

TASK FORCE ON DISPLACEMENT

UPDATE ON PROGRESS AGAINST WORK PLAN ACTIVITY AREA III

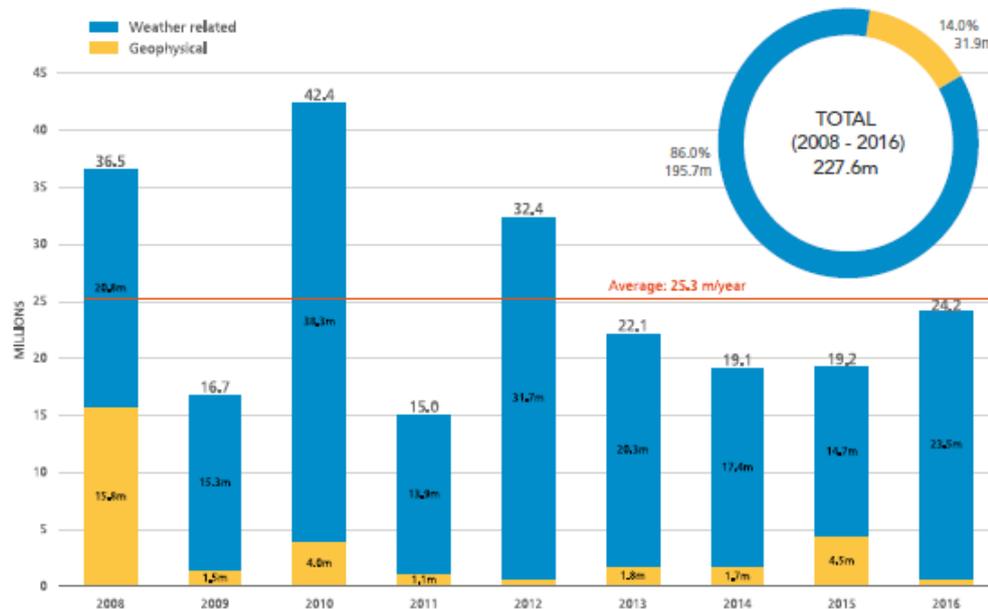
Activity III.2:

Providing a global baseline of climate-related disaster displacement risk, and package by region.

Displacement is one of the least reported impacts of sudden-onset disasters. Often hidden behind news of pre-emptive evacuations that save lives, its costs to individuals, local communities, countries and the international community tend not to be accounted for. Neither is the risk of future displacement anchored in national and regional strategies for disaster risk reduction (DRR). The UN Office for Disaster Risk Reduction (UNISDR) has rigorously analysed the risk of economic losses due to disasters risks in its Global Assessment Report (GAR). One critical gap, however, concerns evidence and analysis of the risk of disaster-related displacement, a problem which hinders the effective reduction of both displacement and disaster risk.

Displacement associated with disasters is a global issue. There were 24.2 million new displacements brought on by sudden-onset natural hazards in 2016, and we have collected data on more than 3,800 events in more than 170 countries and territories since 2008.

Fig 1. xxxxxx



86% of internal displacement are related to weather related events accounting for a total for 195 million displacement between 2008 and 2016.

Disaster risk assessments typically consider rare, high-intensity hazards that occur only once every 250, 500, 1,000 years or more. That means that most of the disasters that could take place have not yet happened. In order to account for such events, we have adopted a

probabilistic approach to measuring risk. We then combine this with empirical data on more common, low-intensity hazards for which we have recorded the number of people displaced.

IDMC released, a unique probabilistic modelling exercise, “global disaster displacement risk model”. The model calculates that hydro meteorological hazards (flood - Cyclone wind and storm surge) are likely to displace (based on housing destruction) on average 12 million people each year, excluding those involved in pre-emptive evacuations.

Its main objective is to start presenting evidence on how to address internal displacement from a prospective point of view by assessing the likelihood of such population movements taking place in the future. This estimation of displacement, based on housing destruction, highlights the longer length of displacement compare to pre-emptive evacuation. The majority of displacement in these countries will be caused by flooding.

