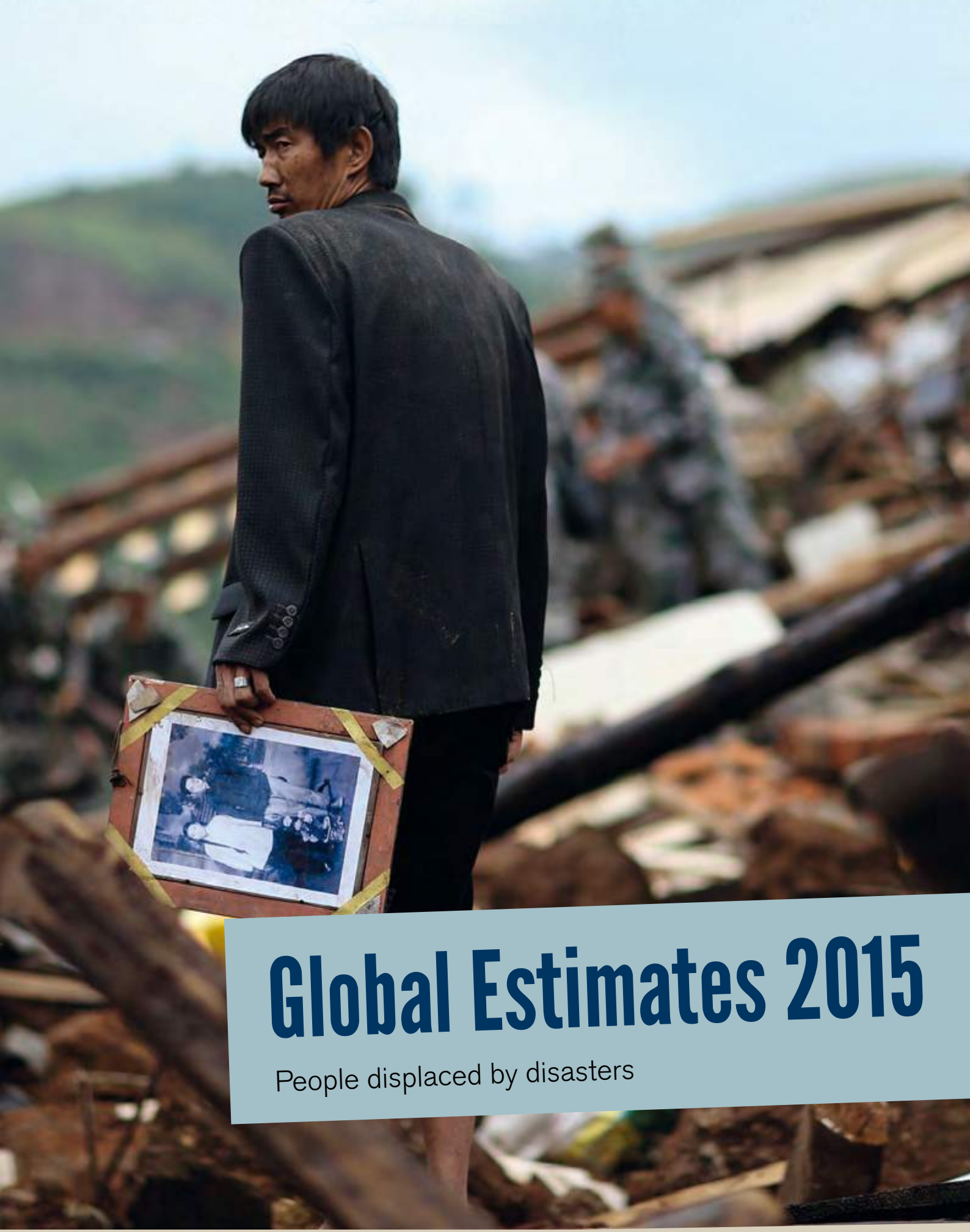

Global Estimates 2015

People displaced by disasters

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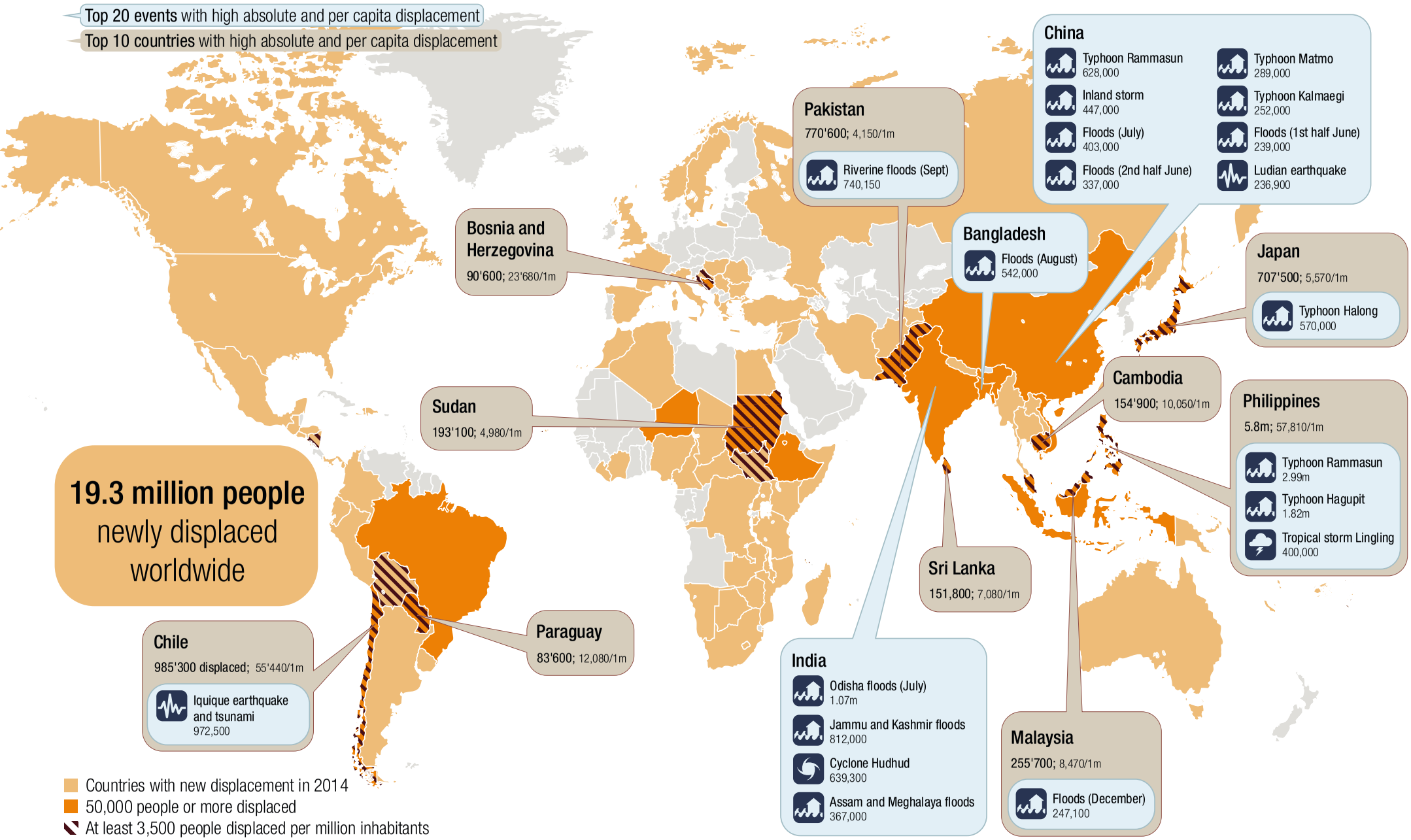
iDMC internal displacement monitoring centre

Displacement related to disasters worldwide in 2014



Global Estimates 2015

People displaced by disasters

July 2015

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Cover photo: A man holds a family photograph as he stands among collapsed buildings after a magnitude 6.3 earthquake struck Longtoushan township of Ludian county, Yunnan province. At least 398 people were killed and some 236,900 people were displaced from their homes according to the Ministry of Civil Affairs. *Photo: REUTERS/Wong Campion, August 2014*

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Please note: The displacement estimates provided in this report are based on data recorded in our disaster-induced displacement database as of 1 June 2015. Our data is subject to revision and updating based on ongoing monitoring, research and feedback. Revisions to aggregate figures since the publication of the previous year's report are reflected here.
Unless otherwise stated, all figures of 10,000 and over have been rounded to the nearest 1,000; figures of less than 10,000 have been rounded to the nearest 100.
The dataset for 2014 events is available for download from our website: www.internal-displacement.org/global-figures
Feedback is welcome and requests for guidance in the use and interpretation of the data are encouraged. Please contact us at globalestimates@nrc.ch

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ACRONYMS

AU	African Union
BiH	Bosnia and Herzegovina
EM-DAT	International disaster database
EU	European Union
HDI	Human Development Index
IDP	Internally displaced person
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organisation for Migration
ISO	International Organisation for Standardisation
LSE	London School of Economics and Political Science
NGO	Non-governmental organisation
SDGs	Sustainable Development Goals
SIDS	Small-island developing state
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
UNHCR	UN Refugee Agency
USAID	United States Agency for International Development

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SUMMARY

Since 2008, an average of 26.4 million people have been displaced from their homes each year by disasters brought on by natural hazards- equivalent to one person displaced every second.

The time is opportune to ensure the causes and consequences of this urgent issue are better addressed. Policy makers are pushing for concerted progress across humanitarian and sustainable development goals, including disaster risk reduction and action on climate change. This annual report, the sixth of its kind, aims to equip governments, local authorities, civil society organisations and international and regional institutions with evidence relevant to these key post-2015 agenda.

Our report draws on information from a wide range of sources, including governments, UN and international organisations, NGOs and media, to provide up-to-date statistics on the incidence of displacement caused by disasters associated with geophysical and weather-related hazards such as earthquakes, volcanic eruptions, floods and storms.

The global data does not cover displacement related to drought and gradual processes of environmental degradation, nor does it reflect the complexity and diversity of people's individual situations or how they evolve over time.

This year, we have dedicated a section to protracted displacement in the aftermath of disasters - a significant knowledge blind spot that requires increased attention from governments, the UN, the International Red Cross and Red Crescent Movement and other international and civil society organisations.

The key findings and messages from each section of the report are summarised below.

The global picture: scale, patterns and trends

Latest estimates

- More than **19.3 million people were displaced by disasters in 100 countries in 2014.**
- Since 2008, **an average of 26.4 million** people have been displaced by disasters each year - equivalent to **one person every second.**

Displacement by hazard type

- **17.5 million** people were displaced by disasters brought on by weather-related hazards in 2014, and **1.7 million** by geophysical hazards.
- An average of **22.5 million** people have been displaced each year by climate or weather-related disasters in the last seven years - equivalent to **62,000 people every day.**
- The largest increases in displacement are related to weather and climate-related hazards, and **floods** in particular.
- **Climate change,** in tandem with people's increasing exposure and vulnerability, is expected to magnify this trend, as extreme weather events become more frequent and intense in the coming decades.

Variance from year to year

- The significant fluctuation from year to year in the number of people forced to flee their homes by disasters is driven by **relatively infrequent but huge events** that displace millions of people at a time.

Displacement trend from 1970 to 2014

- Latest historical models suggest that even after adjusting for population growth, **the likelihood of being displaced by a disaster today is 60 per cent higher than it was four decades ago.**
- **1998 was a peak year for displacement**, which correlates with the strongest iteration of El Niño on record. Extreme weather events associated with it included hurricane Mitch, which devastated several countries in Central America.

Trends in exposure and vulnerability

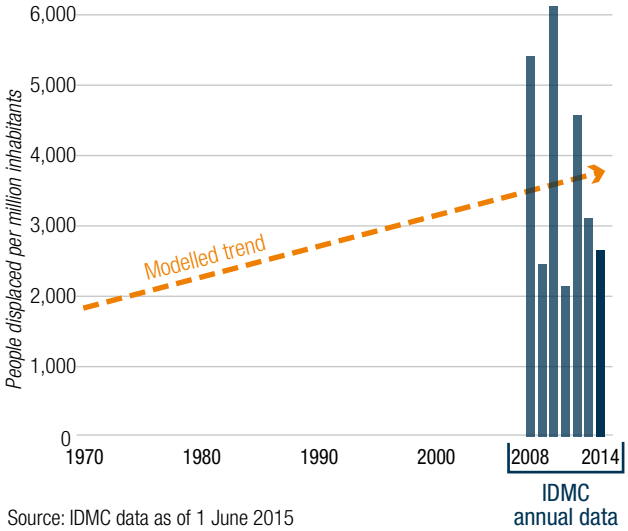
- The occurrence of displacement closely mirrors people's exposure to hazards around the world. Exposure is increasing because **ever growing numbers of vulnerable people live in areas prone to hazards.**
- Two key drivers of exposure and vulnerability are **urban population growth in developing countries**, and **economic growth.**
- The urban population in developing countries has increased by 326 per cent since 1970. This rapid growth has for the most part been unplanned and poorly governed, leading to high exposure and vulnerability. **Middle-income countries bear the brunt of the phenomenon.**
- People in **low-income countries are more vulnerable still**, but relatively fewer people are exposed to hazards. That said, population projections suggest that exposure will increase in many low-income countries over the coming decades.
- The relatively low vulnerability of **high-income countries** does not mean that they are not affected. Around 1.8 million people were displaced in high-income countries in 2014, and this is explained by three factors:
  - » All countries are vulnerable to the most extreme hazards
  - » **Inequality within high-income countries makes displacement a particular concern for people less well off** and those subject to discrimination and marginalisation
  - » **Effective early warning systems and disaster responses save lives**, but increase displacement among survivors as a protective measure

Geographical distribution and the biggest events

Displacement by region and country

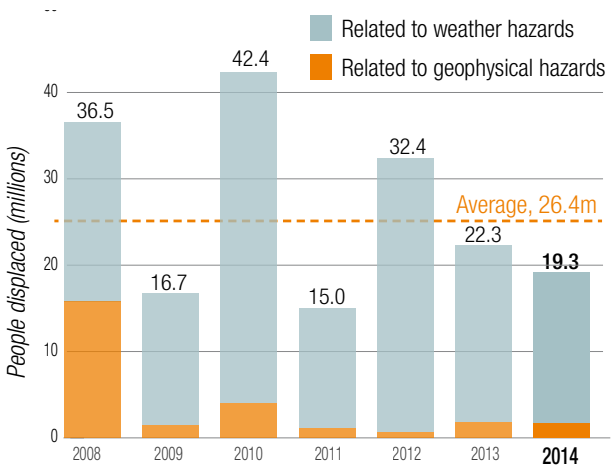
- **Asia** is home to 60 per cent of the world's population, **but accounted for 87 per cent of the people displaced by disasters worldwide** in 2014. **16.7 million** people were forced to flee their homes in the region.

Modelled global displacement trend for 1970 to 2014 (per million inhabitants)



Source: IDMC data as of 1 June 2015

The scale of global displacement by disasters, 2008-2014



Note: Figures are rounded to the nearest decimal point.

- » **Eleven of the 20 countries worst affected** by displacement over the last seven years are in Asia.
- **Europe** experienced **double its average** level of displacement for the past seven years in 2014, with 190,000 people displaced, most of them by flooding in the Balkans.
- Displacement in **Africa** was **three times lower than average** in 2014 in absolute terms, but many African countries experienced high levels relative to their population size.
  - » The highest level of displacement in relative terms in 2014 was in **Sudan**, where rainy season floods displaced 159,000 people.
- **In Chile**, one of the largest displacements of the year highlighted the benefit of investment in disaster prevention and preparedness. Around 970,000 people fled low-lying coastal areas in response to an 8.2 magnitude offshore earthquake and tsunami warning in April. Most people were able to return home the following day.
- **Developing countries are consistently the worst affected**, with almost 175 million people displaced since 2008, accounting for 95 per cent of the global total. The figure for 2014 was 17.4 million, or 91 per cent of the global total.

The big three: China, India and the Philippines

- China, India and the Philippines experienced the **highest levels of displacement in absolute terms**, both in 2014 and for the 2008 to 2014 period.
- Disasters related to floods, storms, earthquakes and volcanic eruptions in the three countries accounted for **15 of the 20 largest displacements** in 2014.
- **Multiple and repeated displacements** in the same parts of the three countries point to areas of particularly high exposure and vulnerability.
- The **Philippines** was among the three worst-affected countries **in relative and absolute terms**, both in 2014 and over the 2008 to 2014 period.
- Large-scale evacuations prompted by two category-three **typhoons in the Philippines** caused the largest displacements worldwide for the second year running in 2014.

Small but significant: impacts on small island developing states (SIDS)

- Their populations are relatively small, but **SIDS are disproportionately affected** by displacement associated with floods, storms and earthquakes.
- Between 2008 and 2014, they experienced levels **three times higher than the global average, relative to their population sizes.**
- Twelve per cent of the countries where we recorded displacement related to disasters in 2014 were SIDS, of which five were among the 20 worst-affected countries worldwide in relative terms.
- **Cyclone Ian in Tonga** caused the second largest displacement worldwide in relative terms in 2014. Only 5,300 people were forced to flee their homes, but they accounted for five per cent of the island's population.
- **Haiti and Cuba** have had the highest levels of displacement among SIDS over the past seven years in both relative and absolute terms, caused by earthquakes, floods and storms.

Multiple hazards in fragile and conflict-affected states

- A **complex mix of overlapping hazards** contribute to displacement and determine patterns of movement and needs in fragile and conflict-affected countries. This makes an integrated analysis particularly important as the basis for policymaking and planning.

- Countries significantly affected by displacement related to both conflict and natural hazards in 2014 included India, Pakistan, the Philippines, South Sudan and Sudan.
- All fragile and conflict-affected states, as defined by the World Bank, experienced displacement associated with natural hazards between 2008 and 2014. More than 750,000 people were displaced by disasters in these countries in 2014 alone.

Mind your assumptions: Protracted displacement following disasters

- Relatively little is known about protracted displacement situations following disasters. They are poorly monitored and little reported on. A sample we have collated of 34 ongoing cases accounts for more than 715,000 people stuck in limbo, and points to the likelihood of hundreds of thousands more who have not yet been recorded.
- The common assumption that displacement following disasters is short-term and temporary does not hold true in many cases. The cases we identified highlight the plight of people who have been living in protracted displacement for up to 26 years.
- People in such situations receive little attention and are likely to be left behind in long-term recovery, disaster risk reduction and development processes. Better data and further research is needed to create a solid evidence base for policymakers' and responders' decisions.
- Hazards are diverse in their nature and dynamics. Some persist for long periods and can become permanent barriers to return. The repeated impacts of frequent short-lived hazards on vulnerable communities can also lead to protracted displacement.
- Displacement following disasters is often fraught with complex and political obstacles to solutions. Obstacles frequently encountered include access to land and discrimination against vulnerable and marginalised groups. Addressing the long-lasting social and psychological consequences of displacement is as important as the physical rebuilding of homes and infrastructure.
- Most of the cases of protracted displacement we identified are in low and middle-income developing countries, but there are also significant examples in rich countries, such as the US and Japan. Vulnerable and marginalised people in high-income countries also risk being excluded from solutions.
- Governments should prioritise measures to advance solutions and strengthen the resilience of people whose displacement risks becoming protracted, or has already become so. They include people whose former homes have become permanently inaccessible or unsafe, informal settlers, poor tenants and people who face discrimination based on their class, ethnicity, gender or age. Interventions should be adapted to their specific needs.
- When displaced people move on to another location during or after the emergency phase of a response, their situation should be verified. They should not be allowed to drop off the radar as "residual caseloads" when humanitarian priorities shift towards longer-term recovery and development.
- Local authorities, civil society networks and community-based organisations should be mobilised and supported to help identify and monitor cases of protracted displacement. This is important, given that many of those affected are all but invisible, because they are dispersed among wider populations and in urban areas.

