses are only part of the story, since the majority of disaster reports to EM-DAT (63%) contains no economic data.

In absolute monetary terms, over the last 20-year, the **USA** (US$ 945 billion) and **China** (US$ 492 billion) recorded the biggest losses, reflecting high asset values as well as frequent events.

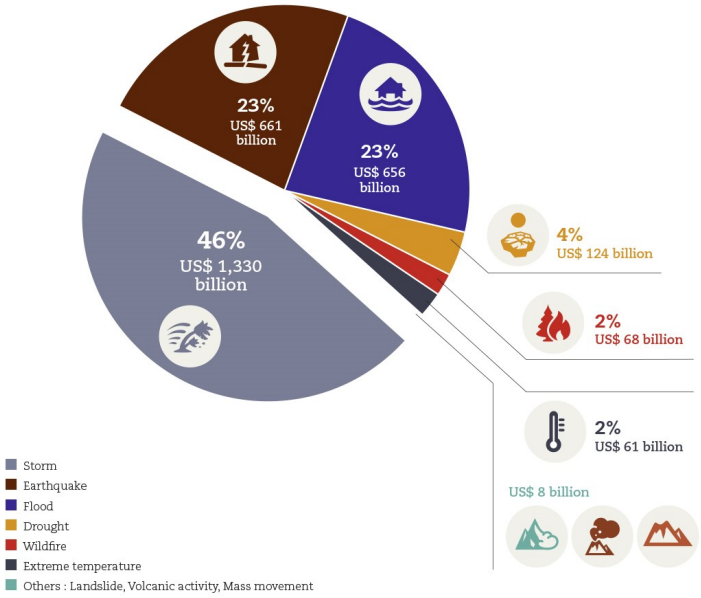
Absolute losses also mask the relatively greater burden of disasters on the poor. When economic costs are expressed as an average percentage of Gross Domestic Product (GDP), this becomes clearer. Figure (a) shows that only one high income territory ranked among the top 10 in terms of percentage of GDP losses over the past 20 years (Puerto Rico). Apart from upper-middle income Cuba, the other **worst-hit nations were all lower income countries**, led by Haiti.

Integrating disaster risk reduction into investment decisions is the most cost-effective way to reduce these risks; investing in disaster risk reduction is therefore a precondition for developing sustainably in a changing climate.

a) Top 10 countries/territories in terms of average annual percentage losses relative to GDP



b) Breakdown of recorded economic losses (US$) per disaster type 1998-2017



In terms of occurrences, climate-related disasters dominate the picture over the past 20 years, accounting for 91% of all 7,255 recorded events between 1998 and 2017. Within this total, floods were the most frequent type of disaster, 43% of all recorded events.
In 1998-2017, **storms (233,000 deaths)**, including tropical cyclones and hurricanes, were second only to **earthquakes (747,234 deaths)** in terms of fatalities. Storms were also by far the costliest type of disaster (b), with reported storm losses amounting to **US$ 1,300 billion** over the past 20 years, twice the reported losses for either flooding or earthquakes.

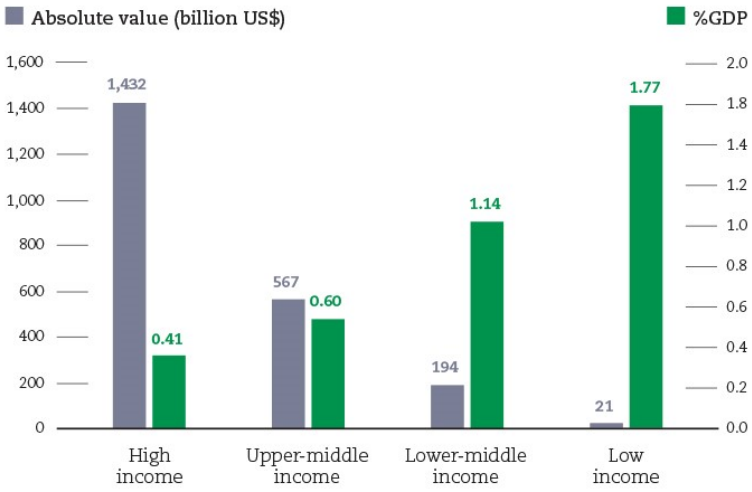
Fatalities from climate-related disasters also reflect vulnerabilities rather than being a crude function of the rising number of occurrences. Unlike earthquakes, populations vulnerable to extreme weather events are more evenly spread around the globe.

In all at-risk countries, preparedness responses need to include public awareness campaigns, strategic risk assessment, and enforced building codes focused on schools, health facilities, housing and work places in order to reduce vulnerability.

* Data in this report as *of the date of the 14th of August 2018*
The CRED CRUNCH newsletter does not include epidemics and insect infestations as natural disasters unless explicitly stated.