Each year, **12 million** people could be displaced from medium to longer term, and many factors could play on this temporality: insurance penetration and coverage, coping capacity, recovery, humanitarian response. Absolute numbers of AAD illustrate which countries, regions and income groups are likely to suffer more displacement associated with sudden-onset hazards than others.

Key concepts

Hazard

“A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption or environmental degradation. Hazards may be natural, anthropogenic or socio natural in origin.

Natural hazards are predominantly associated with natural processes and phenomena ...

Several hazards are socionatural, in that they are associated with a combination of natural and anthropogenic factors, including environmental degradation and climate change.”

Hazards may be sudden-onset or slow-onset. The former are sudden shocks such as floods, cyclones, while the impacts of the latter are gradual and linked to an accumulation of effects, as in the case of climate change and drought.

Exposure

“The situation of people, infrastructure, housing, production capacities and other tangible human assets located in hazard-prone areas.”

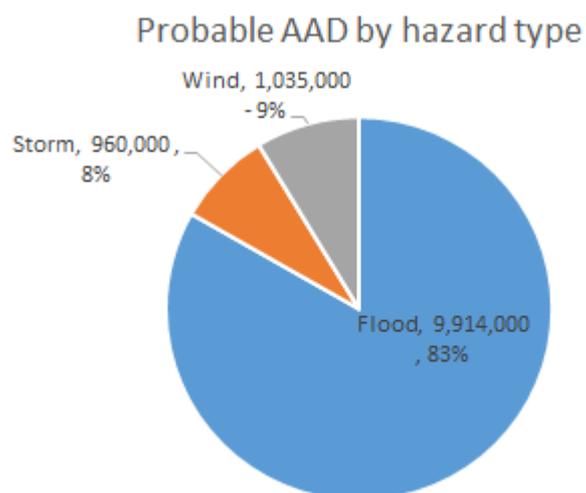
Vulnerability

“The conditions determined by physical, social, economic and environmental factors or processes which increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.”

Average annual displacement (AAD)

The average number of people expected to be displaced each year considering all events that could occur over an extended timeframe. Results are provided in absolute terms – the anticipated number of IDPs each year – and relative to the population size – the number of people per 100,000 inhabitants expected to be displaced each year. AAD should be considered as an indicator of the potential magnitude of displacement, not as an exact value.

Fig. 2.



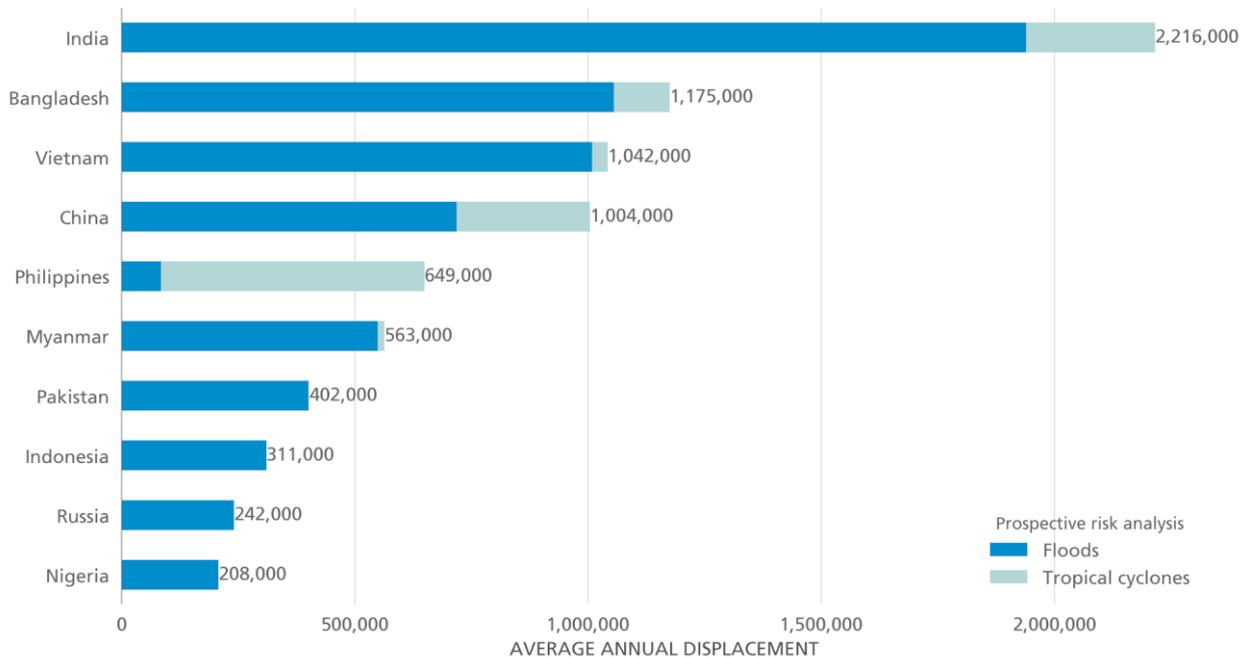
The importance of exposure as a component of displacement risk can also be seen in figure 2, which illustrates the distribution of risk by sudden-onset hazard type for all of the countries modelled. Floods account for almost three-quarters of the total modelled displacement, or an average of almost 10 million globally each year. This may be for a number of reasons. First, flooding occurs almost everywhere in the world, while other hazards – such as tropical cyclones, earthquakes and tsunamis – are more location-specific. Floods also have a shorter return period, which means they are more frequent. They tend to be less devastating than earthquakes, but when added together they cause more displacement overall. With the exception of Philippines, which sits in the path of Pacific cyclones and is highly vulnerable to them, and the US which suffers the impacts of those in the Atlantic, the other eight countries in figure 3 will witness high numbers of people displaced by floods in any given year.