The post-2015 global policy agenda

- The time is opportune for displacement associated with disasters to be better addressed in major global policy agenda and their implementation in the post-2015 period. They include the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, action on climate change under the UNFCCC and preparatory work for the 2016 World Humanitarian Summit.
- A comprehensive approach to displacement will help to forge strong links and continuity between these initiatives, and support the implementation of global and national commitments.
- Displacement can no longer be considered as a primarily humanitarian issue, nor one that is specific to conflict situations. In most countries affected it has multiple and overlapping causes, and addressing it requires close coordination of humanitarian and development policy and action within and between governments.
- The increasing number of people displaced and at risk of becoming trapped in protracted situations following disasters underscores the urgent need to include people displaced or at risk of becoming so in sustainable and inclusive development measures.
- Improved monitoring and data on displacement is needed to measure the achievement of national and global policy targets for inclusive and sustainable development, disaster risk reduction and management, and adaptation to climate change.
- In order to prioritise resources and target responses to where they are most needed, a common framework for collecting, interpreting and comparing displacement data should be established between government and partner organisations and across different timeframes.
- Special attention should be paid to collecting data disaggregated by gender, age and specific vulnerabilities, and to monitoring the situation of people caught in long-lasting or chronic displacement.

1 INTRODUCTION

Since 2008, an average of 26.4 million people have been displaced from their homes each year by disasters brought on by natural hazards- equivalent to one person displaced every second.

The time is opportune to ensure the causes and consequences of this urgent issue are better addressed. Policy makers are pushing for concerted progress across humanitarian and sustainable development goals, including disaster risk reduction and action on climate change. This annual report, the sixth of its kind, aims to equip governments, local authorities, civil society organisations and international and regional institutions with evidence relevant to these key post-2015 agenda.

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This year, we have dedicated a section to long-lasting and protracted displacement in the aftermath of disasters - a significant knowledge blind spot that requires increased attention from governments, the UN, the International Red Cross and Red Crescent Movement and other international and civil society organisations. Section five of the report presents our initial findings from a review of literature, interviews and other evidence as a starting point for further monitoring. We discuss the issue alongside eight case studies of current situations in Bangladesh, Colombia, Haiti, Indonesia, Japan, Pakistan, Papua New Guinea and the United States. These are summarised in annex C along with a broader sample of 34 ongoing displacement situations.

Section three presents the global picture today. We provide estimates and analyses of events in 2014 and over the 2008-2014 period, and include the disaggregation of global data by hazard type, annual variance in displacement patterns, and the updating of our modelled historical estimates to show the trend in displacement over a 45-year period. The section also examines global trends in exposure and vulnerability, focusing on urban population and economic growth.

A girl stands on the outskirts of Belet Wayne IDP camp, Somalia. Belet Wayne, Somalia's fifth largest city, is home to people displaced by floods that affected the region in late 2012. (Photo: UN Photo/Tobin Jones, February 2013) In October 2014, thousands more were rendered homeless by floods again.

The geographical distribution of displacement across regions and countries is presented in section four. It examines the largest events of 2014 and zooms in on the Iquique earthquake and tsunami in Chile as well as the flood disaster in Bosnia and Herzegovina. Country and regional data is further analysed in relation to the three countries most consistently affected by disaster displacement globally, China, India and the Philippines. The section also focuses on Small Island Developing States (SIDS) as countries disproportionately impacted by displacement, as well as multiple hazards in fragile and conflict-affected states, including a special spotlight on the case of Afghanistan.

In the concluding section of the report, we discuss the positioning of displacement associated with disasters in key global policy agendas. These include a new global framework on disaster risk reduction for 2015-2030, which was adopted by UN member states in March as a successor to the Hyogo Framework for Action; negotiations ahead of the Paris conference on climate change at the end the year (COP21); the final stages of work on proposals for new Sustainable Development Goals to be presented for endorsement in September; and preparations for the 2016 World Humanitarian Summit. A comprehensive approach to displacement will help to forge strong links and continuity between these initiatives, and support the implementation of global and national commitments.

The overall conceptual framework and the terms and definitions that inform our analysis of displacement associated with disasters are presented in section two of the report. Our methodology for data collection, the development of displacement estimates, modelling and other qualitative research, as well as scope and limitations of the report are further explained in annex A1. A comprehensive list of the largest displacements in 2014 is provided in annex B. Our full 2014 dataset is available for download from our website at www.internal-displacement.org.

Hail storm at the displacement camp in Kibabi, Masisi, North Kivu.
Photo: IDMC/M. Kesmaecker-Wissing, March 2015

2 CONCEPTUALISING DISPLACEMENT

in the context of disasters

The terms and concepts that inform IDMC's collection and interpretation of quantitative and qualitative data on displacement associated with natural hazards and the disasters they trigger are discussed below. They represent evolving knowledge that draws on the wide range of sources we use for our monitoring and analysis generally, and for this global report in particular.

Standard or widely accepted international definitions are available for some, and these are expanded upon from the perspective of different types of natural hazards, disasters and displacement. Others are more fluid and less specific. All need to be carefully interpreted according to the contexts and perspectives from which they were developed and in which they are applied.

Disaster is defined as the "serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope using its own resources".[1] They are the result of a combination of risk factors that can be summarised as the exposure of people and assets to hazards, and their pre-existing vulnerability to them.

Hazard refers to the potential occurrence of a natural or human-induced physical event or trend or physical impacts[2], that may pose a severe threat to people and assets that are exposed to them. "Natural" hazards are time-bound events or gradual processes and conditions that originate in the natural environment. The intensity and predictability of hazards varies greatly.

Exposure refers to "[t]he presence of people, livelihoods, species or ecosystems, environmental functions, services, and resources, infrastructure, or economic, social, or cultural assets in places and settings that could be adversely affected."[3]

Vulnerability refers to "the propensity or predisposition to be adversely affected". It encompasses a variety of concepts and elements "including sensitivity or susceptibility to harm and lack of capacity to cope and adapt".[4]

Humanitarians tend to use the term "disaster", or "natural disaster" in relation to crises triggered by or associated with hazards that originate in the natural environment, as is the usage in this report. While they are more likely to be aware of very intensive hazard events, such as a major earthquake, less intense but more frequent events can result in localised disasters for vulnerable communities, particularly if the hazards are recurrent. Disaster also applies to contexts where multiple types of hazard contribute to a disaster. Examples include the reactor meltdown and radiation leak from the Fukushima Daiichi nuclear power plant in the aftermath of the 2011 Tohoku earthquake and tsunami, and numerous situations in which populations are also affected by conflict.

Slow- versus rapid- onset disasters

Disasters and related hazards are commonly categorised as either slow- or rapid-onset, but their dynamics are better understood as a continuum. At one end sit short-lived trigger events or hazards such as earthquakes that occur with little or no notice, and at the other gradually developing and long-lasting processes such as drought and river bank erosion, which act as stressors on people's living conditions and means to survival. Some individual hazard types, such as floods, include events with different dynamics. Flash floods tend to occur with little prior warning and pass relatively quickly, while other riverine floods develop more slowly. Floodwaters may make areas inaccessible for months. Different types of explosive or effusive volcanic eruptions can occur with little or no notice, while others can be predicted ahead of time, producing ash, toxic gases, fast moving floods of hot water, debris and lava within hours to days. Eruptions may continue to threaten exposed areas over extended periods and require repeated evacuations. Other hazards may occur as a cascade, such as tsunamis, landslides, fires and aftershocks following a major earthquake, or flooding made more extreme when it follows a period of drought. These dynamics have a bearing on how displacement occurs, as further discussed below.

Displacement is the *forced* or *obliged* movement, evacuation or relocation of in-

dividuals or groups of people from their homes or places of habitual residence in order to avoid the threat or impact of a disaster.[5] It refers to situations where people are forced to move by other people and organisations, including local or national authorities, but also when people act of their own volition in response to the threats and severe conditions they face.

The continuum from voluntary migration to forced displacement

In practice, displacement sits within a continuum including "(predominantly) forced displacement" and "(predominantly) voluntary migration", as well as "(voluntary or forced) planned relocation" (Nansen Initiative, 2014).[6] Displacement tends to emphasise "push" factors to leave and migration emphasises "pull" factors at the intended destination, while each is a mixture of both. Put another way, displacement is a more reactive measure of last resort or a survival response to severe and immediate threats. Migration is a longer-term strategic decision to move to where there are safer conditions and better livelihood prospects (see figure 2.1). Movements at either end of the continuum may put vulnerable people in a more precarious situation than if they had stayed in their place of origin if they are not sufficiently protected and supported. Well informed, prepared and managed movements, however, enable people to adapt to worsening conditions and save lives.

The difference between voluntary and forced population movements is particularly difficult to distinguish during slowly evolving disasters. In the face of rapidly developing hazards, people are often forced to flee their homes with little notice in response to the immediate threat. Others may be displaced later as the disaster develops and new threats evolve or initial coping strategies begin to fail. Their immediacy as shocks that trigger acute points of crisis make it easier to link them to any displacement caused. Large groups of people on the move soon before or after a hazard's impact are also easier to identify.

Gradual and long-lasting hazards such as drought or processes of environmental degradation such as soil erosion tend to act indirectly as stressors on living conditions, along with a range of other socio-economic, political and cultural drivers of exposure and vulnerability. They allow people more time to consider and take steps to avoid, mitigate and adapt to impacts on their homes, livelihoods and communities. They may choose to migrate well before they face an acute crisis, which blurs the distinction between forced displacement and voluntary migration.

For the poorest and most vulnerable, whose survival options may be severely circumscribed by remaining in their homes, it could be argued that their decision to leave always constitutes a form of displacement regardless of the hazards that contributed to it. In slow-onset situations, people may flee in smaller numbers and over longer periods of time in response to a gradual change in conditions and are, therefore, less easy to identify and track. Slowly evolving disasters such as the Sidoarjo mud flow in Indonesia (see section 5) may make return impossible even in the long-term, because they make land permanently irredeemable.

Displacement risk

As with disaster risk, the risk of displacement can be expressed in relation to hazards, exposure and vulnerability:

- The likelihood, severity and nature of a hazard or combination of hazards occurring over time. According to the best scientific evidence, climate change is expected to alter normal variability in the weather and make some hazards more severe and frequent[7]
- The exposure of people and their homes, property and livelihoods to hazards before a disaster and both during and after their displacement as they move from one location to another
- People's pre-existing and evolving vulnerability to the impact of hazards before, during and after their displacement

These factors not only increase the likelihood of people becoming displaced. They also affect evolving threats to their security and human rights while displaced, the duration of their displacement and the obstacles displaced people face in their efforts to achieve durable solutions. This is because displacement puts people at greater risk of impoverishment and discrimination, and creates specific protection needs.[16] Specific problems they face include landlessness; joblessness; homelessness and worsening housing conditions; economic, social and psychological marginalisation; food insecurity; increased morbidity and mortality through trauma and vulnerability to insanitary conditions and disease; loss of access to common property; and the disruption or destruction of social and economic support networks.[17] Many of these challenges are illustrated through cases highlighted in sections three, four and five of this report.

Reducing displacement risk

Exposure and vulnerability are largely the product of human activity and they can be reduced by government and community-based measures that reduce the risk of displacement. Such measures include the application of building standards to make homes and infrastructure disaster resistant, and strengthening the resilience of communities and livelihoods so that they are better able to withstand or adapt to the hazards they face. Land zoning may also be enforced to minimise the development of settlements in areas that face frequent, severe and increasing exposure to hazards. As a last resort, after all other options have failed and community resilience has significantly eroded, measures may also include the permanent relocation of people's homes away from areas where their exposure to hazards is high.[18]

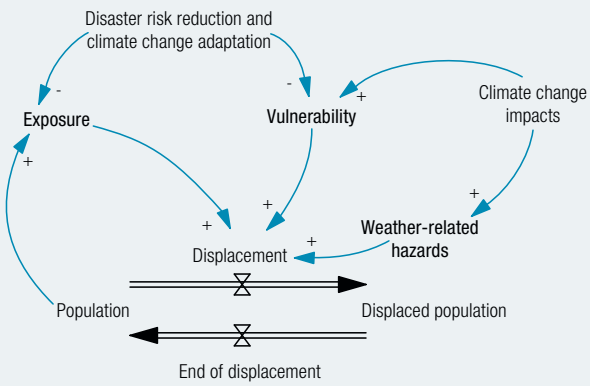
To be effective, approaches need to be tailored to the specific contexts in which people are or may be displaced, and the different capacities and vulnerabilities of the communities, households and individuals concerned. Measures should also address the disproportionate level of risk faced by poor and marginalised communities and households, which have fewest resources both to mitigate displacement and recover from it through the achievement of durable solutions (see section five).[19]

How "natural" a hazard is as a contributing factor to displacement is a complex

Box 2.1: Slow-onset hazards and gradual processes associated with climate change

Even gradual and relatively modest changes in climate can affect the frequency and intensity of hazards and communities' vulnerability to them (see figure 2.1). Higher temperatures increase the risk of both drought and episodes of heavy rainfall, also known as "extreme precipitation events", while rising sea levels make storm surges worse and increase the risk of coastal flooding. Lower agricultural yields associated with gradual changes in climate undermine rural livelihoods and erode communities' capacity to cope with shocks.

Figure 2.1: How climate change, disaster risk reduction and climate change adaptation can influence displacement



Sea level rise

Rising sea levels are expected to become a significant driver of future displacement, particularly in small island states and low-lying coastal areas. The Intergovernmental Panel on Climate Change (IPCC)'s Fifth Assessment Report notes that "it is virtually certain that global mean sea level rise rates are accelerating", with projected increases by 2100 ranging from 0.35 to 0.70 metres.

Rising sea levels will aggravate the effects of swell waves, storm surges and other drivers of severe sea-flood and erosion risk. Wave over-wash is also confidently predicted to degrade fresh groundwater resources.[8] IPCC's report notes that tens of millions of people could find themselves at risk of permanent displacement as their home areas become uninhabitable.

> "Twelve million people could become displaced by sea level rise by 2030 in four major coastal areas in the U.S. Globally, and without investment in adaptation measures, a rise of 0.5m in sea level implies a likely land loss of 0.877 million km2 by 2100, displacing as many as 72 million people. A more extreme 2.0m change in sea level would result in the loss of 1.789 million km2, displacing 187 million people, or 2.4 per cent of global population, mostly in Asia."[9]

Such scenarios are not foregone conclusions. The scale of displacement will also depend on the extent to which countries and communities adapt to the threats posed by rising sea levels. Making communities more resilient should reduce, or at least delay the onset of such forced movements.

That said, research published since the IPCC report has found that a section of the western Antarctic ice sheet has gone into "irreversible retreat".[10] This could mean sea levels are rising more quickly than previously thought, making IPCC's scenarios overly optimistic. For those unwilling to relocate, adaptation would not be a choice but a necessity.

Displacement in small island states

As with other hazards, the fact that sea level rise is one of a number of inter-related and dynamic processes that influence population movements makes it difficult to estimate future displacement associated with the phenomenon. The IPCC notes, for example, that climate change and its impacts are taking place at the same time as increases in rural to urban migration. This often results in squatter settlements in highly exposed locations that lack basic amenities, leaving inhabitants highly vulnerable to climate risks.[11]

In small island states, other gradual changes and processes such as the warming of sea surface temperatures, ocean acidification and the depletion of oceanic oxygen also have the potential to influence mobility patterns indirectly, given their impacts on livelihoods. Such processes are expected to contribute to coral bleaching, threatening both fish stocks and tourism.

Affected communities may also suffer the impacts on agricultural production of the salination of groundwater and soil associated with rising sea levels and climate variability in terms of drought and floods. This may force them to import more food and drinking water, which in turn increases their vulnerability to price spikes and pre-existing pressures to migrate for economic reasons.

The IPCC concludes that more research is needed on the impact of rising sea levels and other climate change impacts on small island displacement, and on the adaptation strategies appropriate for different types of island under different scenarios.[12] More sophisticated approaches are required to accommodate such complexity and respond to climate change in a multidimensional way as one of a number of stressors on small island states.

The impact of different adaptation strategies on displacement and migration will be influenced by the scale of climate change and human factors such as their cultural and social acceptability and communities' confidence in their effectiveness.[13] Cultural attachment to place, economic opportunities and other human factors have influenced population mobility in small island states as much, if not more than environmental factors.[14] In Kiribati and Fiji, spiritual beliefs, traditional governance mechanisms and short-term approaches to planning have undermined adaptation measures.[15]

Ultimately, future displacement will be influenced by climate change and environmental degradation and how humans choose to address the processes. There is, however, still a great deal of uncertainty about the possible extent of climate change impacts, and even more about how humans will respond to them.

Box 2.2: Dynamics and evacuation patterns associated with rapid-onset hazards

National and local authorities have the primary responsibility for implementing evacuations as a protective measure. Given that fleeing quickly from the dangers inherent in a rapidly unfolding disaster can be highly risky, especially when large numbers of people are involved, such evacuations should be well prepared for in advance, including the identification of safe refuge areas.

People with limited mobility because of age, illness or disability or sickness, and children who become separated from their carers require particular attention to ensure that they are adequately protected.[24]

Evacuations are normally undertaken on the assumption that they will be short-lived, but return depends on the effects of a disaster in home areas and prospects for recovery. To respect human rights and be lawful, authorities must ensure the safety and health of those affected or at risk, and all measures must be taken to minimise the scale and duration of displacement and its adverse effects.[25]

Well-executed evacuations of people living in exposed areas are a vital life-saving measure.[26] Governments worldwide have recognised the importance of effective early warning systems to monitor threats and ensure that timely notice is given to all those potentially exposed.[27] Evacuations must also take into account the nature of different hazards, which do much to determine the timing and dynamics of initial displacement patterns.

In the case of tropical storms, evacuations tend to take place over the hours and sometimes days before they are expected to make landfall, and/or over similar timescales afterwards. The onset of hurricanes and cyclones can be predicted in time to allow for prior large-scale evacuations, but they may change strength and direction at the last minute.

Tornadoes often develop with little warning, so sheltering in situ, often underground, tends to be the safest option. In such cases, people can still become displaced in the storm's aftermath if they lose their homes or the devastation to their communities is so widespread that they are forced to move elsewhere, at least temporarily.

Tsunami warnings provide exposed populations with vital time to flee to higher ground. This may be a matter of minutes to hours, depending on how close they are to an undersea earthquake's epicentre.[28] Earthquakes and flash floods give little or no notice of their onset, meaning that evacuations take place during or after their initial impact. In contrast, early warnings of volcanic activity often allow people to evacuate under less time pressure, but the exact moment of an eruption is difficult to predict. This may mean that evacuees are displaced for weeks, or that they are allowed to return only to be evacuated again at a later date.

Periods of heavy seasonal rainfall and riverine and storm-related floods often affect heavily populated low-lying and coastal areas. As they evolve, they may prompt successive waves of evacuations over weeks and months, which also makes it difficult to distinguish between one disaster and the next. We identified examples of all these dynamics among the displacements reported in 2014, the largest of which in both absolute and relative terms are discussed in section four.

question. The human exploitation and mismanagement of the planet's natural resources is an important factor in many disasters. The decision to dam or divert water in response to heavy rainfall and flood risk may have immediate impacts on displacement, for example. In slowly developing and long-lasting situations, it is less likely that a specific hazard can be singled out as the main driver of displacement (see Afghanistan spotlight in section four). Models developed by IDMC and Climate Interactive also show that the frequency of drought in the Horn of Africa is a less significant factor in undermining pastoralists' livelihoods and driving their displacement than other issues, such as changes in government policy.[20] Emphasising the natural aspect of hazards distracts from the role of human activity in the disasters and displacement they cause.[21] As such, an over-emphasis on hazards themselves can be politically, practically and methodologically problematic.