All figures presented in the CRED CRUNCH come from "EM-DAT:
The OFDA/CRED International Disaster Database"
Analysis for this issue was done by Pascaline Wallemacq
Centre for Research on the Epidemiology of Disasters (CRED)
Research Institute Health & Society (IRSS), Université catholique de Louvain
30, Clos Chapelle-aux-Champs, Box B 1.30.15, 1200 Brussels, Belgium
www.cred.be, contact@emdat.be

c) Recorded climate-related disaster losses per income group compared to GDP losses 1998-2017



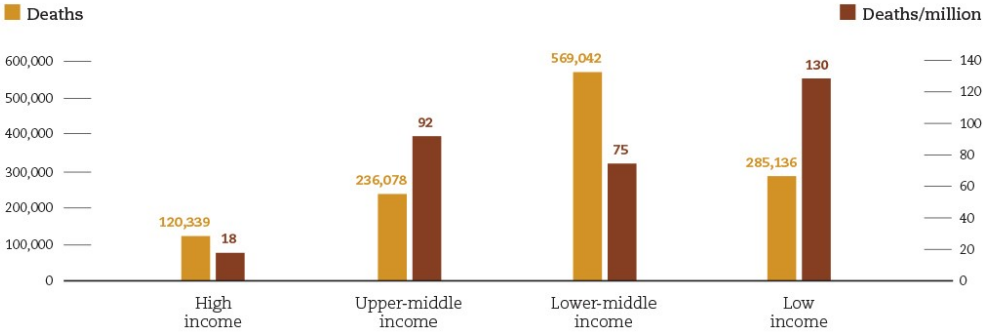
The direct economic costs of disasters have been systematically under-reported worldwide for decades, both in wealthier countries and, most especially, in poorer ones. There has been an upswing in the percentage of reports containing economic losses data, especially in the last five years, reversing an earlier declining trend. There has been a growing awareness since the adoption of the Sendai Framework (2015) of the need for better data collection and UN Member States are signing up to use the Sendai Framework Monitor (2018), to report on disaster losses, including economic losses. There is, however, still a long way to go, particularly in lower-middle and low income countries.

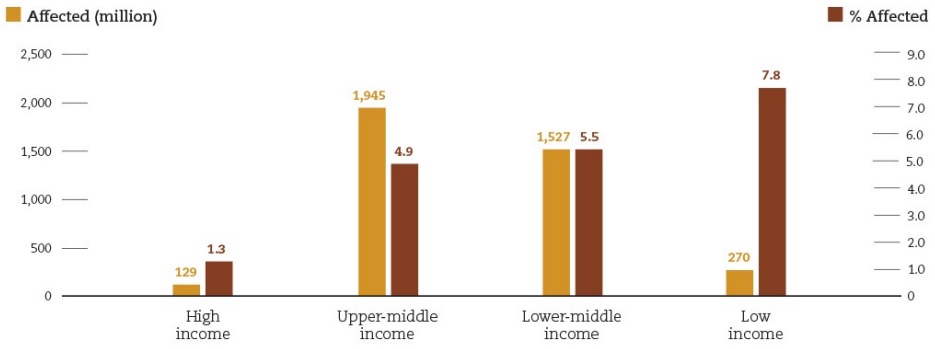
The economic burden of disasters weighs more on lower income countries than higher income nations (c). While high income countries reported **US$ 1,432 billion** in climate-related disaster losses, or 65% of the global total, that only represented **0.41% of their GDP**. The **US$ 21 billion** in climate-related disaster losses recorded by low income countries amounted to an average of **1.8% of the GDP,** well above the IMF's threshold for a major economic disaster of 0.5%.

CRED, is employing georeferencing* to drill down into EM-DAT data to reveal the relative vulnerabilities of rich and poor, and quantify how the human cost of disasters increases relentlessly in cases where national income levels decline.
In **low income countries**, an average of **130 people died per million** living in disaster-affected areas (d), compared to just **18** in **high income** countries. A similar pattern of deep inequality is revealed by georeferenced ratios of people affected by disasters (e). While the largest absolute numbers of **people affected** by disasters lived in upper-middle income countries, by far the highest number per 100 inhabitants lived in low income countries. Again the contrast is sharpest between **low income countries** (**7.8%**) and **high income countries** (**1.3%**).

Such data demonstrate that while absolute economic losses might be concentrated in high income countries, the human cost of disasters falls overwhelmingly on low and lower middle income countries: vulnerability to risk, and degrees of suffering, are determined by levels of economic development, rather than simple exposure to natural hazards per se.

d) Disaster deaths in absolute numbers per million population potentially exposed (PPE) 2000-2017





e) Disaster affected totals in absolute numbers and percentage of PPE 2000-2017

* For more information on Georeferencing, see CredCrunch 47 , CredCrunch 43 & CredCrunch 36

CRED News

- This report shows a partial content of the report « Economic Losses, Poverty & Disasters », in collaboration with the United Nations for Disaster Risk Reduction: https://www.cred.be/sites/default/files/CRED_Economic_Losses_10oct.pdf
- New article published in BMJ : Guha-Sapir D., Checchi F. (2018) Science and politics of disaster tolls (Editorials). BMJ; 362:k4005, 2p.
- CRED released in September a document on « Natural Disasters in 2017 ». This 8-pages report replaces the Annual Disater Statistical Review : https://cred.be/sites/default/files/adsr_2017.pdf

Please note that disaster data are subject to change as validation and cross-referencing of the sources is undertaken and as new information becomes available. For any enquiries please contact contact@emdat.be or visit www.emdat.be

@CREDUCL