Secondly, large numbers of people live in dense settlements in areas such as flood-prone river basins, because such areas tend to be places of high economic activity.

Cities themselves can also contribute to flood risk, particularly those without adequate drainage, natural water storage, levees and floodwalls to manage rising floodwaters and run-off.

The first eight countries in the chart are all lower-middle to middle income countries in south and south-east Asia, a region with densely-populated cities and other settlements. They are among the 50 countries in the world with the largest populations living in urban areas. Their urban areas are often located in flood prone river basins or in coastal areas exposed to cyclones and storm surges.

Fig 3. Absolute AAD for climate related sudden-onset disasters.



Analysis per region and Income groups (World Bank)

Figure 4 shows the breakdown of displacement risk by income group, which closely reflects that seen in figure 1. AAD is higher in upper-middle and lower-middle income countries, which together account for more than 80 per cent of the modelled displacement risk.

Fig 4. AAD by Income group (World Bank)

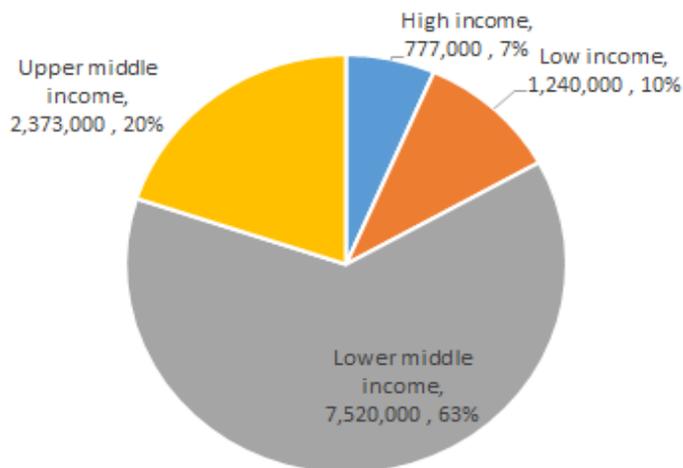
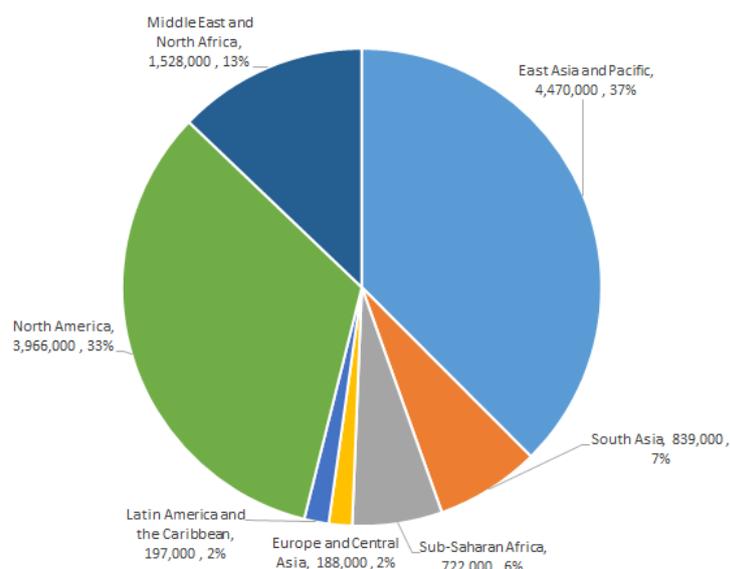