At the same time, anthropogenic climate change is expected to increase the intensity and frequency of certain weather-related hazards and the vulnerability of some populations as their land and livelihoods become uninhabitable.[22] The best scientific knowledge available makes clear the urgency of action to both mitigate global warming and adapt to its human impacts, including displacement.[23]

The complex relationship between slow-onset hazards and displacement associated with climate change is discussed further in box 2.1.

Patterns of movement

Following their initial displacement, people's trajectories are often complex, a fact seen at both the individual and community level, and within and among households. It is not unusual for displaced people to move a number of times, whether in response to threats or opportunities that arise over time as they seek to end the insecurity and uncertainty of their displacement and re-establish their homes and livelihoods. The ability to move to where assistance is available may indicate resilience. Governments and humanitarian organisations may relocate people from initial shelter sites or evacuation centres to more secure shelter when it becomes clearer that displacement is likely to last longer than expected.

Movements in response to new threats to their safety and security in their places of refuge, however, may constitute secondary displacement. Threats may include exposure to further natural hazards as a camp becomes flooded, for example, or through exposure to gender-based violence or forced eviction. Chronic displacement, whether long-lasting, in repeated cycles or both, undermines people's resilience and makes them more vulnerable over time.[29]

Repeated and frequent displacement

Repeated cycles of displacement are frequently observed in countries and areas exposed to natural hazards (see maps in section 3 for example). Contrary to common assumptions, the early return of people to their homes does not necessarily indicate the end of their displacement. If recovery is beyond the means of displaced families and the risk of further disaster and displacement is not reduced, it does not constitute a safe and sustainable solution.

Long-lasting and protracted displacement

Long-lasting and protracted displacement following disasters, especially rapid-onset disasters, is more prevalent than commonly assumed[30] as shown by evidence presented in section 5 and annex C of this report. At the same time, the global data presented in this report does not follow the hundreds of new displacements identified each year to track how long people remain displaced for, what their needs are during displacement nor what obstacles they face to achieving durable solutions. Knowledge about the duration of displacement following disasters is ad hoc and unconsolidated, as is more detailed identification and analysis of cases of particular concern.[31] This constitutes an important gap that we have started to address more systematically as discussed in section 5.

Definitions of protracted displacement vary across different organisations and perspectives and depend on the purpose and context in which the term is applied. They commonly include an element of time as well as a notion of limbo or uncertainty for people facing significant obstacles to achieving solutions to their displacement and for whom progress is slow or stalled.[32] The length of time that people remain displaced can vary greatly according to the specific context, and thresholds applied for the purpose of statistical analysis or research will tend to be arbitrary.[33] UNHCR data on displacement related to conflict applies the term to situations that have been ongoing for at least five years,[34] though it may be argued that many situations become protracted before that point. Length of time displaced is insufficient in itself as an indicator of the severity of the situation. For the purpose of the preliminary research presented in this report, we have used a temporal value to set the parameters of our analysis. The minimum duration of one year was applied as a timeframe commonly assumed for the emergency response phase following rapid-onset disaster, and within which displaced people are expected to have returned to their homes. This and other assumptions are also discussed in section 5.

Displacement in terms of distance moved

The distance people flee from their homes should not be taken as an indicator of the severity of people's situations while displaced. How far they move is determined by a variety of factors, including whether areas near their homes are safe and accessible, and best able to access assistance, be it from family and friends, the government or other providers.

Staying as close to their homes as possible is a common strategy that enables displaced people to maintain their social networks, protect their property and register their need for emergency assistance. It may also, however, be the result of a lack of better options or because physical, financial, social or political obstacles prevent them from moving further afield.[35] People in such situations are in essence both displaced and trapped,[36] and as such they should be among those included for humanitarian assistance and protection, particularly in the aftermath of a disaster that has caused significant destruction.

Internal and cross-border displacement

The vast majority of people who flee disasters remain within their country of residence. As set out in the Guiding Principles on Internal Displacement, they are described as internally displaced people (IDPs).[37] At the same time, in some regions substantial numbers of displaced people seek protection and assistance abroad.[38] The global data on which this report is based covers only the incidence of displacement, and not where displaced people flee to or where they eventually settle. As such, it does not allow us to quantify how many people may have crossed an international border during their displacement or how many settle abroad. Evidence gathered by the Nansen Initiative on cross-border displacement is strongest for people displaced across borders in Africa in relation to drought and floods, and in the Americas in relation to earthquakes and hurricanes in particular. Examples from Asia are more rare, though disasters and environmental degradation have been linked to people migrating abroad (see the case in section 5 from Bangladesh). Little evidence has been found of such displacement or migration from Europe.[39] As sea levels continue to rise it is expected that a significant portion of the populations of small island countries and low-lying countries with extensive coastlines will be forced to move abroad also.[40]

A durable solution to displacement is achieved a) when IDPs have found a settlement option through re-establishing their homes where they lived before the disaster, through integrating locally in the areas where they have been displaced to, or through relocating and integrating elsewhere in the country, b) when they no longer have specific assistance and protection needs linked to their displacement, and c) when they can exercise their human rights without discrimination.[41]

Whichever settlement option displaced people choose to pursue, they often face continuing problems and risks that require support beyond the acute phase of a disaster. Achieving a durable solution is a gradual and complex process that needs timely and coordinated efforts to address humanitarian, development and human rights concerns.

As such, an effective response to displacement requires IDPs' basic needs for immediate protection and assistance to be met in tandem with longer-term processes to ensure that solutions are durable. Such an approach should include measures that reduce the risk of further disaster and repeated displacement, wherever people choose and are able to settle.[42]

Further explanation of terms can be found in the methodological notes in annex A.

Mount Kelud's eruption in Indonesia displaced thousands and killed at least seven people. Photo: IRIN/ Contributor, February 2014

3 THE GLOBAL PICTURE

Scale, patterns and trends

Key findings and messages

Latest estimates

- More than **19.3 million people were displaced by disasters in 100 countries in 2014.**
- Since 2008, **an average of 26.4 million** people have been displaced by disasters each year - equivalent to **one person every second.**

Displacement by hazard type

- **17.5 million** people were displaced by disasters brought on by weather-related hazards in 2014, and **1.7 million** by geophysical hazards.
- An average of **22.5 million** people have been displaced each year by climate or weather-related disasters in the last seven years - equivalent to **62,000 people every day.**
- The largest increases in displacement are related to weather and climate-related hazards, and **floods** in particular.
- **Climate change,** in tandem with people's increasing exposure and vulnerability, is expected to magnify this trend, as extreme weather events become more frequent and intense in the coming decades.

Variance from year to year

- The significant fluctuation from year to year in the number of people forced to flee their homes by disasters is driven by **relatively infrequent but huge events** that displace millions of people at a time.

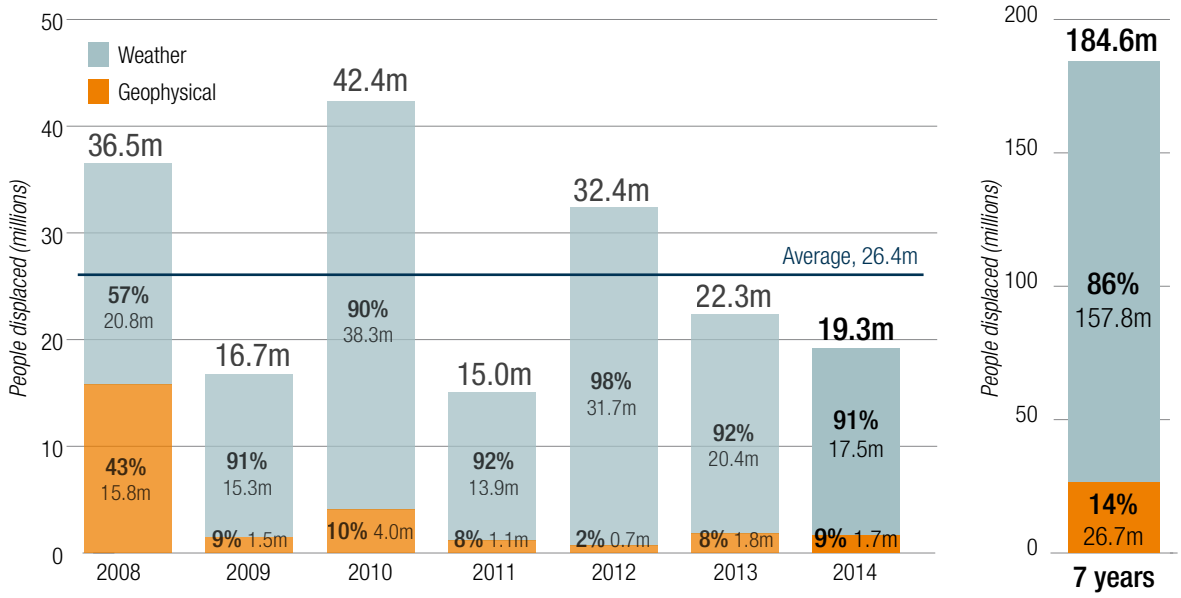
Displacement trend from 1970 to 2014

- Latest historical models suggest that even after adjusting for population growth, **the likelihood of being displaced by a disaster today is 60 per cent higher than it was four decades ago.**
- **1998 was a peak year for displacement,** which correlates with the strongest iteration of El Niño on record. Extreme weather events associated with it included hurricane Mitch, which devastated several countries in Central America.

Trends in exposure and vulnerability

- The occurrence of displacement closely mirrors people's exposure to hazards around the world. Exposure is increasing because **ever growing numbers of vulnerable people live in areas prone to hazards.**
- Two key drivers of exposure and vulnerability are **urban population growth in developing countries,** and **economic growth.**
- The urban population in developing countries has increased by 326 per cent since 1970. This rapid growth has for the most part been unplanned and poorly governed, leading to high exposure and vulnerability. **Middle-income countries bear the brunt of the phenomenon.**
- People in **low-income countries are more vulnerable still,** but relatively fewer people are exposed to hazards. That said, population projections suggest that exposure will increase in many low-income countries over the coming decades.
- The relatively low vulnerability of **high-income countries** does not mean that they are not affected. Around 1.8 million people were displaced in high-income countries in 2014, and this is explained by three factors:
  - » All countries are vulnerable to the most extreme hazards
  - » **Inequality within high-income countries makes displacement a particular concern for people less well off** and those subject to discrimination and marginalisation
  - » **Effective early warning systems and disaster responses save lives,** but increase displacement among survivors as a protective measure

Figure 3.1: The global scale of displacement caused by disasters, 2008 to 2014



Note: Differences in totals are due to rounding of figures to the nearest decimal point. Source: IDMC data as of 1 June 2015

3.1 The latest estimates

Disasters brought on by weather-related and geophysical hazards forced more than 19.3 million people to leave their homes in 2014 (see figure 3.1). This estimate is based on 695 new displacement events in 100 countries (see global map on the inside cover).

Since 2008, an average of 26.4 million people have been displaced by disasters each year - equivalent to one person displaced every second.

3.2 Displacement by type of hazard

In 2014, disasters associated with weather hazards, mostly floods and storms, displaced more than 17.5 million people, or 92 per cent of the global total. Storms were responsible for a higher than average share of total displacement (see figure 3.2). The Atlantic hurricane season was relatively quiet, but the Pacific produced the highest ever number of storms ranked category four or higher, and equalled the modern record for the number of storms overall in a single season.[1]

Most of the largest displacements in 2014 were associated with weather-related hazards. The three largest were caused by typhoons and floods in the Philippines and India (see table 3.1). Eight of the 20 largest disasters of the year were triggered by typhoons or tropical storms in Asia (see figure 4.4).

Since 2008, an average of 22.5 million people have been displaced by climate- or weather-related disasters. This is equivalent to 62,000 people every day.

Climate change, on top of increasing exposure and vulnerability, is expected to exacerbate this trend further as the intensity and frequency of extreme weather hazards increases in coming decades.[2]

Disasters related to geophysical hazards, primarily earthquakes and volcanic eruptions, displaced more than 1.7 million people, or nine per cent of the 2014 total (see figure 3.2). Between 2008 and 2014, only three of the 37 disasters to displace more than a million people were related to geophysical hazards - the 2008 Sichuan earthquake in China and the 2010 earthquakes in Haiti and Chile.

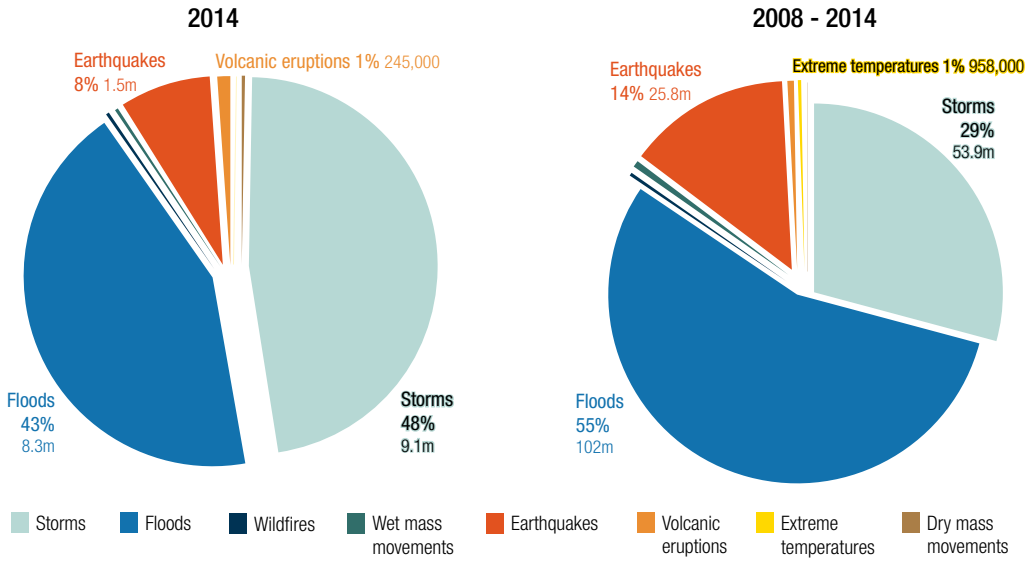
3.3 Variance from year to year

As can be seen in table 3.1, the total number of people displaced varies greatly from year to year, depending on the frequency and size of the largest disasters.

In 2014, 32 disasters displaced more than 100,000 people, of which three displaced more than a million. Together, those 32 accounted for 83 per cent of the total (see figure 3.3.b). This pattern was similar over the last seven-year period. In 2008-2014, 34 disasters that displaced more than a million people were responsible for two-thirds of the total (see table 3.1 and figure 3.3.a). Such large-scale events were less frequent and relatively smaller in 2014, making the total for the year lower than the average of 26.4 million over the seven-year period.

Displacements of fewer than 100,000 people made up 95.4 per cent of the events recorded in 2014, but only 17 per cent of the total number displaced (see figure 3.3b). A third of all events were very small, displacing fewer than 100 people each, and their contribution to the global total was negligible. At the same time, it should be noted that small events tend to be poorly reported in most countries and their true number is probably much higher.

Figure 3.2: Global displacement by type of hazard

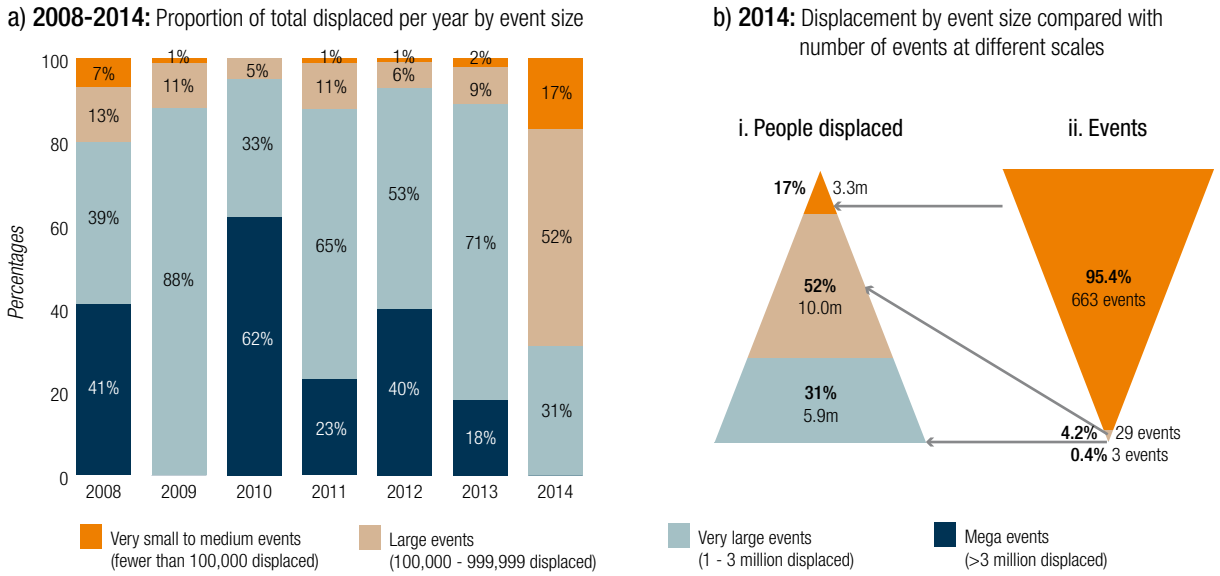


Note: figures rounded to nearest 1,000 or 100,000 Source: IDMC data as of 1 June 2015

Table 3.1: Annual variance in disasters displacing more than a million people, 2008 to 2014

Year	Very large and mega events	Displaced (millions)	Hazard	Country
2008	8	1.7 - 15.0	Earthquake, floods (4), storms (3)	China (2) India (3), Myanmar, Philippines, US
2009	3	1.6 - 2.5	Flood, cyclones (2)	China, India (2)
2010	7	1.0 - 15.2	Floods (5), earthquakes (2)	Chile, China, Colombia (2), Haiti, Pakistan, Thailand
2011	2	1.5 - 3.5	Floods (2)	China, Thailand
2012	8	1.4 - 6.9	Floods (5), storms (3)	China (2), India (2), Nigeria, Pakistan, Philippines (2)
2013	6	1.0 - 4.1	Floods (2), storms (4)	Bangladesh, China, India (2), Philippines (2)
2014	3	1.1 - 3.0	Storms (2), flood	India, Philippines (2)

Figure 3.3: Displacement by scale of event



Note: All percentages are rounded. Source: IDMC data as of 1 June 2015

3.4 Displacement trend from 1970 to 2014

IDMC has used probabilistic modelling to generate coarse-grained displacement estimates going back to 1970. We continue to develop the model, with a recent focus on increasing the size of our data sample for the calibration of the estimates.

The model is dependent on the quality and availability of global data. A number of important caveats should be kept in mind. Firstly, the sample sizes are too small to make inferences about individual countries. Secondly, extreme hazards occur relatively infrequently. Those that occur once every 100, 500 or 1,000 years are unlikely to be captured in four decades of data and by their very nature, they are hard to quantify.

Meanwhile, its latest iteration already provides a reasonable approximation of the general historical trend and some validation of expected displacement patterns that are also reflected in our data for 2008 to 2014 (see annex A.2).

