

# 6

## Climate change and disaster risk

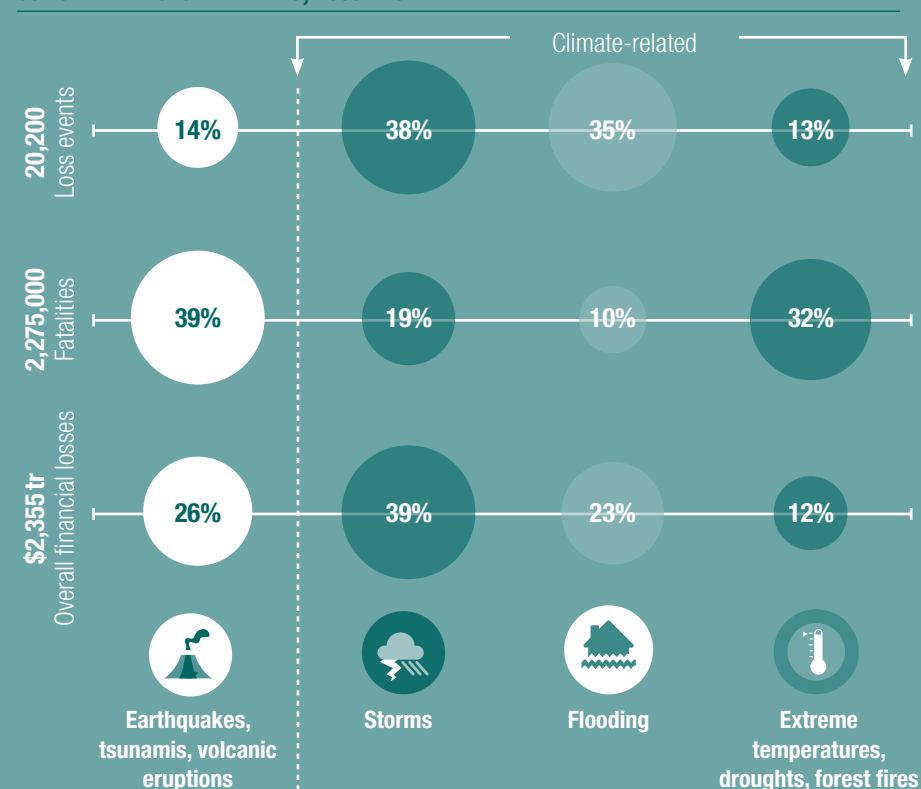
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Climate change is influencing the rate and intensity of disasters and further exacerbating their impacts. Investments in DRR can play an important role in supporting communities to adapt to climate change. As the impacts of climate change are increasingly felt, more financial and technical resources will be needed to support vulnerable people to adapt to the negative impacts.

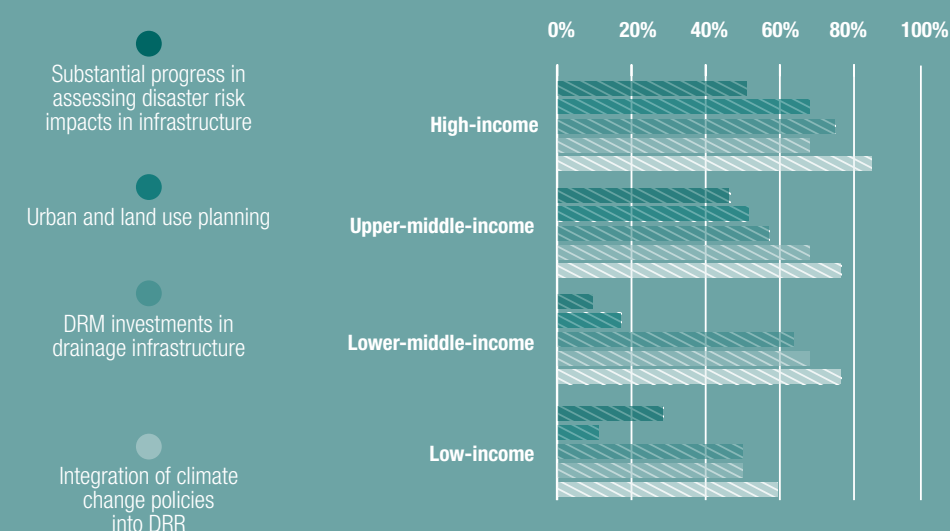
*Lead author: Lindsey Jones*

## Climate-related events constitute a large proportion of impacts from 'natural' disasters<sup>123</sup>

CUMULATIVE DISASTER EVENTS, 1980–2011



## Progress is being made in integrating adaptation and DRR, though gains are uneven across income levels and regions<sup>126</sup>