Figure 5 shows that AAD is highest in the South Asia and East Asia and Pacific regions, which together account for two-thirds of the total modelled displacement risk. This is also highlighted in figure 5, where the size of the countries and regions have been adjusted on the map to reflect AAD. South Asia and East Asia and Pacific are expanded significantly, while North America and the Middle East and North Africa are much smaller.

Fig 5. AAD by region (World Bank)



Our data shows that displacement associated with disasters will mainly affect developing countries. This represents a significant challenge for efforts to improve disaster resilience and reduce displacement risk, but it can also be interpreted as an opportunity to invest before disasters and the displacement they are likely to trigger take place. Given, as mentioned above, that most of the disasters that could happen have not occurred yet, our prospective figures reveal an order of magnitude for future displacement in certain countries. They also show the extent to which each hazard type is likely to contribute to overall displacement risk.

Hydro-meteorological hazards dominate all charts. This highlights the need to adapt to such events, particularly considering that climate change and variability will add to their complexity and intensity. The good news is that hydro-meteorological hazards such as floods and cyclones can be predicted. This means that the projected displacement presented above can be reduced if pre-emptive DRR measures are taken.

Not all displacement is negative

The high numbers of IDPs recorded are an obvious cause for concern, but displacement should not always be considered a negative outcome. Our historical estimates of evacuations reflect many lives saved by pre-emptive population movements based on timely early warnings.

Relative to population

Looking at displacement risk relative to countries' population size reveals very different but equally important information in terms of vulnerability and coping capacity. A new layer of displacement risk emerges which, as with that highlighted by our absolute figures, has significant implications for policy-makers. Figure 7 shows the 10 countries with the highest relative AAD. They are all small island developing states (SIDSs), either in the Caribbean or the Pacific, and they are highly vulnerable to earthquakes and tropical cyclones. The chart highlights the fact that, despite their lower absolute risk compared with more populous countries, SIDSs will experience very different and highly significant consequences in terms of displacement relative to their population size. The Bahamas, for example, can expect an annual average of 5,900 people per 100,000 inhabitants, or 5.9 per cent of its population, to be displaced by tropical cyclones.

Fig 7: AAD relative to population size (number of people displaced per 100,000 inhabitants)