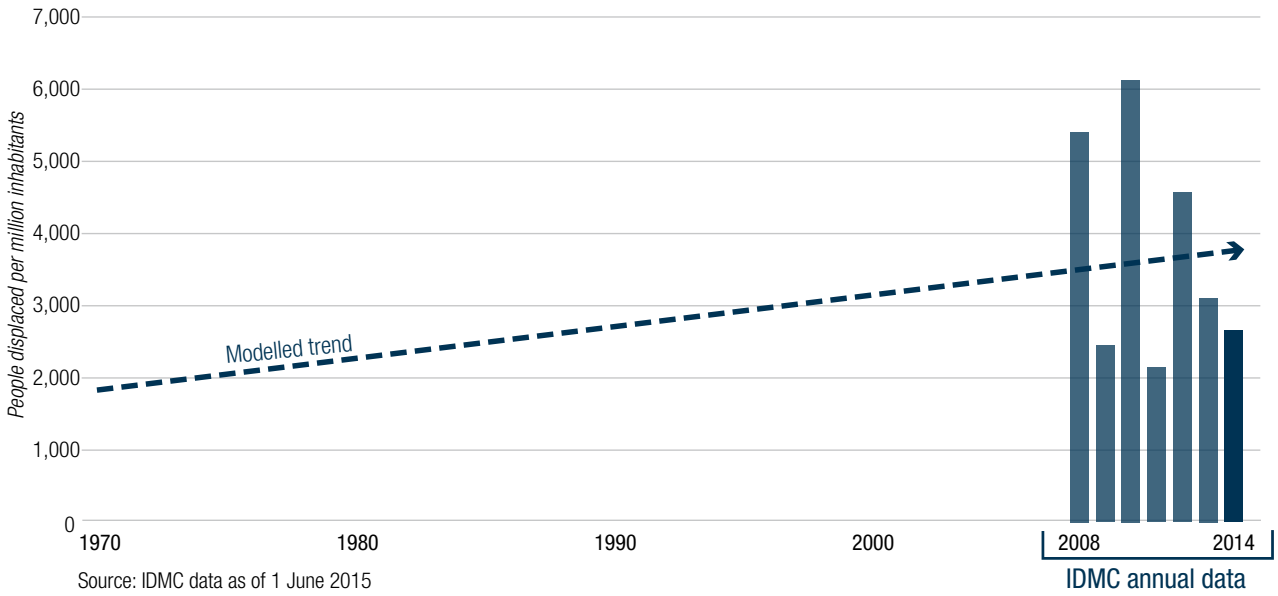
Latest findings show that the total number of people displaced in 2014, though lower than the average for the past seven years, is part of a longer-term upward trend in displacement since 1970.

Even adjusting for population growth, the average amount of displacement associated with disasters has increased by 60 per cent in a little over four decades. (see figure 3.4.a).[3]

This is driven mostly by the increasing concentration of people in exposed locations, combined with their growing vulnerability.[4] More frequent and intense extreme weather events associated with climate change are expected to accentuate the trend.[5]

Data behind the modelled trend also shows large variations year to year. This includes a peak in 1998, when almost twice as many people were displaced than in any other since 1970. This is further discussed in box 3.1.

Figure 3.4: Modelled global displacement trend for 1970 to 2014 (per million inhabitants)



Source: IDMC data as of 1 June 2015

Box 3.1: "Super" El Niño and displacement in 1998 - a year of extremes

This year, the planet has entered a new climatic period characterised by above average sea surface temperatures in the eastern and east-central Pacific Ocean. This natural phenomenon is known as the El Niño Southern Oscillation. It occurs at irregular intervals of two to seven years and lasts for nine months to two years, and it has a significant effect on patterns of extreme weather and climate-related disasters.[6] There is no consensus on how iterations of El Niño will change as the global climate warms, but studies suggest that they are becoming more intense.[7]

The strongest El Niño ever recorded occurred in 1997 and 1998.[8] It ended suddenly in the first half of 1998 and was followed by a period of below average sea surface temperatures known as La Niña.[9] Severe floods in Asia, an abnormally active tropical storm season in the Atlantic basin, hurricanes in Central America and the Caribbean and other events all caused major displacements (see table 3.2).

Table 3.2: Large displacement events in 1998

Country	Disaster	Number of people displaced
China	Summer floods across several wide areas, including the South-central Yangtze river basin	14 million[10]
India	June to August floods across 12 northern states	Eight million
Dominican Republic	Hurricane Georges, flooding and landslides	865,000[11]
Honduras	Hurricane Mitch, flooding and landslides	2.1 million[12]

The scale of displacement in the countries affected also had much to do with pre-existing patterns of development and disaster risk, and long-lasting displacement helped to increase this risk further in some cases. Honduras is a case in point.

In Honduras, more than 440,000 people lost their homes to hurricane Mitch, and a year later 20,000 were still living in shelters.[13] Hundreds of families did so for up to four years, and though information is scarce and patchy, a number of people were reported as still displaced ten years after Mitch struck.[14]

Some returned to their places of origin and rebuilt their homes using inadequate materials, continuing their exposure and vulnerability to future disasters. For others, return was not an option because of the extent of the devastation. Twenty-five communities whose villages were completely destroyed by land and mudslides relocated permanently elsewhere.[15]

The town of Morolica was one of the worst affected. A new town was built for its former residents five kilometres away, and seven per cent of the population relocated to urban areas or abroad.[16]

Mitch's impacts were made worse by decades of unsustainable development and land use, and the poor design and location of public and private infrastructure. Honduras did not have a legal framework for land-use planning and building regulations until 2002. Poor preparedness and early warning measures, and the government's inadequate responses to the disaster were also factors.

Half of the country's population was living in extreme poverty before Mitch struck, and for some their level of poverty increased in its aftermath.[17] Disasters have in the region also tend to increase food insecurity, and displaced families in Honduras suffered a serious nutritional crisis after the hurricane.[18]

In recognition of the country's high exposure to natural hazards and the links between environmental degradation, high poverty levels and increased vulnerability to disasters, the government has committed to strengthening existing legal and institutional frameworks to improve disaster risk management. The challenges to implementation, however, are great.

As a new El Niño episode continues in 2015, how many people will be displaced by weather-related disasters and where is unknown. It is not even certain that the phenomenon will play out as it has in the past. What is certain, however, is that there are now many more people living in hazard-prone areas around the world that may be affected. No matter how hazards manifest as a result of El Niño, changes in exposure and vulnerability have already increased the risk of disasters and displacement.

3.5 Trends in exposure and vulnerability

Displacement patterns are determined by countries' exposure and vulnerability to natural hazards. Hazard patterns at the global level have not changed significantly over the relatively short period covered by our displacement data, but exposure and vulnerability are constantly shifting.

Population growth in hazard-prone areas, particularly urban centres in developing countries

Significantly more people are exposed to hazards and affected by disasters today than in 1970, and more people are becoming displaced as a result. The primary reason for these increases is that more vulnerable people are living in areas prone to hazards than ever before.

Population exposure data indicates how many people reside in areas that have historically experienced floods, storms, landslides, earthquakes or other hazards. Global exposure data is shown on map 3.1 below. As will be seen in section 4, the distribution of displacement closely mirrors population exposure.

This data indicates how many people are exposed at a particular point in time, but it does not explain how things came to be the way they are. For that we need to understand the processes and historical factors that drive exposure, including economic and population growth, particularly in urban areas.

As shown in table 3.3, the global population has grown by 96 per cent since 1970. Urban populations have grown twice as fast (187 per cent increase) and the growth rate of urban populations in developing countries has grown faster still (326 per cent increase). In Haiti, Niger, Nigeria and South Sudan, for example, the urban population has more than doubled since 2000.

Most modern urban centres were founded centuries ago based on considerations of defence, agricultural viability and transport. These factors drove humans to settle in areas prone to hazards, along coasts and rivers, on flood plains and in seismically active areas. When urban growth in such areas is well managed, the risk of displacement may increase only modestly. In many developing countries, however, urban growth has been rapid, unplanned and poorly governed, leading to high exposure and vulnerability.

Map 3.1: Global population exposure to natural hazards

Note: The UN International Strategy for Disaster Risk Reduction (UNISDR) exposure data refers to the population as of July 2011 with a resolution of 30" (approx. 1 km at equator), which has been adjusted to match with UN official data using World Population Prospects. Source: UNISDR 2015

Table 3.3: Global population trends	1970	2014	Percentage increase
World population	3.7 billion	7.24 billion	96%
Urban population	1.35 billion	3.88 billion	187%
Urban population in developing countries	0.68 billion	2.9 billion	326%

Source: UN Department of Economic and Social Affairs, 2014

While more resilient families may be able to manage their exposure to less intense hazards such as seasonal floods or small earthquakes, these events can be a significant burden for the poorest families who have few resources to prepare for and recover from them and prevent their recurrence. For example, large numbers of people in the Philippines, India, Nigeria and other countries live in coastal or riverine floodplains.

Settlement in these areas is due to their close proximity to livelihood opportunities and the lack of available land in safer areas. In this precarious situation, they are exposed and vulnerable to frequent flooding and, due to the lack of viable alternatives, often choose to return to the same area after having been displaced during a disaster. Their situation becomes even more acute when displacement is repeated and frequent, potentially trapping them in a cycle of chronic poverty and disaster risk.[19]

Economic growth

Developing countries accounted for 91 per cent of global displacement in 2014 and 95 per cent over the seven-year period (see figure 3.5). Among developing countries, the link between economic development and displacement is underscored by the fact that most displacement occurs in middle-income rather than low-income countries. Lower middle-income countries make up 36 per cent of the world's population, but accounted for 61 per cent of displacement in 2014 and 46.8 per cent between 2008 and 2014. Low-income countries were also significantly affected, with around 1.4 million people displaced in 2014 and 16.7 million people between 2008 and 2014 (see figure 3.5).

Figure 3.6 shows that displacement levels between 2008-2014 have been particularly high in middle-income countries in east Asia and the Pacific and south Asia. A similar pattern emerges when it is viewed relative to countries' HDI rankings. Most displacement takes place in countries in the third and fourth quintiles, and comparatively little in those with the highest and lowest levels of human development (see figure 3.7).

Exposure has increased more quickly than vulnerability has been reduced. The urban population boom in middle-income countries means that rapidly increasing numbers of people are exposed to hazards, and many of them remain vulnerable. A roughly equal number of people in Japan and the Philippines are exposed to typhoons, for example. However, as this report has shown, the Philippines experiences much higher levels of displacement because its exposed population is more vulnerable to this hazard.

People in low-income countries are more vulnerable still and relatively less exposed. They account for less of the global population and have not yet seen the rates of growth of middle-income countries. That said, population projections suggest that exposure will increase in many low-income countries over the coming decades, particularly in Africa.

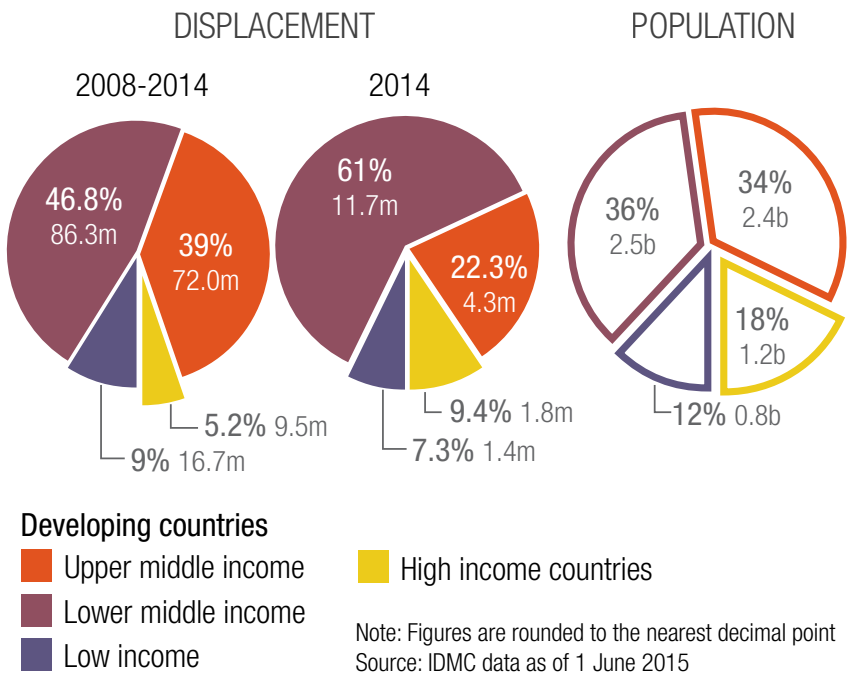
Japan and high-income countries in Europe and North America all have large populations exposed to hazards but relatively low levels of displacement. Nevertheless, some high-income countries have significant absolute levels of displacement, with 1.8 million people displaced in 2014 (see figure 3.5).

There are several reasons that high-income countries experience displacement. First, low vulnerability does not mean that these countries are not affected by hazards - particularly large ones such as major tsunamis, category 5 cyclones and severe earthquakes.

Inequality within high-income countries also makes displacement a particular concern for people less well off and those subject to discrimination and marginalisation. Examples include people still displaced in the US following superstorm Sandy in 2009 and others still displaced since 2011 by the flood disaster in Canada (see section five on protracted displacement situations).

Lastly, in high-income countries, effective live-saving early warning systems and disaster response result in fewer disaster fatalities but increase the number of survivors who are displaced as a consequence. The case of Chile's response to the Iquique earthquake and tsunami warning in 2014 is a case in point, as further discussed in section four).

Figure 3.5: Global displacement and population by World Bank income group



Note: Figures are rounded to the nearest decimal point
Source: IDMC data as of 1 June 2015

Figure 3.6: Displacement by World Bank regions and income groups, 2008 to 2014

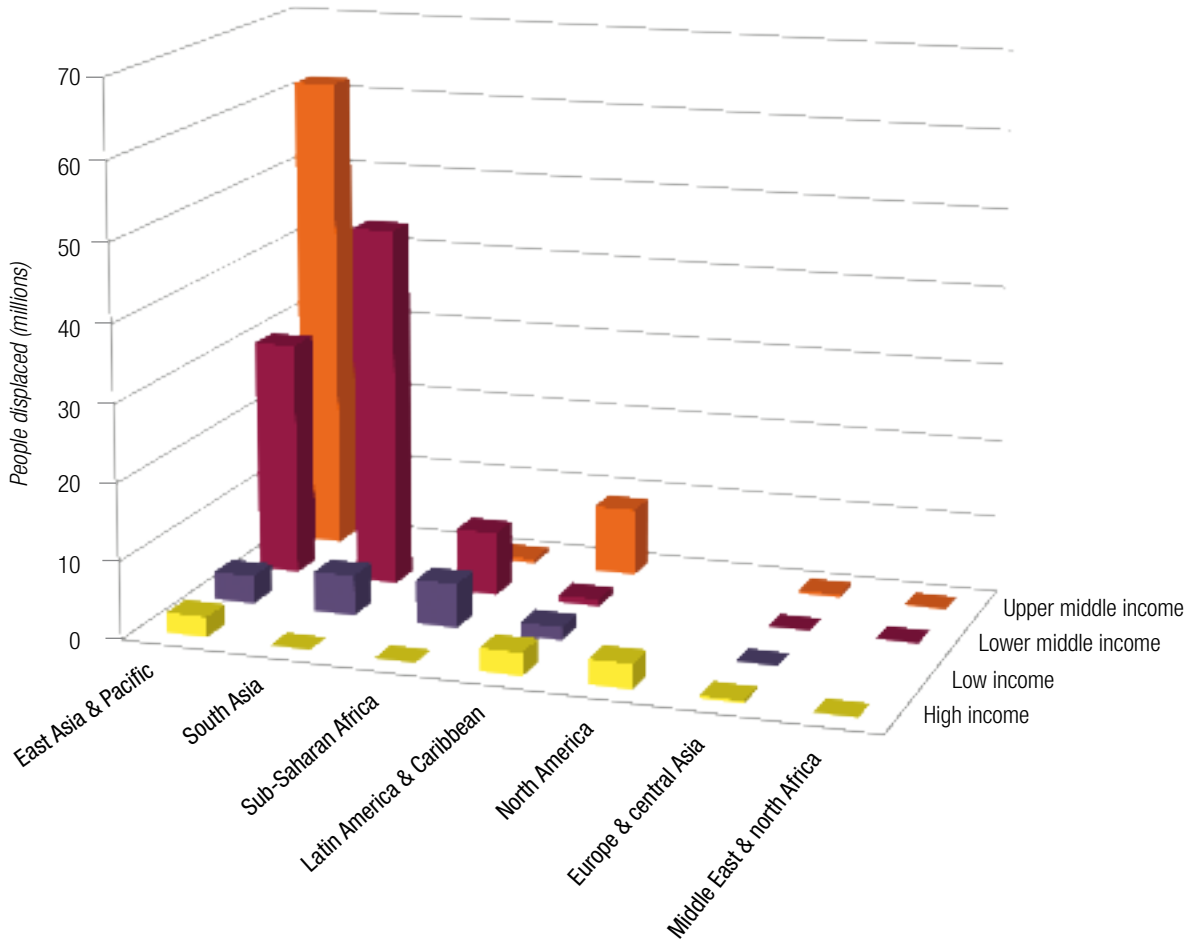
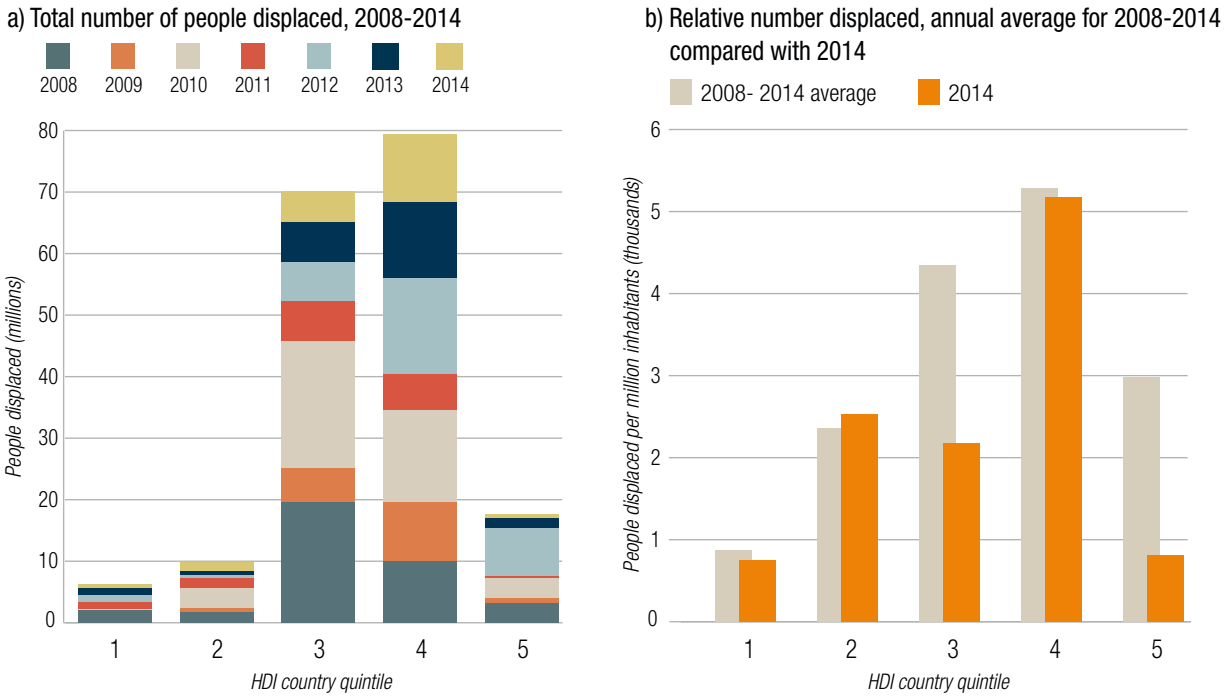


Figure 3.7: Displacement in countries grouped by Human Development Index values



Note: Quintile 1 represents countries with the highest levels of human development. Source: UNDP, Human Development Report 2014; IDMC data as of 1 June 2015

A woman stands next to a destroyed hut following Cyclone Hudhud's devastating impact in India during October 2014. Photo (cropped): All Hands Volunteers, November 2014, https://flic.kr/p/pU64Y1

4 GEOGRAPHICAL DISTRIBUTION AND THE BIGGEST EVENTS

Key findings and messages

Displacement by region and country

- **Asia** is home to 60 per cent of the world's population, **but accounted for 87 per cent of the people displaced by disasters worldwide** in 2014. **16.7 million** people were forced to flee their homes in the region.
  - » **Eleven of the 20 countries worst affected** by displacement over the last seven years are in Asia.
- **Europe** experienced **double its average** level of displacement for the past seven years in 2014, with 190,000 people displaced, most of them by flooding in the Balkans.
- Displacement in **Africa** was **three times lower than average** in 2014 in absolute terms, but many African countries experienced high levels relative to their population size.
  - » The highest level of displacement in relative terms in 2014 was in **Sudan**, where rainy season floods displaced 159,000 people.
- In **Chile**, one of the largest displacements of the year highlighted the benefit of investment in disaster prevention and preparedness. Around 970,000 people fled low-lying coastal areas in response to an 8.2 magnitude offshore earthquake and tsunami warning in April. Most people were able to return home the following day.
- **Developing countries are consistently the worst affected**, with almost 175 million people displaced since 2008, accounting for 95 per cent of the global total. The figure for 2014 was 17.4 million, or 91 per cent of the global total.