Progress in integrating climate change policies into DRR is reported by over two-thirds of governments in high-, upper-middle- and lower-middle-income countries but by under half of governments in low-income countries.

Investments to reduce vulnerable urban settlements<sup>127</sup>

## The financial implications of climate-related disasters will be large<sup>124</sup>

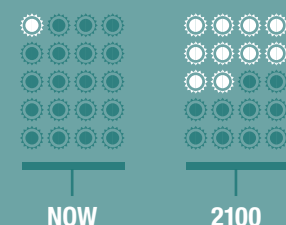
**\$100bn**  
per year

It will cost an estimated \$70–\$100 billion per year through to 2050 for developing countries to adapt to climate change.<sup>125</sup>

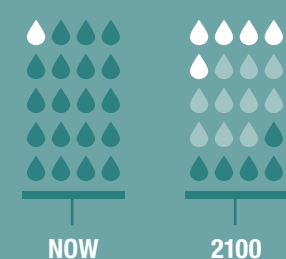
**0.2%**  
of GDP

This amounts to 0.2% of the projected GDP of all developing countries in the current decade, or as much as 80% of total disbursement of ODA.

## Climate change is likely to change the rate and intensity of extreme events<sup>128</sup>



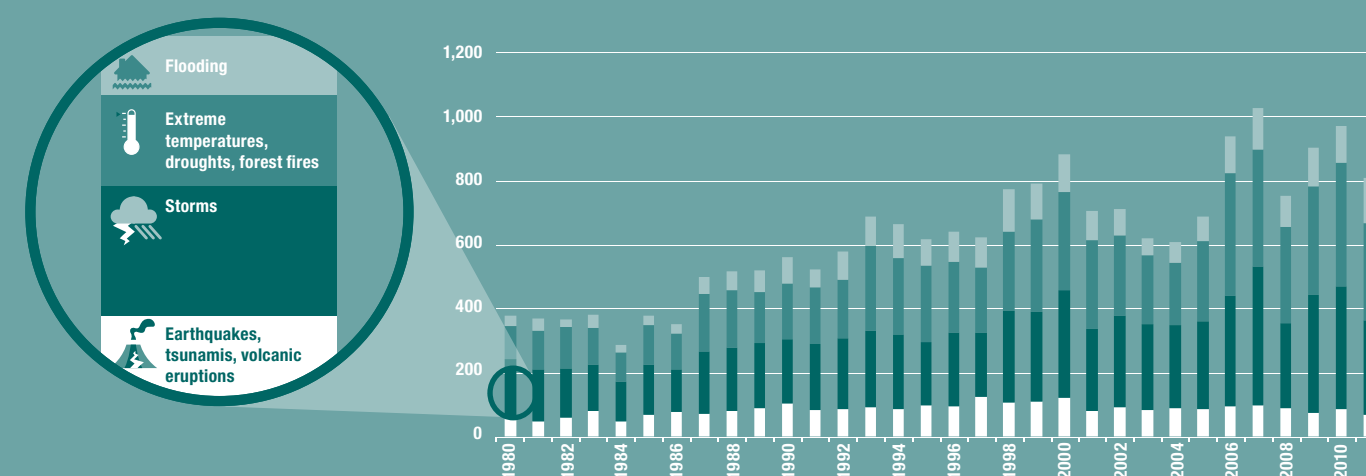
A 1-in-20-year hottest day now is likely to become a 1-in-2-year event in most regions.



A 1-in-20-year annual maximum daily rainfall is likely to become a 1-in-5 to 1-in-15-year event in many regions.