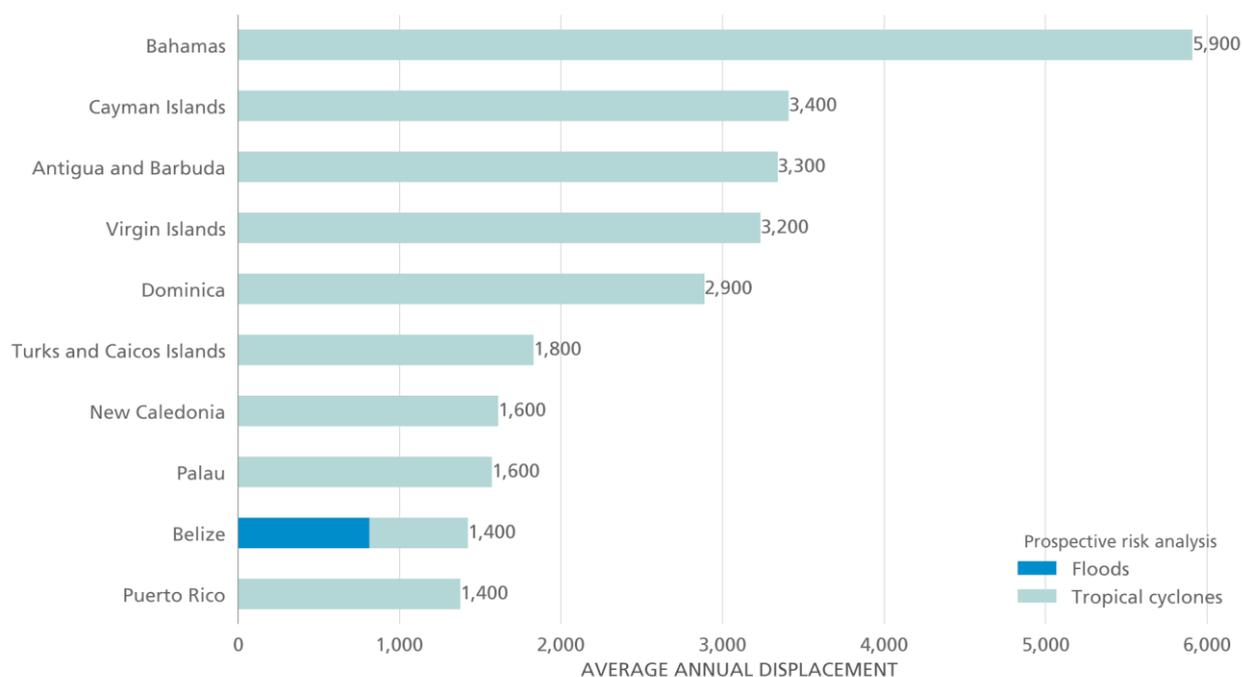
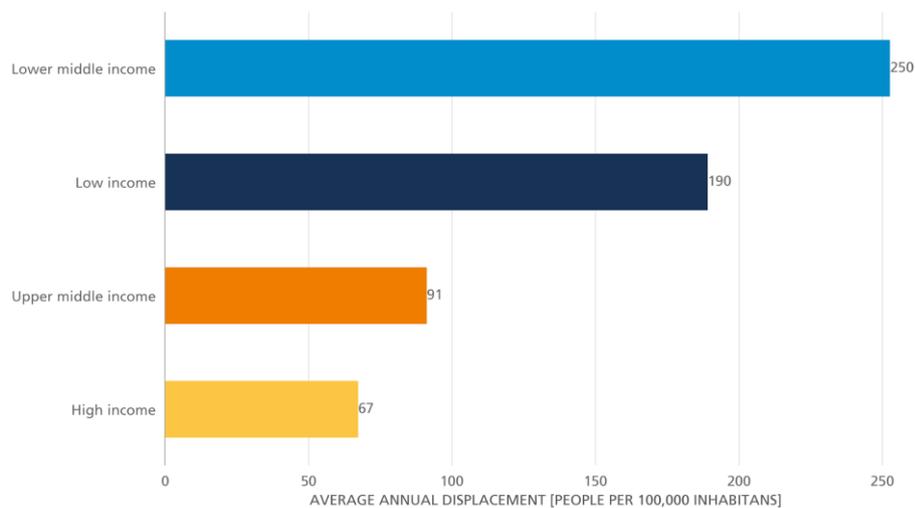