The big three: China, India and the Philippines

- China, India and the Philippines experienced the **highest levels of displacement in absolute terms**, both in 2014 and for the 2008 to 2014 period.
- Disasters related to floods, storms, earthquakes and volcanic eruptions in the three countries accounted for **15 of the 20 largest displacements** in 2014.
- **Multiple and repeated displacements** in the same parts of the three countries point to areas of particularly high exposure and vulnerability.
- The **Philippines** was among the three worst-affected countries **in relative and absolute terms**, both in 2014 and over the 2008 to 2014 period.
- Large-scale evacuations prompted by two category-three **typhoons in the Philippines** caused the largest displacements worldwide for the second year running in 2014.

Small but significant: impacts on small island developing states (SIDS)

- Their populations are relatively small, but **SIDS are disproportionately affected** by displacement associated with floods, storms and earthquakes.
- Between 2008 and 2014, they experienced levels **three times higher than the global average, relative to their population sizes.**
- Twelve per cent of the countries where we recorded displacement related to disasters in 2014 were SIDS, of which five were among the 20 worst-affected countries worldwide in relative terms.
- **Cyclone Ian in Tonga** caused the second largest displacement worldwide in relative terms in 2014. Only 5,300 people were forced to flee their homes, but they accounted for five per cent of the island's population.
- **Haiti and Cuba** have had the highest levels of displacement among SIDS over the past seven years in both relative and absolute terms, caused by earthquakes, floods and storms.

Multiple hazards in fragile and conflict-affected states

- A **complex mix of overlapping hazards** contribute to displacement and determine patterns of movement and needs in fragile and conflict-affected countries. This makes an integrated analysis particularly important as the basis for policymaking and planning.
- **Countries significantly affected by displacement related to both conflict and natural hazards in 2014 included India, Pakistan, the Philippines, South Sudan and Sudan.**
- All fragile and conflict-affected states, as defined by the World Bank, experienced displacement associated with natural hazards between 2008 and 2014. **More than 750,000 people were displaced by disasters in these countries in 2014 alone.**

4.1 Regions

As in previous years, Asia was worst affected by displacement associated with disasters in 2014. An estimated 16.7 million people were forced to flee their homes, accounting for 87 per cent of the global total (see figure 4.1). The region was also disproportionately affected relative to its population size.

Displacement in Europe accounted for less than one per cent of the global total in 2014, with 190,000 people displaced. The figure was roughly double the annual average for the region since 2008, the result largely of severe flooding in the Balkans.

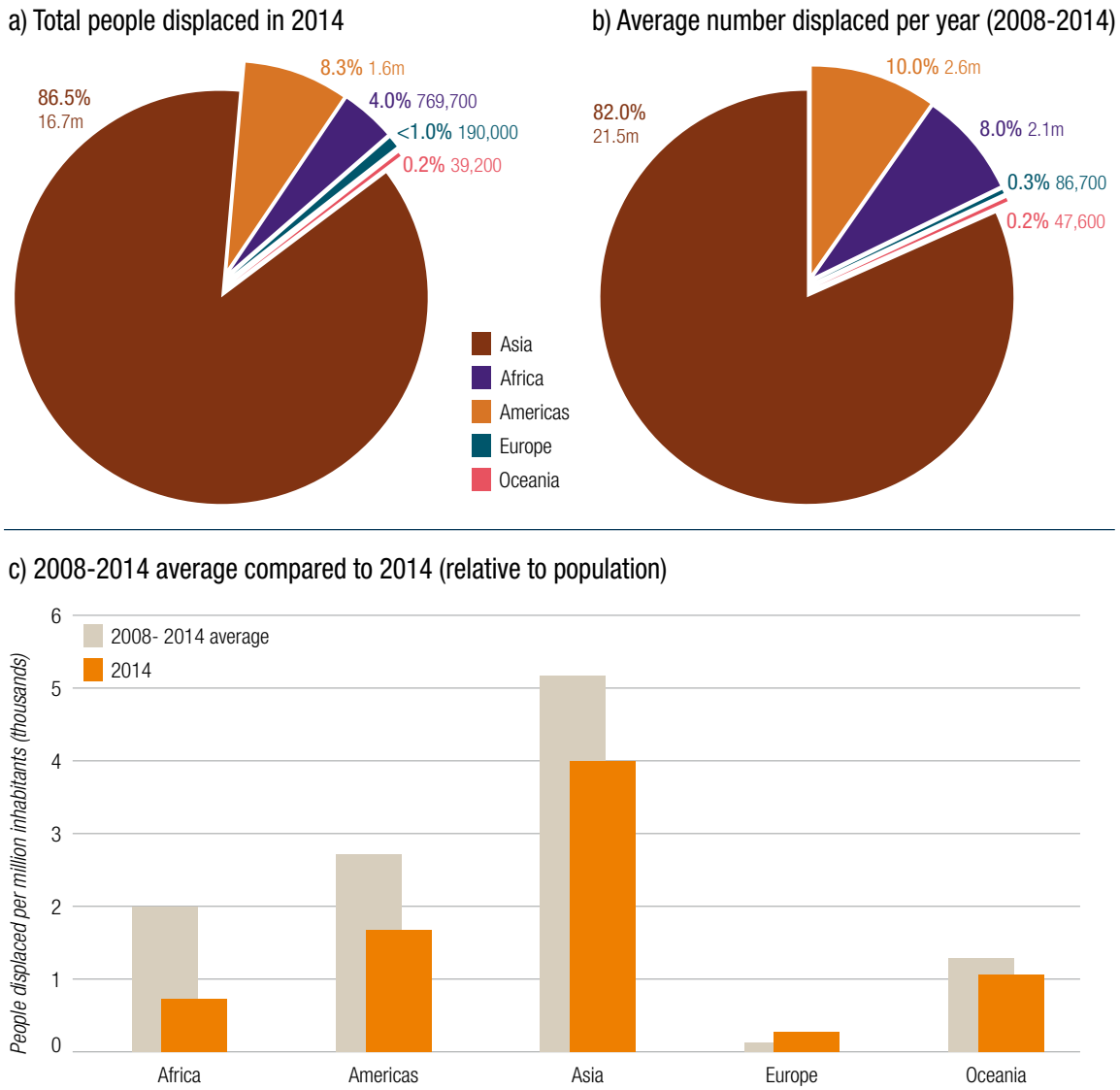
In all other regions, displacement in 2014 was lower than the annual average between 2008 and 2014. In Africa the figure was almost three time lower, with 769,700 people displaced, or four per cent of the global total.

An estimated 1.6 million people fled their homes in the Americas, accounting for 8.3 per cent of the global total, but the region had the second highest displacement level in relative terms. In Oceania, 39,200 people were displaced, accounting for less than one per cent of the global total, but the region's displacement level was higher than in Africa and Europe in relative terms (see figure 4.1).

That regional figures for 2014 should be well above or below the 2008-2014 average is unsurprising. Figures are influenced significantly by large and mega-events that happen relatively infrequently. Given that some of these events only occur once in 500 years, a seven-year sample is tiny and not necessarily representative.

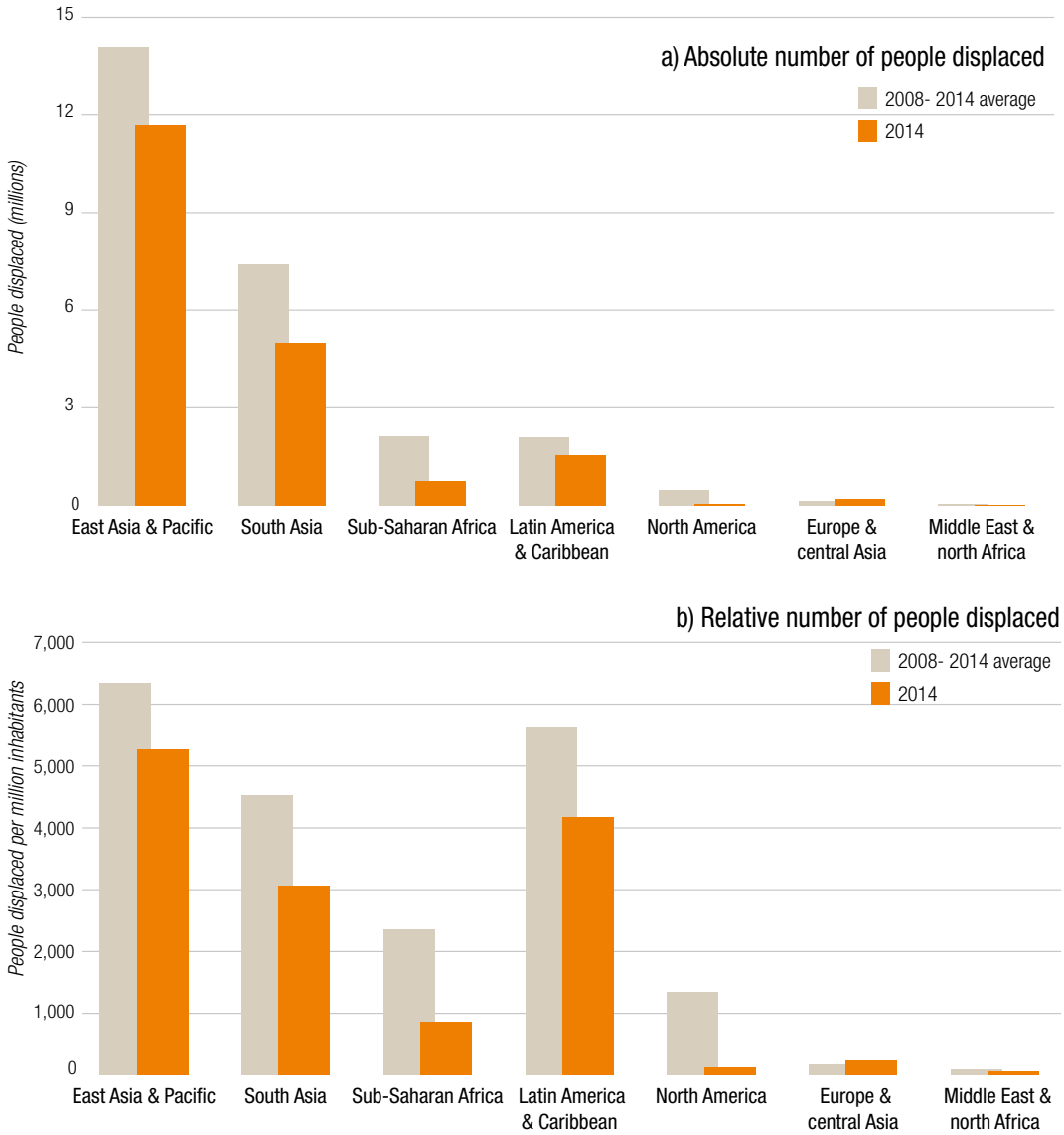
World Bank definitions for geographic regions provide an alternative view of the global distribution of displacement associated with disasters. East Asia and the Pacific stands out as the region with the highest displacement levels in relative terms. South Asia, while still comparatively high in absolute terms, is less than half the figure for East Asia and the Pacific. Relative to population size, the displacement level in Latin America and the Caribbean is much more prominent (see figure 4.2).

Figure 4.1: Displacement by macro-region, 2014 and 2008-2014



Note: Percentages are rounded to the nearest one decimal place Source: IDMC estimates as of 1 June 2015

Figure 4.2: Displacement by region, as defined by the World Bank



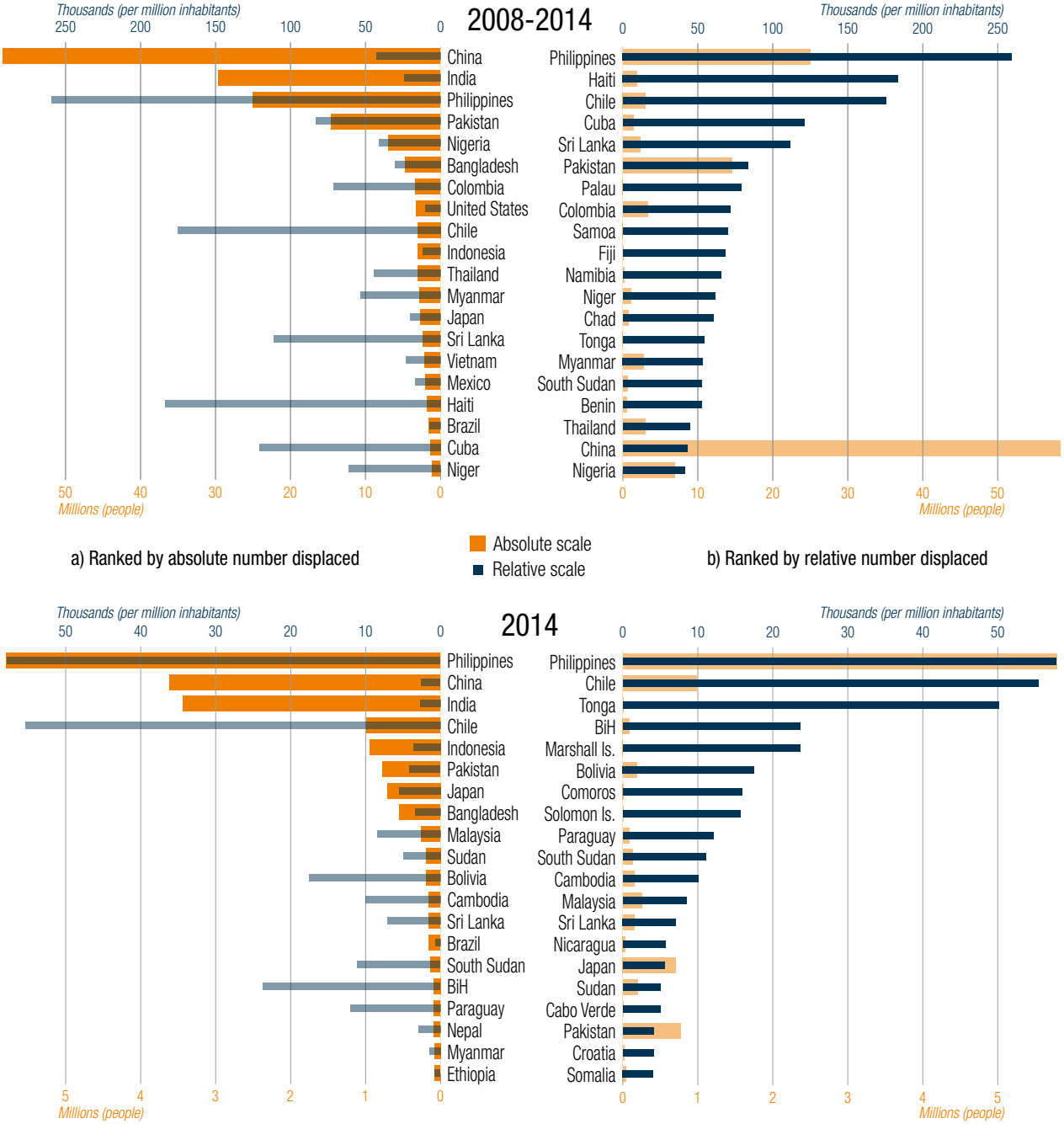
Source: IDMC data as of 1 June 2015

4.2 Countries

The number of people displaced by country varies significantly between and within regions. Eleven of the 20 countries with the highest numbers of people displaced in the period 2008-2014 were in Asia, with country totals ranging from two million to 58 million. The remainder include six countries in the Americas, including the US, as well as Nigeria and Niger in Africa (see figure 4.3.a).

Only three African countries – Ethiopia, South Sudan and Sudan – were among the 20 worst affected in absolute terms in 2014. The region features more prominently when displacement is measured in relative terms, accounting for five of the 20 worst affected countries in 2014 and six between 2008 and 2014. Unusually, seasonal floods in Sudan, one of the world's poorest and conflict-affected countries, was the only event in a continental African country to be ranked among the largest absolute and per capita displacements of 2014.

Figure 4.3 Countries with the highest levels of displacement, 2014 and 2008-2014



Source: IDMC Disaster-Induced Displacement Database as of 1 June 2015

SPOTLIGHT

BOSNIA AND HERZEGOVINA

Doubly displaced by conflict and disaster

In May 2014, Bosnia and Herzegovina (BiH) suffered its heaviest recorded rainfall in 120 years. The Bosna, Drina, Una, Sava, Sana and Vrbas rivers and their tributaries burst their banks, and the deluge also caused a series of landslides. Around 90,000 people were displaced, and 45,000 homes in around 80 municipalities were damaged or destroyed.[2] Further flooding and landslides hit many of the same areas in August 2014, displacing some people for a second time.[3] More than 40,000 sought refuge in temporary accommodation. More than 70 per cent of the areas affected had previously been laid with landmines, some of which shifted, and animal carcasses and heavy metals from industrial sites contaminated the water supply.[4]

In a display of neighbourly cooperation and support not seen since before the 1992 to 1995 war, volunteers from different communities across the country came to help clear the debris and dig out homes. Helicopters, boats, industrial water pumps and emergency personnel were brought in from other parts of the Balkans and beyond. In 2014, BiH and Serbia received more than $35 million in international funding, around four per cent of the $890 million pledged at a July 2014 donor conference following the first bout of flooding.[5]

Alongside the delivery of humanitarian and development assistance, reconstruction has taken disaster risk reduction guidelines into account. Housing risk assessments have been carried out, and measures to mitigate the effects of floods and landslides have been put in place.

Some of those displaced were particularly vulnerable, including IDPs and returnees who had fled their homes during the conflict, survivors of wartime sexual violence and people injured by landmines. Reliable estimates for each group are unavailable, but reports suggest that 700 homes belonging to "refugees" from the war were destroyed,[6] and that more than 1,500 people were evacuated from collective centres in Bijeljina and Doboj, which mainly house IDPs.[7]

The floods also displaced more than 1,000 families from BiH's Roma minority, the country's most disadvantaged group, which suffers serious discrimination.[8] There is no indication as to whether any of the Roma families had also been displaced during the conflict, but they were "particularly heavily hit" given their pre-existing socio-economic vulnerabilities.[9] Most if not all struggled to secure an income and decent housing even before the flooding and landslides.