## The impacts of climate-related disasters are increasing<sup>129</sup>

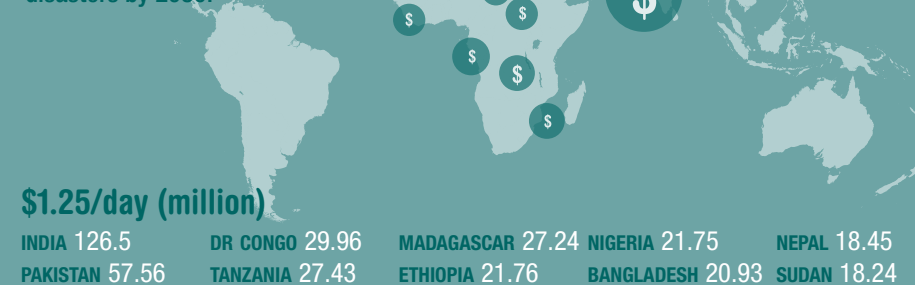
Trends in types of disaster event, 1980–2011



## Climate-related disasters will affect poor people in developing countries the most, particularly in Africa and South Asia<sup>130</sup>

**180 million**

India and Pakistan alone will be home to more than 180 million of the poor people likely to be prone to climate-related disasters by 2030.



**\$1.25/day (million)**

In some countries, particularly hazard-prone countries in sub-Saharan Africa, the proportion of the population living in extreme poverty can be well over 50%.

**\$1.25/day (population)**

|                          |        |
|--------------------------|--------|
| BURUNDI                  | 77.5%  |
| MADAGASCAR               | 76.74% |
| SWAZILAND                | 62.9%  |
| MALAWI                   | 60.31% |
| RWANDA                   | 54.03% |
| GUINEA BISSAU            | 53.12% |
| HAITI                    | 51.22% |
| COMOROS                  | 51.07% |
| CENTRAL AFRICAN REPUBLIC | 49.02% |
| SOMALIA                  | 48.76% |

## SUMMARY OF RECOMMENDATIONS

- Close alignment is needed between the post-2015 framework on DRR, post-2015 development goals and the UNFCCC negotiation processes to ensure complementarity and to avoid confusion over the roles and mandates of each agreement. More specifically, those involved in the post-2015 framework on DRR process should be conscious of ongoing DRR-related discussions and mechanisms within parallel negotiations, such as the Cancun Adaptation Framework and the Warsaw International Mechanism for Loss and Damage.
- There should be a clearer sense of ownership in driving forward the climate agenda within the HFA process, and greater clarity on how incentives and enforcement mechanisms for promoting DRR and CCA can be operationalised in practice.
- A particular emphasis is key on ensuring coherence and improved metrics for tracking disaster risk and adaptation

finance across international, national and sub-national financial systems.

- Climate change needs to be better taken into account within existing risk assessments to understand the changing nature of risk profiles up to 2030 and beyond.
- Regional science facilities need improved support to enable a deeper understanding of the impacts of climate change on disasters.
- There is a need to support calls for an enhanced science advisory mechanism on DRR to support the post-2015 framework on DRR, including the periodic release of reports reviewing the state of knowledge about the links between climate change and disasters and the effectiveness of implementation measures to address them.

## How climate change is featured in the HFA

**Para 19:** ‘Disaster risks related to changing social, economic, environmental conditions and land use, and the impact of hazards associated with geological events, weather, water, climate variability and climate change, are addressed in sector development planning and programmes as well as in post-disaster situations.’

**Para 19 (i) (c):** ‘Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change, which would include the clear identification of climate-related disaster risks, the design of specific risk reduction measures and an improved and routine use of climate risk information.’

**Para 30 (g):** ‘Promote the integration of risk reduction associated with existing climate variability and future climate change into strategies for the reduction of disaster risk and adaptation to climate change.’

**Annex:** ‘The Johannesburg Plan of Implementation of the World Summit on Sustainable Development, held in 2002, requested the Intergovernmental Panel on Climate Change to “improve techniques and methodologies for assessing the effects of climate change, and encourage the continuing assessment of those adverse effects...” the General Assembly has encouraged the Conference of the Parties to the United Nations Framework Convention on Climate Change, and the parties to its Kyoto Protocol to continue to address the adverse effects of climate change.’