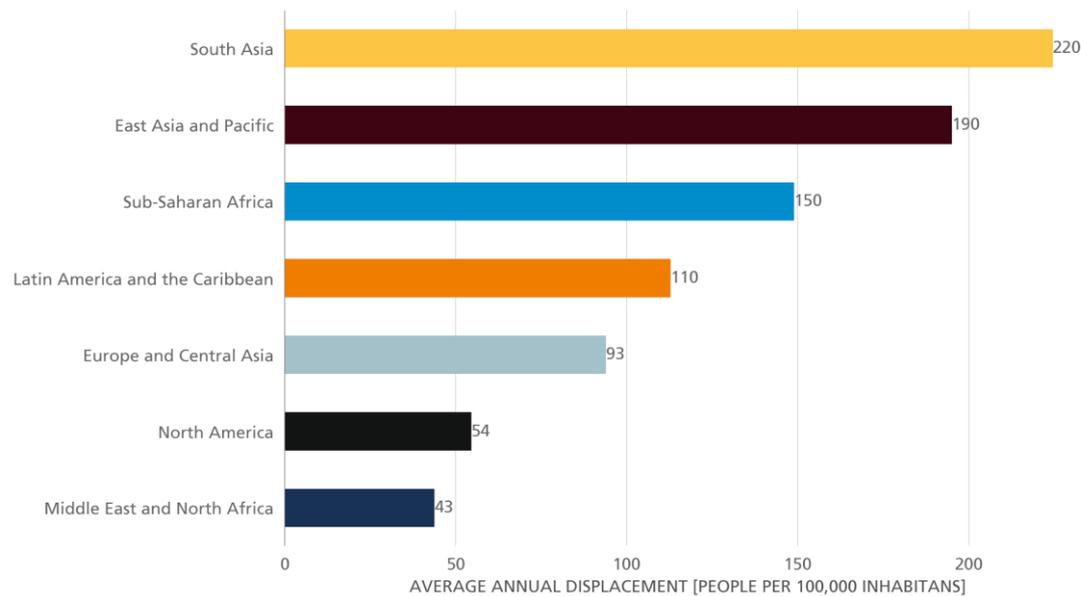
Figure 8 reveals that as with absolute AAD by income group, when measured relative to population size the lower-middle income category has the highest rate. Low income countries have a proportionately higher rate when their population size is taken into account.

Fig 8: AAD relative to population size by income group



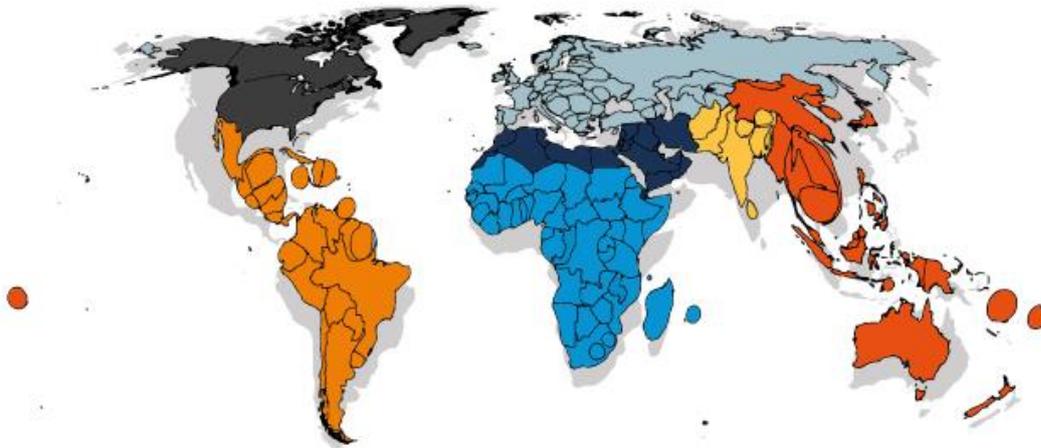
The fact that they tend to have poor coping capacity when it comes to disasters is a concern, because it also means that people are likely to remain displaced for longer, particularly in the absence of insurance or adequate social safety nets. Upper-middle income countries, by contrast, have a lower relative AAD rate.

Fig 9: AAD relative to population size by region



As shown in figure 9, a similar pattern emerges when relative AAD is viewed by region. South Asia and East Asia and Pacific still have significant displacement relative to population size, while regions such as Latin America and the Caribbean and Sub-Saharan Africa have higher AAD rates. This is clearly seen in figure 8, where countries' sizes are displayed according to their relative AAD. It is striking to see how some, such as SIDS in the Caribbean and the Pacific, increase in size dramatically, while North America shrinks.

Fig 10. Map of AAD relative to population size by region



For more information, please see:

Publication

<http://www.internal-displacement.org/library/publications/2017/global-disaster-displacement-risk-a-baseline-for-future-work>

Dataset

<http://www.internal-displacement.org/database/global-displacement-risk-model>