A number of factors make IDPs who fled the 1990s conflict more vulnerable to secondary displacement triggered by disasters. Some have become less resilient over time, because they have not been eligible for government assistance. This is particularly true for Roma IDPs, many of whom lack the birth certificates and other identity documents needed to apply.[10] Given that most lived in informal settlements before the conflict, neither did they have the proof of tenure required to access property restitution or support with reconstruction. This made it harder for Roma to rebuild their lives compared to other IDPs.

The fact that the government and the international community prioritised IDPs' return to their places of origin after the war has also meant that those who did not wish to do so, and chose not to live in collective centres, have been offered less assistance.[11] In its absence, many of poorest among them have settled in hazard-prone areas. These are located in lowlands near riverbanks prone to flooding and on hillsides susceptible to landslides.

More than 75 per cent of all housing units built outside areas deemed residential by spatial plans and zoning regulations, both before and after the war, were constructed without permits and were not formally registered.[12] As a result, residents do not have property rights and face the threat of eviction.[13] The use of cheap construction materials and unskilled labour makes such buildings less resistant to natural hazards,[14] and may even have contributed to the 2014 landslides.[15]

In the aftermath of the floods and landslides, the process of selecting beneficiaries for housing assistance targeted people with legally registered homes. It did not expressly exclude those living in unregistered buildings, but focused on units that could be made legal. This also kick-started a broad legalisation process in which spatial plans were amended to incorporate renovated dwellings.

At the end of 2014, after issuing a public call for people whose property had been damaged or destroyed to come

forward, the municipalities of Pascima, Slavinovići, Solina and Simin Han transferred land ownership to 25 families without charge. Those with homes in areas prone to hazards were not eligible, however, leaving many IDPs who settled in such places after the war doubly displaced. In the absence of data on this group, there is no estimate of their number.

National responses to disasters in BiH tend to be fragmented and inadequate in terms of prevention. There is no national disaster risk reduction policy, and responsibilities and capacities are delegated to the entity, canton or municipality.[16] The absence of a state-level body responsible for the environment and water, and the existence of separate laws for the water sector in the Federation of Bosnia and Herzegovina and Republika Srpska, complicate the country's participation in multilateral environmental and water protection treaties and regional initiatives.[17]

Political rivalries also impede emergency responses and delay reconstruction. Deadlines for compliance with the EU flood directive - which includes risk assessments, mapping and the establishment of risk management plans - have been missed, and an action plan for the Sava river basin drawn up after flooding in 2010 was never implemented.[18] Many of the areas affected in 2010 were also the worst hit by the 2014 floods and landslides, and the government acknowledged at the end of 2014 that "the largest problem which caused flooding disasters in BiH [sic] lies exactly in illegal construction and inadequate infrastructure maintenance".[19]

The longstanding challenges inherent in assisting protracted and marginalised IDPs multiply when left unaddressed. Up-to-date disaggregated data on their needs, capacities and locations is crucial to identifying those most at risk and addressing their protection and assistance needs. The impact of the 2014 flooding and landslides shows how the failure to do so increases their socio-economic vulnerability, leading to their secondary displacement.

As such, the selection of beneficiaries for assistance should include multiple displacement as a criteria for vulnerability. Helping IDPs to achieve durable solutions would also improve their resilience to future hazards, and the simultaneous implementation of disaster preparedness and prevention measures would go a long way to ensuring that the trauma of displacement is not relived.

Bosnians wait for assistance, having been displaced by floods. Photo: EC/ECHO/EEAS/EU Delegation BiH, May 2014, https://flic.kr/p/nEELY9

Box 4.1 The Iquique earthquake and tsunami in Chile

The displacement associated with an 8.2 magnitude earthquake off the coast of Chile near the town of Iquique on 1 April was the only one of the 20 largest events of 2014 not to have occurred in Asia. Chile sits on the so-called Ring of Fire, an arc of fault lines and volcanoes circling the Pacific basin, and as such is prone to frequent earthquakes.

The Pacific Tsunami Warning Centre issued several alerts in Chile and other countries in the region, and continued to monitor sea levels as hundreds of aftershocks followed. Nearly one million people were evacuated from low-lying coastal areas, according to Chile's National Emergency Management Office.[20]

Iquique was struck by tsunami waves of up to 2.11 metres, fires and small landslides were reported and 13,000 homes, many of them adobe and masonry built, were damaged.[21] Considering the strength of the earthquake, however, the tsunami it triggered was relatively small and the overall damage caused relatively limited.[22] Most people were able to return to their homes the following day.[23]

The earthquake was Chile's largest since 2010, when one of magnitude 8.8 caused the destruction of around 220,000 homes. Preparedness and mitigation measures were improved after the 2010 disaster, and the early warning and response systems put in place appear to have worked well for the Iquique earthquake. The measures include the sharing of information among countries at risk.[24]

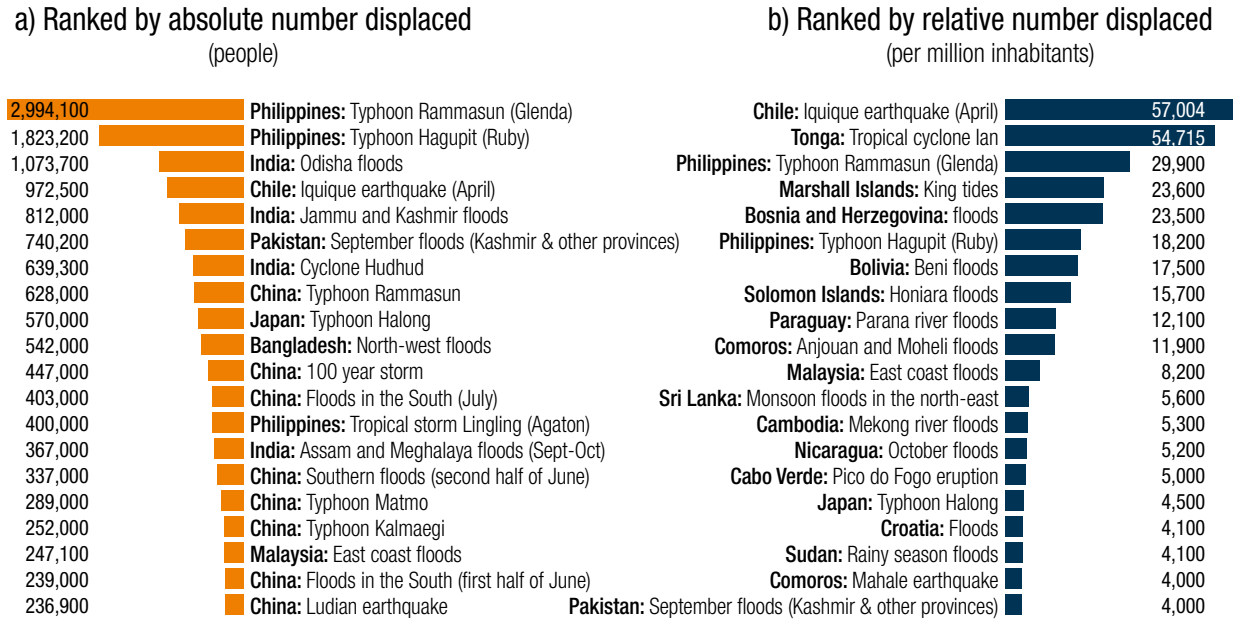
Emergency drills have helped to prepare local populations living in exposed areas, and the evacuations that took place before and during the Iquique disaster were well-organised.[25] The extensive application of earthquake-resistant building standards also helped to contain risk.[26]

Seismologists suggest that an even larger megathrust earthquake will occur in northern Chile in the future, but they are unable to say when it is likely to be.[27] Meanwhile, investments in disaster risk reduction and preparedness remain a national priority along with continued regional cooperation in the operation of tsunami warning systems.[28]

4.3 Events

In figure 4.4, the largest displacements of 2014 are ranked in both absolute and relative terms to take differences in national population sizes into account. Mass displacements put enormous pressure on the capacities and resources of governments, local authorities and affected communities. The largest of the year are further discussed below.

Figure 4.4: The 20 largest displacement events of 2014



Source: IDMC estimates as of 1 June 2015

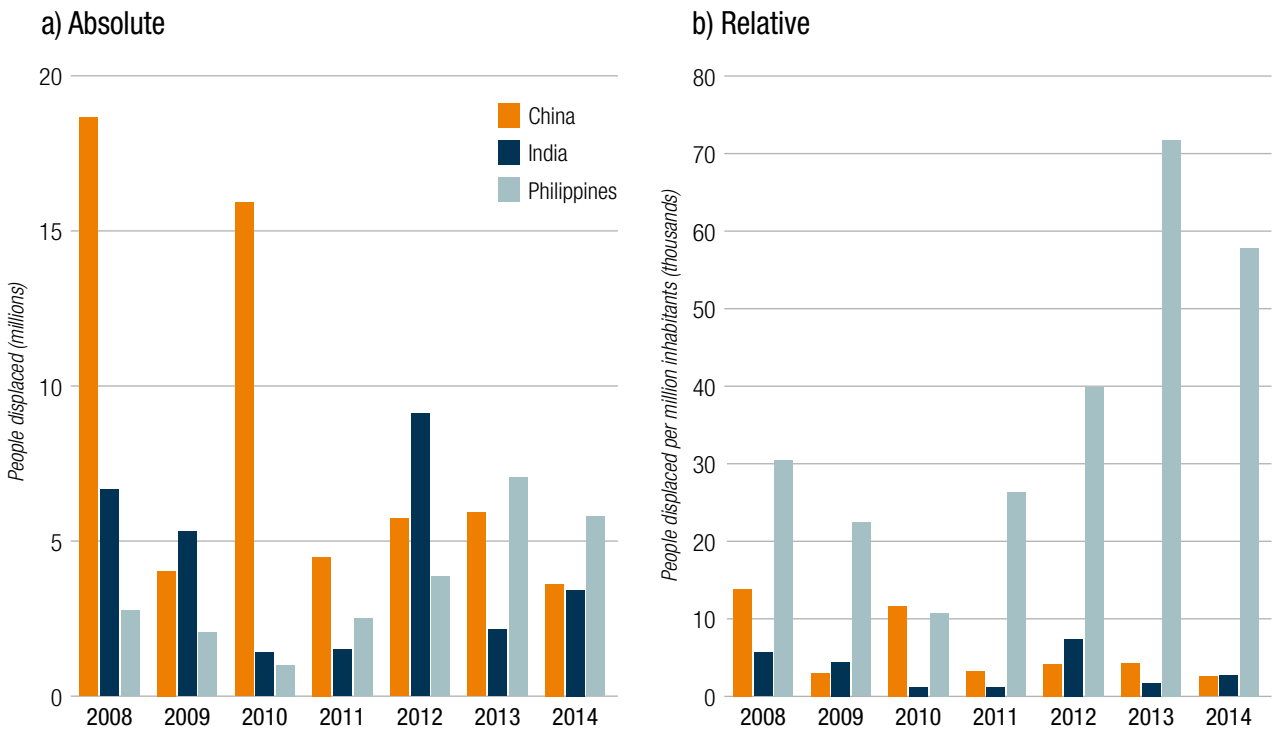
4.4 The big three: China, India and the Philippines

China, India and the Philippines are the worst affected countries worldwide in absolute terms and regularly see the largest displacement events. They suffered the highest displacement levels both in 2014 and across the 2008-2014 period and accounted for 15 of the 20 largest events in 2014 (see figure 4.4.a).

Relative to their population size, however, the scale of displacement in China and India is less significant than in the Philippines. Total displacement and single events in the Philippines have been among the largest in both absolute and relative terms over 2014 alone as well as the seven years since 2008 (see figure 4.5).

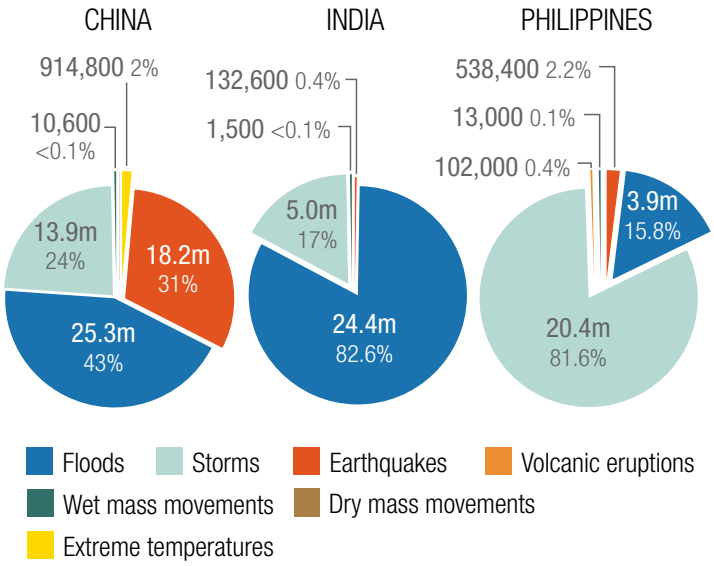
In keeping with the global and regional pattern, the figures for all three countries vary significantly from year to year (see figure 4.5). Each country is also exposed to a range of different hazards. In the Philippines, 81.6 per cent of displacement between 2008 and 2014 was triggered by storms, while in India 82.6 per cent was triggered by floods. Most of the displace-

Figure 4.5: Displacement in China, India and the Philippines, 2008 to 2014



Source: IDMC data as of 1 June 2015

Figure 4.6: Displacement by hazard type in China, India and the Philippines, 2008 to 2014



Note: Figures are rounded to the nearest 100 or 100,000
Source: IDMC Disaster-Induced Displacement Database as of 1 June 2015

ment in China was also associated with floods and storms, but earthquakes accounted for 31.2 per cent (see figure 4.6).

Repeated patterns of displacement and their impacts are also a key feature of each of these countries, where some provinces and regions are frequently affected (see maps 4.1, 4.2 and 4.3). In India and China, disasters tend to be more concentrated in specific regions. India experiences high levels of displacement along its east coast, where communities are exposed to tropical storms from the Bay of Bengal, and in the Ganges, Brahmaputra and Yamuna river basins in the north and north-east of the country (see map 4.3). China's southern provinces suffer widespread flooding each year during the monsoon season (see map 4.2). Disasters in the Philippines archipelago tend to be widely distributed across its different regions, affecting a large proportion of its population overall (see map 4.1). These patterns are further discussed below.

Typhoons in the Philippines: the largest displacements of the year again

As in 2013, disasters triggered by typhoons in the Philippines caused the two largest displacements of the year worldwide. Rammasun, known locally as Glenda, and Hagupit, known locally as Ruby, both made landfall as category three storms.[29] The severity of their impacts was very different, however, to typhoon Haiyan, known locally as Yolanda, which triggered a massive disaster in November 2013.

Rammasun made landfall twice, in Albay province on 15 July and Quezon province the following day, and displaced almost three million people overall. As many as 1.08 million took refuge in evacuation centres.[30] Just 106 lives were lost.

Hagupit made landfall on Samar island on 6 December, driving more than 1.8 million people into evacuation centres.[31] At least 716,000 people were evacuated preemptively[32] as the storm was forecast to become as strong as Typhoon Haiyan. It failed to intensify to that level however,[33] and many residents were able to return to their homes hours after the typhoon passed. Just 18 lives were lost.[34]

In each of these cases, evacuations were stepped up as a key measure to protect people in the typhoons' paths, including areas that had also been hit by Haiyan. Some provinces that are regularly exposed to typhoons, such as Albay, have developed strong capacities in disaster management over the past 20 years. "Evacuation rather than rescue" is emphasised by the local authorities.[35]

Recurrent displacement in the Philippines with long-lasting impacts

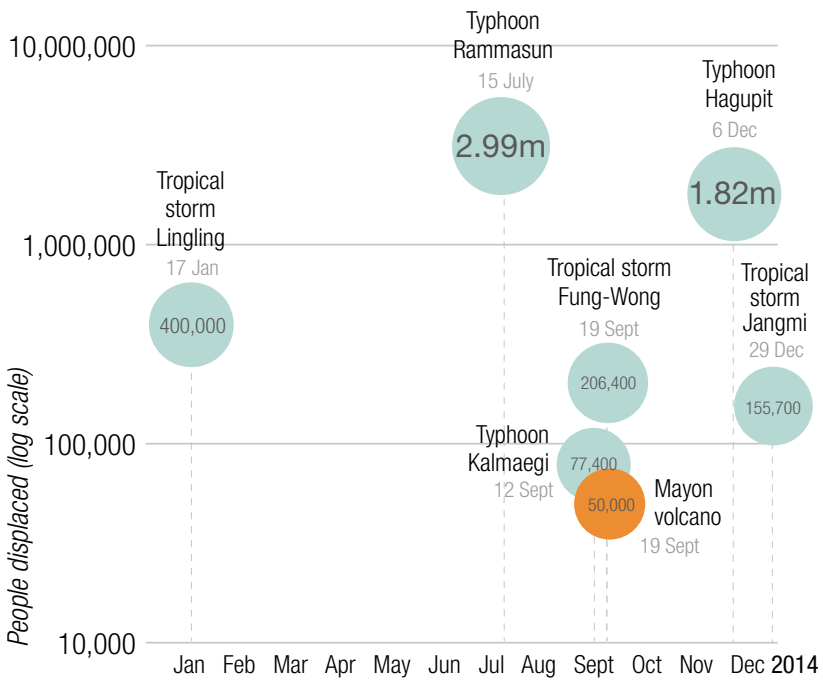
While evacuations are a necessary protective measure, the scale of displacement caused by the two 2014 typhoons relative to the population of the affected areas, and people's repeated exposure to disasters, cause huge disruption and put enormous strain on local communities and authorities. Some areas, including Eastern Visayas, Mimaropa, Bicol, Central Luzon, Calabarzon and the National Capital Region, were affected by both storms on top of Haiyan in 2013 (see the red areas in map 4.1). Thousands of people forced to flee their homes by Haiyan were still displaced in 2015 (see annex C).[36] The occurrence of multiple significant displacement events in quick succession also strain coping capacity (see figure 4.7).

Recurrent disasters and protracted displacement are of even greater concern when they occur in the poorest areas of a country, or areas also affected by conflict. Both are the case on the island of Mindanao, which includes nine of the ten least developed provinces in the Philippines.[37] It is also affected by armed conflict and clan-related violence. The government has been fighting insurgent groups on the island since the 1970s, and as of the end of 2014 there were 95,000 people displaced by conflict and violence.

As of March 2015, there were also 140,000 people still displaced following typhoon Bopha in December 2012. They live in temporary bunkhouses and tents in Davao Oriental, Compostela Valley and some parts of Caraga region (see annex C).[38] In 2014, Caraga was hit by three new disasters, including tropical storms Lingling and Jangmi, which each displaced 50,000 people or more.

Away from Mindanao, the regions of Bicol, Calabarzon and Mimaropa were hit by four such events (see map 4.1).