## How climate change is included in statements and consultations on the successor to the HFA

### Elements Paper

**Para 13:** ‘The elaboration and adoption of the post-2015 framework for disaster risk reduction comes at a critical time, when two other major instruments that are relevant to the increase and management of risk are under discussion, namely climate change and the post-2015 sustainable development agenda.’

**Para 14:** ‘This synchronicity is a major opportunity to define and agree upon an overall cohesive, coherent, and as much as possible harmonised post-2015 paradigm. This should enable the management of the risks inherent to development and that manifest through disasters, climate change and variability, financial and economic crises, and other consequences for the economy, society and the environment. From that perspective, climate change mitigation and adaptation need to be seen as part of broader risk management strategy.’

**Para 17:** ‘[...] The post-2015 framework for disaster risk reduction is hence, in a strong position to introduce the necessary changes to enhance current risk management practices in development planning and investment. It therefore needs to be conceived and recognised as a guiding tool for supporting the successful implementation of the future sustainable development goals and the climate change agreement.’

**Para 19:** ‘Moreover, to date, the periodic review of the Hyogo Framework for Action has been carried out through a process separated from the Millennium Development Goals and the Climate Change Convention, thus preventing countries from having a holistic review and appreciation of progress, assessing coherence and convergence.’

**Para 38:** ‘[...] there is no explicit link between the HFA Monitor and the mechanisms to monitor progress on the MDGs and the UN Framework Convention on Climate Change.’

**Para 43 [New system of indicators]:** ‘The fourth family of indicators will measure how a country is managing its underlying risk drivers, also providing links from disaster risk management to the SDGs and to the climate change convention.’

### Chair’s Summary

Both the accumulation and reduction of disaster risk are closely intertwined with the fields of sustainable development, environmental protection and climate change as well as human mobility.

Initiatives such as the Global Framework for Climate Services play an important role in ensuring development and availability of sector-relevant climate services to support decision-making.

### Mid-Term Review

‘The prevailing views on a post-2015 framework for DRR, irrespective of whether it would be of a legally binding nature or not, include the need to ensure solid, structural links with sustainable development and climate change international framework agreements.’ (p. 70)

‘While lower-middle income countries report most progress in integrating disaster risk reduction into national development plans, climate change policies, and poverty reduction strategies, they also report less substantial progress in getting risk reduction into those sector strategies that address the underlying drivers of risk.’ (p. 28)

‘Cooperation between UNISDR and the Intergovernmental Panel on Climate Change (IPCC) over the past several years produced significant results towards ensuring consideration of disaster risk reduction as an important instrument for climate change adaptation strategies. In this context, an IPCC special report on Managing the Risk of Extreme Events and Disasters to Advance to Advance Climate Change Adaptation (SREX) was prepared.’ (p. 51)

## RECOMMENDED READING

### For future projections of climate and poverty, see:

Shepherd, A., Mitchell, T., Lewis, K., Lenhardt, A., Jones, L., Scott, L., Muir-Wood, R. (2013) *The geography of poverty, disasters and climate extremes in 2030*. London: ODI.

### For implications of climate change on extreme events, see:

IPCC (2012a) ‘Summary for Policymakers’ in *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Cambridge University Press: Cambridge, UK and New York, NY, USA, pp. 1–19.

### To understand the links between DRR and CCA, see:

Jones, L., Jaspars, S., Pavanello, S., Ludi, E., Slater, R., Arnall, A., Grist, N., Mtisi, S. (2010) *Responding to a changing climate: exploring how disaster risk reduction, social protection and livelihoods approaches promote features of adaptive capacity*. London: ODI.

### For a practitioner’s guide to implementing DRR and CCA within the context of development activities, see:

Turnbull, M., Sterret, C., Hilleboe, A. (2013) *Towards resilience: A guide to Disaster Risk Reduction and Climate Change Adaptation*. Rugby: Practical Action Publishing.

### To understand progress in integrating DRR and CCA into development processes, see:

Mitchell, T., Van Aalst, M., Silva Villaneuva, P. (2010) *Assessing Progress on Integrating Disaster Risk Reduction and Climate Change Adaptation in Development Processes*. Brighton: Institute of Development Studies.