Figure 4.7: Philippines - Timeline of displacement events in 2014



Note: Shows events that displaced >50,000 people

Map 4.1: Philippines regions affected by disaster-related displacement in 2014

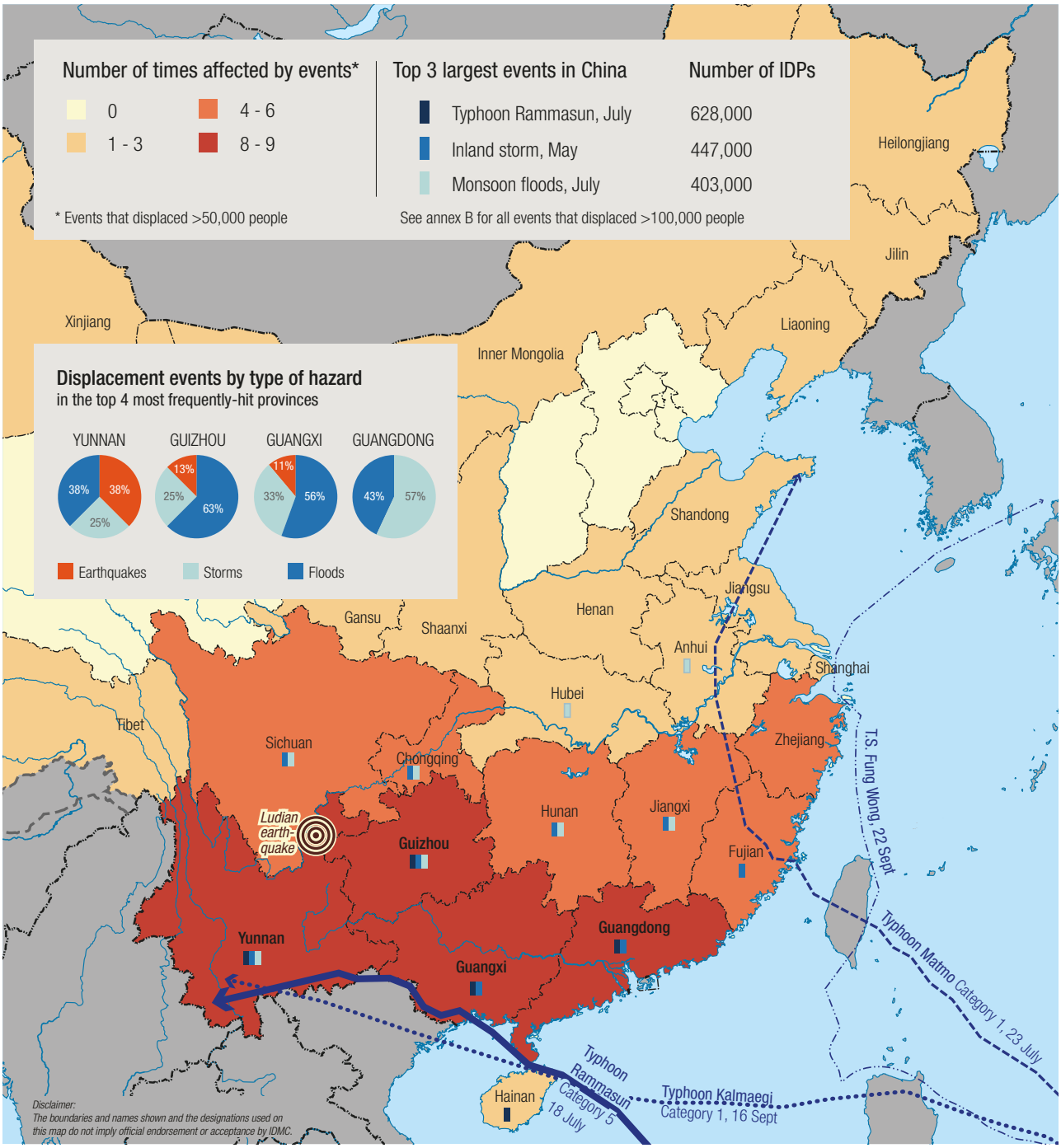
China's southern hotspots

Typhoon Rammasun left the Philippines and tracked across south-east Asia, leaving a trail of flooding and destruction in several other countries including China, where 628,000 people were forced to flee their homes. Typhoon Matmo also displaced more than 250,000 people in provinces along the east coast in July, and typhoon Kalmaegi a similar number in southern areas in September. Guangdong province was affected by both storms.

Floods associated with the monsoon season also displaced hundreds of thousands of people in China's southern provinces each year. In 2014, two major periods of flooding in the first and second half of June forced more than 600,000 people to flee their homes between them. A major earthquake also displaced around 236,000 people, most of them in Ludian county in the south-western province of Yunnan.

Many provinces were affected by a number of disasters during the year. Guangxi and Yunnan experienced nine events that displaced 50,000 people or more, and Guangdong and Guizhou eight events (see map 4.2). The most repeatedly affected provinces of Yunnan, Guizhou, Guangxi and Guangdong faced different kinds of hazards (see map 4.2).

Map 4.2: Chinese provinces affected by disaster-related displacement in 2014



Displacement caused by seasonal floods and cyclone Hudhud in India

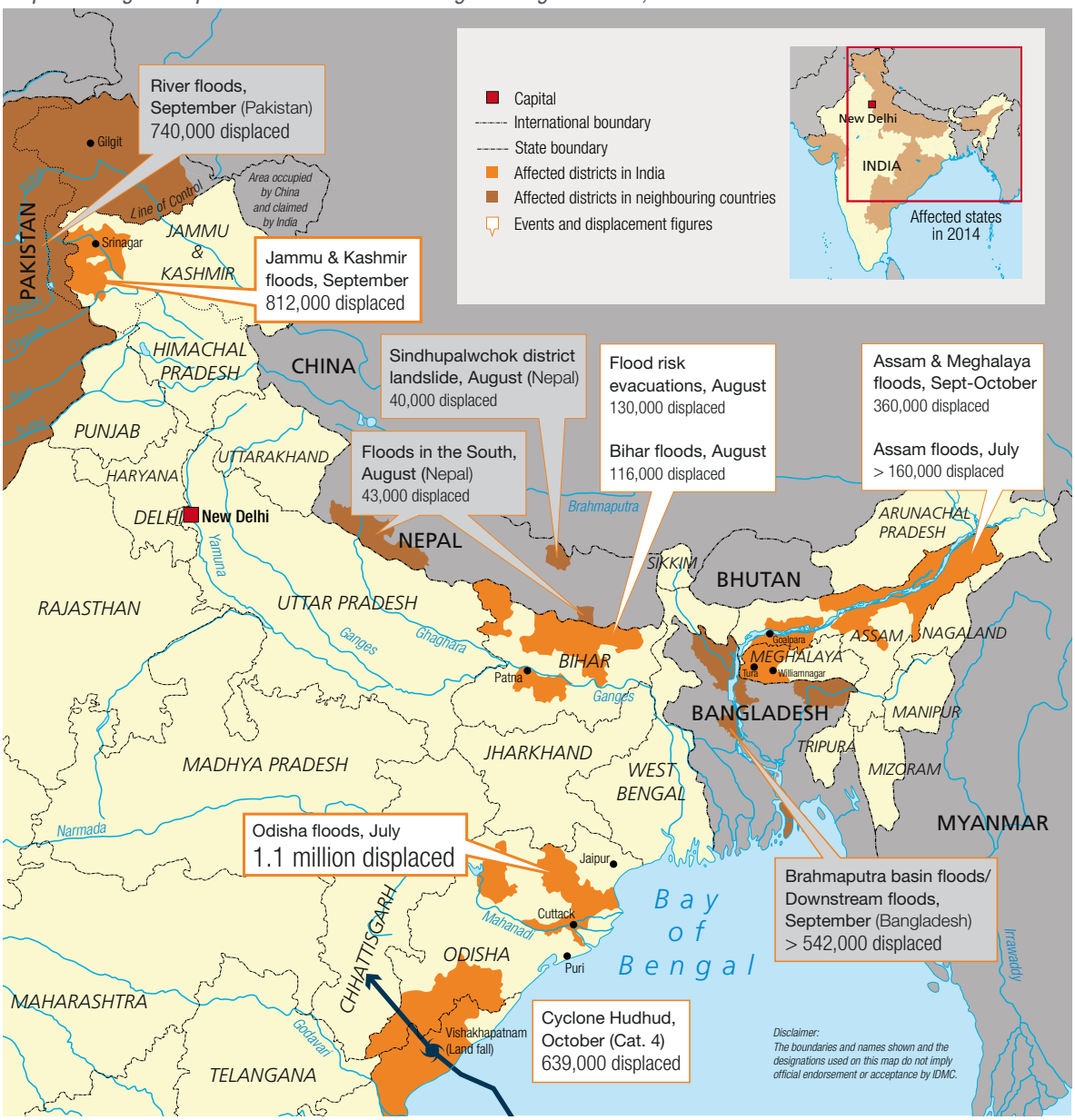
Northern and eastern India suffered a number of large-scale disasters caused by exceptionally heavy rains and riverine floods in 2014. In September, the worst floods to hit Jammu and Kashmir in 50 years displaced around 812,000 people in urban areas of the state. Across the contested line of control with Pakistan, hundreds of thousands more were displaced in Azad Kashmir.

India's prime minister, Narendra Modi, declared the disaster a national level crisis, but the government refused humanitarian access to the UN and international organisations other than the International Committee of the Red Cross.[39] When floods brought further widespread destruction to Jammu and Kashmir in March and April 2015, many people were still to receive the compensation promised by the government for losses they had incurred the previous September.[40]

In Assam, the fourth poorest state in the country,[41] floods in July were followed by worse flooding in September and October, which also affected the neighbouring state of Meghalaya. Some 367,000 people were displaced. Despite the regular occurrence of floods in this region, few long-term measures have been put in place to mitigate flooding in the Brahmaputra river basin.[42] The Inter-Agency Group of humanitarian NGOs in Assam also noted a relative lack of media reporting on the situation in Assam and Meghalaya, describing it as "a disaster of the poor" and comparing it with Jammu and Kashmir's "disaster of the middle-class".[43]

Further south in the state of Odisha, floodwaters engulfed vast areas of the Mahanadi river delta in July 2014 and displaced more than a million people. Mass evacuations from low-lying areas were undertaken. On 12 October, cyclone Hudhud made landfall near the eastern port city of Visakhapatnam in Andhra Pradesh as a category four storm, bringing widespread floods and landslides. It triggered

Map 4.3: Largest displacements in India and neighbouring countries, 2014



one of the most costly disasters of the year, causing losses of around $11 billion.

Learning from experiences ahead of cyclone Phailin almost exactly a year earlier, the Andhra Pradesh and Odisha state authorities increased their efforts to convince residents of coastal and hill communities that they should evacuate for their own safety ahead of Hudhud.[44] For thousands of people from the hill tribes, this was their first time to ever leave their home areas.[45] The evacuation of around 600,000 people can be credited with helping to minimise fatalities. When a huge storm hit the area 15 years earlier, 10,000 people were killed.[45] State officials put the death toll from Hudhud at 41 (see map 4.3).[46]

4.5 Small but significant: Impacts on small island developing states

SIDS are usually among the worst affected countries each year in relative terms because of their size, location and topography. Their mostly low-lying island populations tend to be exposed to a range of hazards, particularly cyclones, floods, landslides, earthquakes and tsunamis, and when a disaster occurs it can affect a large part of the country.

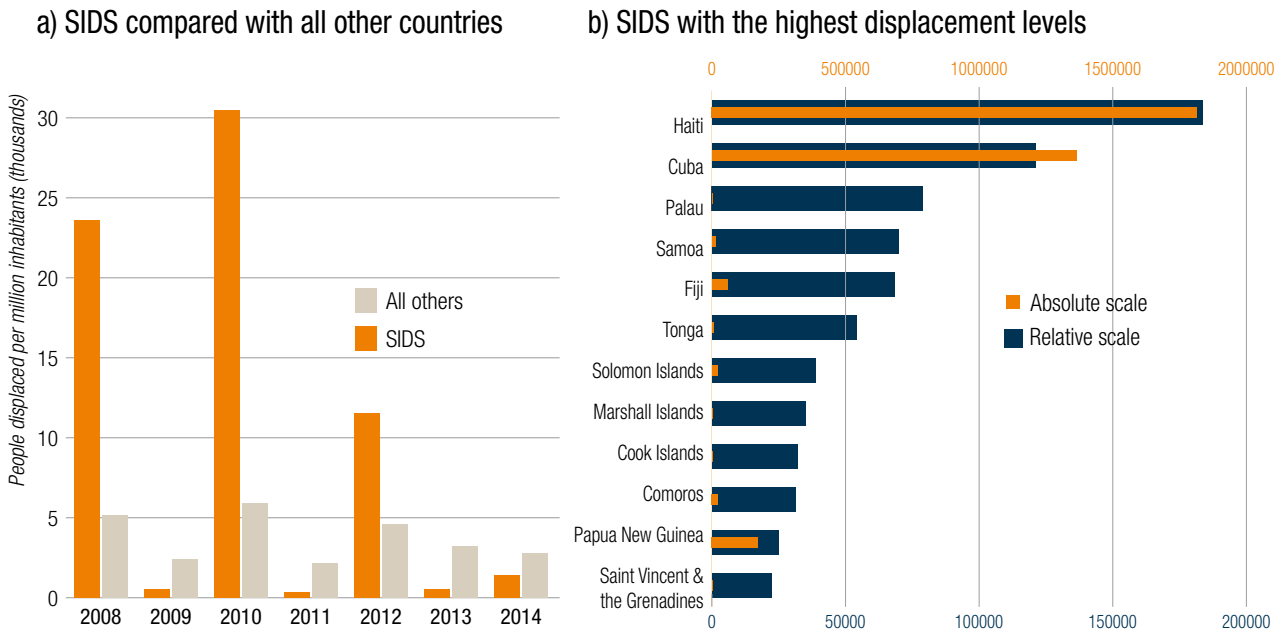
Over the last seven years, SIDS have experienced relative levels of displacement at around **three times the average for all countries** combined (see figure 4.8.a). **Haiti and Cuba** have had the highest levels of displacement among SIDS in both relative and absolute terms (see figure 4.8.b).

This pattern is also repeated in terms of the largest events of 2014 in relative terms. Four out of the 10 largest events took place in SIDS, including disasters in the Pacific triggered by cyclone Ian in Tonga, king tides in the Marshall Islands, floods in the Solomon Islands, and in the Comoros Islands off the east coast of Africa also brought on by floods (see figure 4.4.b).

Cyclone Ian, a category five storm, became the most powerful ever to hit Tonga and caused the second largest displacement of the year relative to population size. An estimated 5,300 people were forced to flee their homes, representing around five per cent of the island's population.[48] The government declared a state of emergency in Ha'apai and Vava'u on the day it made landfall. The Ha'apai island group suffered devastation across all sectors. Eighty per cent of its housing and many public facilities were damaged or destroyed.[49] Around 4,000 people took refuge in evacuation centres, most of them set up in churches.[50]

Two months after the storm, 300 families in Ha'apai were still living in tents.[51] Those in greatest need of housing assistance, as identified by the government and community, included households with older members and members who have disabilities, those with single or widowed parents, as well as large families and those with little access to remittances. Reconstruction is underway, but 14 months after Ian struck, more than 300 people were still waiting for their homes to be rebuilt (see annex C).[52]

Figure 4.8: Displacement in SIDS relative to population size, 2008 to 2014 (per million inhabitants)



Source: IDMC data as of 1 June 2015

4.6 Multiple hazards in fragile and conflict-affected states

Across the 33 countries the World Bank defines as fragile and conflict-affected,[53] 51 per cent of their populations or 500 million people live in poverty. According to the Organisation for Economic Cooperation and Development's definition, which takes in more countries, the figure is 43 per cent or 1.2 billion people.[54]

Natural hazards are a common and significant element of the complex landscape for exposed and vulnerable populations in such countries. All fragile and conflict-affected countries on the World Bank's list experienced displacement associated with natural hazards and disasters between 2008 and 2014. In 2014 alone, more than 750,000 people in 23 fragile and conflict-affected countries were displaced (see figure 4.9.a).

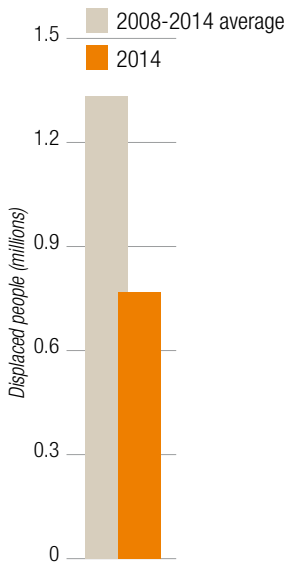
Given the complex mix of overlapping factors that cause displacement in fragile and conflict-affected countries, collecting and disaggregating data according to hazard type is particularly difficult. It is also potentially misleading in terms of understanding causes and predicting dynamics to consider hazard types separately.

At the same time, considering both types of data together points to the relationship between different hazard types and the complexity of displacement in such contexts. The various factors that lead to peoples' displacement and determine their onward options and decisions also reflect this complexity, as illustrated below in the case of Afghanistan.

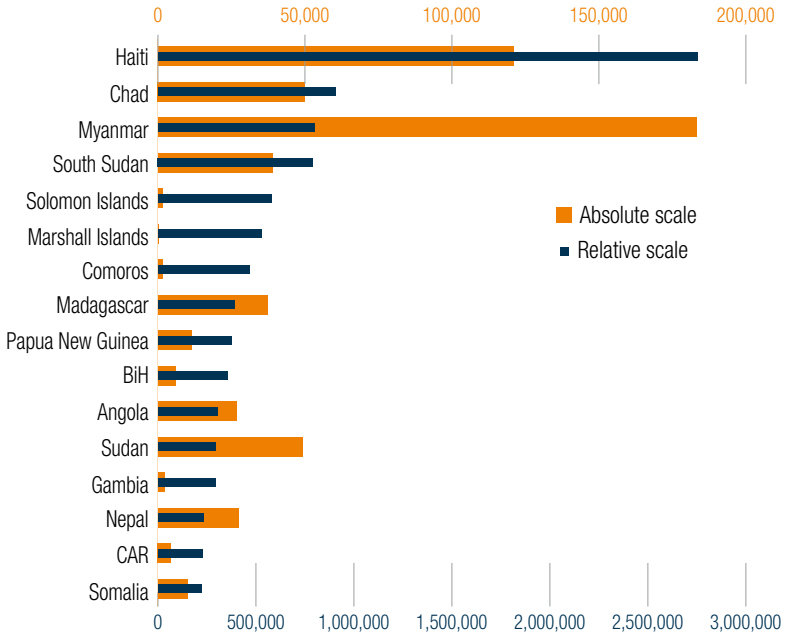
Our data shows that between 2010 and 2014, 13 countries suffered significant new displacement associated with both conflict and natural hazards.[55] In 2014, significant numbers of people were displaced by conflict and natural hazards in India, Pakistan, the Philippines, South Sudan and Sudan (see figure 4.10.a). As shown by the cases presented in section 5 and annex C, fragile states are affected by long-lasting displacement such as in Haiti, Myanmar and Zimbabwe.

Figure 4.9: Displacement in fragile and conflict-affected states, 2008-2014

a) 2014 compared to the annual average



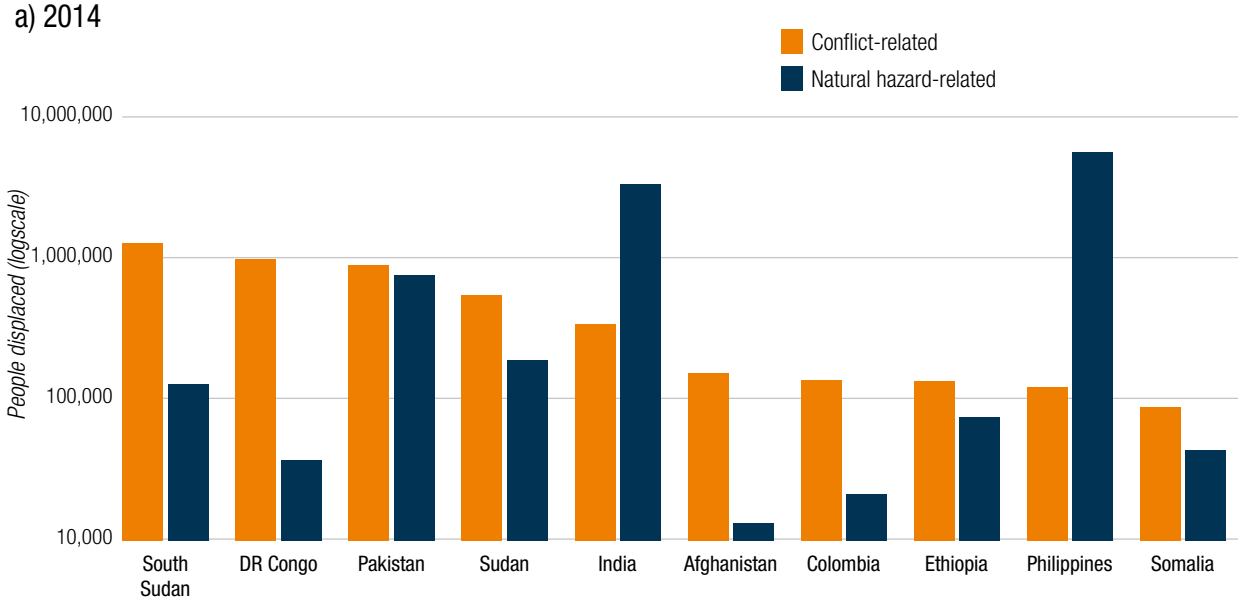
b) States with the highest relative levels of displacement, 2008-2014 (per million inhabitants)



Source: IDMC data as of 1 June 2015

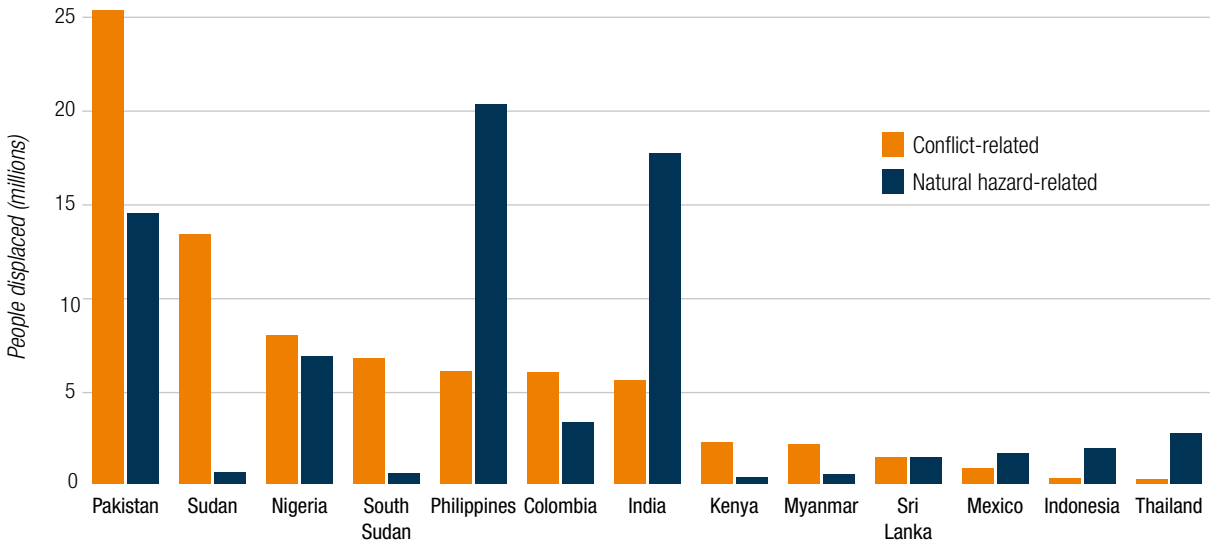
Figure 4.10: Countries with new displacement associated with both natural hazards and conflict, 2014 and 2010-2014

a) 2014



Note: Countries with at least 250,000 people newly displaced related to conflict and at least 10,000 related to natural hazards
Conflict refers to both armed conflict and generalised violence
Source of data: IDMC, conflict-related data as of 6 May 2015 and natural hazard-related data as of 1 June 2015

b) 2010 - 2014



Note: Countries with at least 250,000 people newly displaced related to conflict and at least 250,000 related to natural hazards
Conflict refers to both armed conflict and generalised violence
Source of data: IDMC, conflict-related data as of 6 May 2015 and natural hazard-related data as of 1 June 2015

SPOTLIGHT

AFGHANISTAN

Blurred lines between multiple drivers of displacement

Afghanistan's climate and terrain make it highly prone to both slow and sudden-onset natural hazards, including cyclical drought, earthquakes, floods, landslides, avalanches and extreme weather. Roughly half of the country's 400 districts are susceptible and as many as 250,000 Afghans are affected each year, particularly in the north of the country.

The country ranks 176th of 177 on the Notre Dame global adaptation index, which assesses their vulnerability to climate change and their ability to cope with its impacts. More than 35 years of armed conflict, environmental degradation and poor investment in disaster risk reduction mean that its vulnerability to disasters is increasing.[56]

Displacement in Afghanistan is driven by a number of factors, including armed conflict, violence, serious human rights violations, disasters brought on by natural hazards and development projects.[57] It takes place amid other dynamic population movements such as rural-to-urban migration and the mass return of refugees, which complicates the task of identifying and assisting IDPs.

Given the presence of international military forces since 2004 and the resurgence of the Taliban, the main driver of displacement in recent years has been conflict between Afghan National Security Forces with international troops against non-state armed groups.[58] Its effects, however, are frequently made worse by natural hazards and the disasters they trigger, making it very difficult to identify one single factor behind IDPs' decision to flee their homes. The conflict has also aggravated local tensions, such as land disputes, leading to additional displacement[59], and impedes responses to disasters (see figure 4.11).

> **Originally, we are from Herat. We lived in Koshakkona for 20 years, but due to the droughts in Koshakkona we moved to Gulran district of Herat and stayed there for four or five years. Due to the fighting between government and anti-government elements we shifted to our current location.**
>
> *Adult female IDP, Qala-e-Khona village, Helmand*[60]

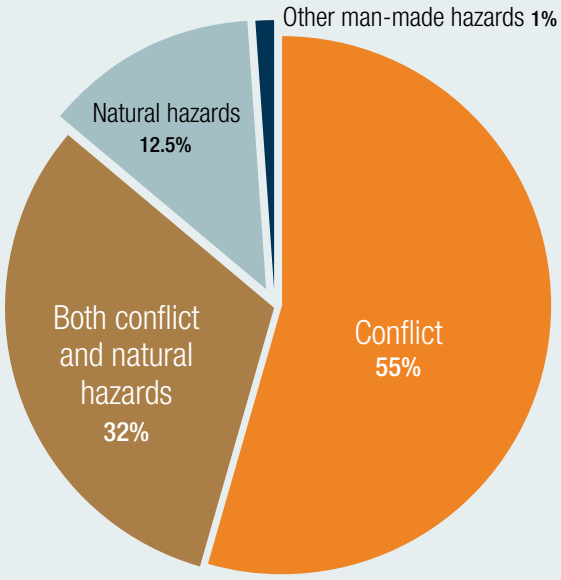
In spite of the overlap between people ostensibly displaced by conflict and those who flee disasters, data about them is recorded, tracked and assisted separately - the former by Afghanistan's taskforce on IDPs, co-chaired by UNHCR and the Ministry of Refugees and Repatriation; and the latter by IOM and the Afghanistan National Disaster Management Authority. Comprehensive information about IDPs does not exist and the picture is further complicated by the lack of long-term assistance for IDPs displaced by disasters. This has led significant numbers of people to report their displacement as related to insecurity in order to benefit from the separate support available to those displaced by conflict.[61]

According to a 2014 study commissioned by IOM in Herat and Helmand provinces, 55 per cent of IDPs identified insecurity and armed conflict as the main driver of their displacement. Thirty-two per cent said they had fled a combination of conflict and disasters, and 12.5 per cent that their displacement was predominantly caused by disasters, most often dry spells and drought. One per cent cited the impact of "human made" hazards or human activity on their livelihoods, such as international efforts to eradicate opium poppy, as the reason for their flight.[62]

IDPs who had fled to Herat from Ghor province said they had been displaced by a combination of tribal conflict, fighting between non-state armed groups, crop failure and ensuing food shortages caused by drought.[63]

The study found that people who had been displaced for longer periods of time were more likely to want to integrate locally.[64] It also revealed that the majority of IDPs were undecided or unclear about their settlement preferences, effectively leaving them in limbo regardless of the

Figure 4.11: Drivers of displacement in Herat and Helmand



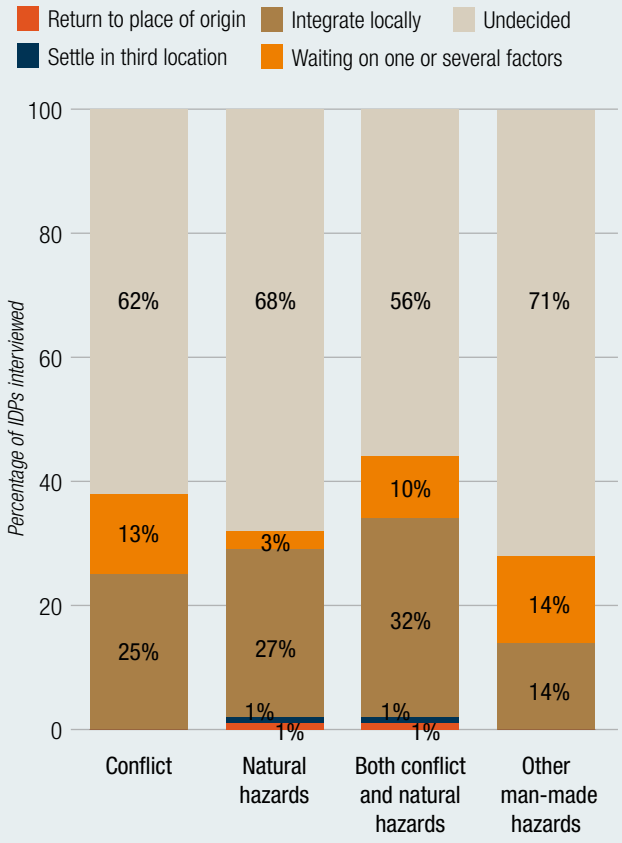
Source: IOM/Samuel Hall Consulting, 2014. Data: IOM DTM, December 2013

cause of their displacement (see figure 4.12). It is also striking that very few IDPs considered returning to their places of origin to be an option, including those displaced primarily by natural hazards.

Afghanistan's first national policy on IDPs was adopted in November 2013, and applies to all people forced to flee their homes as a result of military operations, Taliban abuses, disasters brought on by natural hazards, development projects or a combination of causes. It also includes people displaced by slow-onset disasters such as drought.

The policy defines an IDP by the forced nature of their movement, rather than by a specific cause or agency mandate. It also explicitly acknowledges that it "is not always easy to clearly identify one factor that forces families to flee".[65] As such, it provides an important tool to advocate for a comprehensive and integrated response to all drivers of displacement. The international community should now support the Afghan authorities in their efforts to implement the policy effectively.

Figure 4.12: Settlement intentions of displaced households in Herat and Helmand



Source: IOM/Samuel Hall Consulting, 2014. Data: IOM DTM, December 2013

A displaced woman, stranded at a hotel in Winnipeg, Manitoba, Canada. She and thousands of First Nation people were forced from their homes in 2011 by floods around Lake St. Martin. They checked into Winnipeg hotels, assuming they would return to their homes within a couple of weeks. Four years later, they are still there.
Photo (cropped): Wookey Films, 2014

5 MIND YOUR ASSUMPTIONS

Protracted displacement following disasters

Key findings and messages

- Relatively **little is known about protracted displacement situations following disasters.** They are poorly monitored and little reported on. A sample we have collated of 34 ongoing cases accounts for **more than 715,000 people stuck in limbo**, and points to the likelihood of hundreds of thousands more who have not yet been recorded.
- **The common assumption that displacement following disasters is short-term and temporary does not hold true in many cases.** The cases we identified highlight the plight of people who have been living in protracted displacement for **up to 26 years.**
- People in such situations receive little attention and are likely to be left behind in long-term recovery, disaster risk reduction and development processes. **Better data and further research is needed** to create a solid evidence base for policymakers' and responders' decisions.
- Hazards are diverse in their nature and dynamics. Some persist for long periods and can become **permanent barriers to return.** The **repeated impacts** of frequent short-lived hazards on vulnerable communities can also lead to protracted displacement.
- Displacement following disasters is often fraught with **complex and political obstacles to solutions.** Obstacles frequently encountered include access to land and discrimination against vulnerable and marginalised groups. Addressing the long-lasting social and psychological consequences of displacement is as important as the physical rebuilding of homes and infrastructure.
- Most of the cases of protracted displacement we identified are in low and middle-income developing countries, but there are also **significant examples in rich countries, such as the US and Japan.** Vulnerable and marginalised people in high-income countries also risk being excluded from solutions.
- Governments should prioritise measures to **advance solutions and strengthen the resilience** of people whose displacement risks becoming protracted, or has already become so. They include people whose former homes have become permanently inaccessible or unsafe, informal settlers, poor tenants and people who face discrimination based on their class, ethnicity, gender or age. Interventions should be adapted to their specific needs.
- When displaced people move on to another location during or after the emergency phase of a response, their situation should be verified. They **should not be allowed to drop off the radar** as "residual caseloads" when humanitarian priorities shift towards longer-term recovery and development.
- Local authorities, civil society networks and community-based organisations should be mobilised and supported to help identify and monitor cases of protracted displacement. This is important, given that many of those affected are all but invisible, because they are dispersed among wider populations and in urban areas.

The global data presented in this report provides a broad snapshot of recurrent and persistent patterns of displacement in exposed and vulnerable countries such as China, India and the Philippines (see section three). Knowledge and evidence of such patterns and their complexity as they evolve over time, however, is only available from ad hoc reporting and studies. Current monitoring and data collection is insufficient to serve as a robust evidence base for policymakers at the national and global level.

In order to begin building a global evidence base from which to monitor protracted displacement, IDMC undertook an initial scoping exercise over a four-month period in the first half of 2015. It included the collection and review of literature and online information, and interviews with 32 experts at international and national levels (see annex A3).

We found 66 examples of protracted displacement associated with disasters, loosely defined for the purpose of the exercise as situations that had lasted for at least a year and in which IDPs had made little or no progress towards achieving durable solutions (see further explanation in section 2). We then filtered the sample for ongoing cases, which yielded the 34 detailed in Annex C.

5.1 Conceptualising protracted displacement

There is no common definition for protracted displacement, though its description by different experts and organisations point to general agreement on some of its significant elements. Many see it as a long-lasting situation in which progress towards durable solutions, as described by the Inter-Agency Standing Committee framework,[1] is slow or stalled.[2] Defining it in terms of the length of time people are displaced is somewhat arbitrary. Many refer to UNHCR's conflict-related definition of protracted displacement as lasting over 5 years.[3] Others note displacement that continues beyond assumed timeframes for emergency funding and response.[4] It can also be characterised in terms of the settlement options required by IDPs, such as people unable to return to their former homes and awaiting relocation.[5] Some define it through the prism of their main framework for analyses or sectoral focus, such as human rights violations and protection,[6] disrupted access to livelihoods,[7] health impacts,[8] or as a shelter and housing issue.[9] Others have described it in terms of the disruption of the socio-economic fabric of a community and the social impacts on people's identity and definition of home.[10] Concepts and definitions are also discussed in section two.

These different perspectives make comparing situations more difficult, but there is a clear consensus on the need to develop knowledge on the phenomenon. The 34 cases, eight of which are discussed in more detail below, together with our literature review and interviews, highlight it as an issue of particular concern from both humanitarian and development perspectives.

5.2 The data and knowledge blind spot

There is a rapidly developing body of research on the topic of displacement associated with disasters and climate change and the issue has received increasing recognition in key global policy agendas in recent years (see section six). That said, significant knowledge gaps remain, including on people living in recurrent and protracted displacement following disasters.[11]

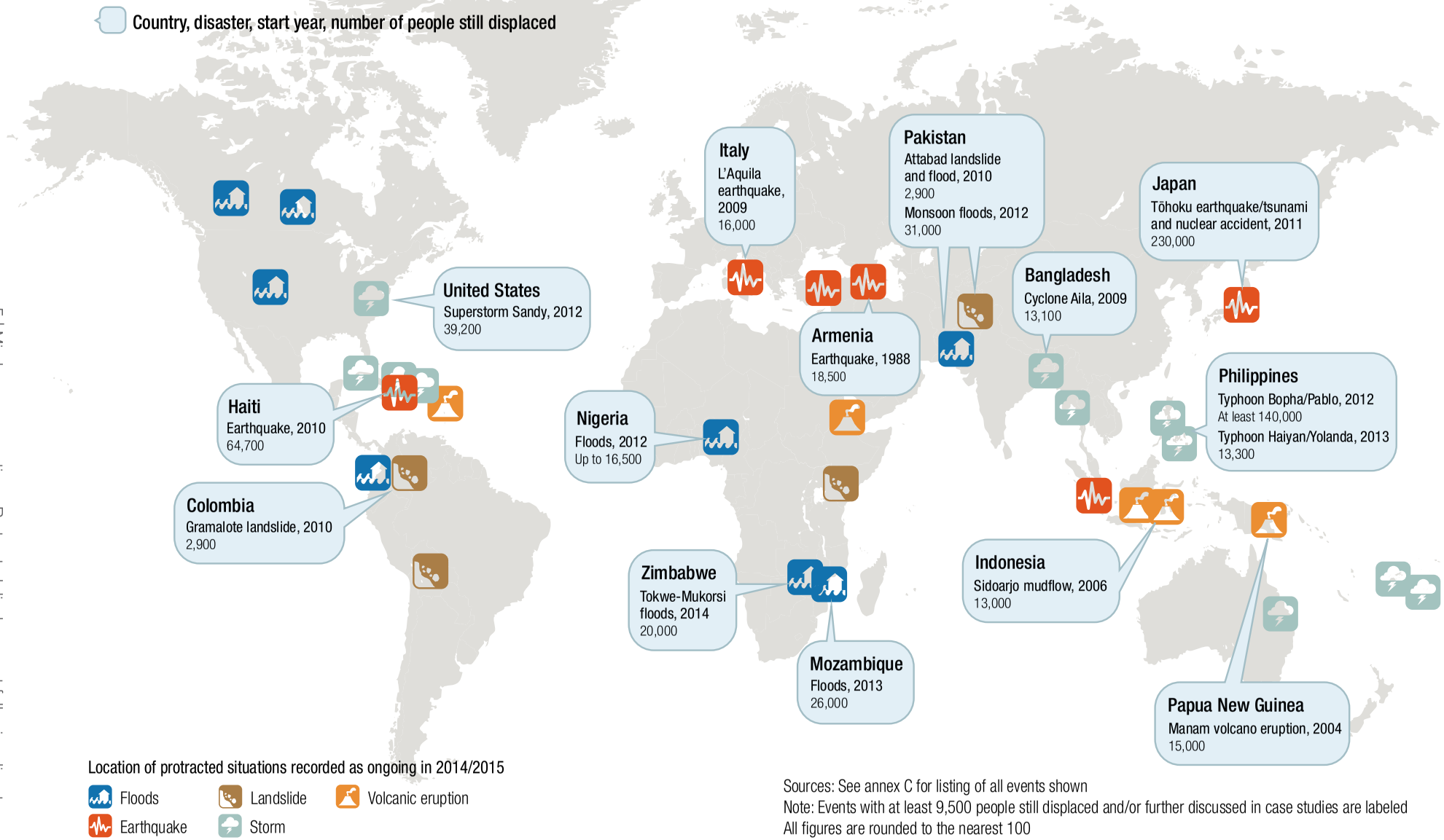
International experts have highlighted the phenomenon as "the issue for the coming decade", and one in need of concerted attention and action from the international community.[12] The discourse, however, has focused almost entirely on people displaced by conflict,[13] with only the occasional nod given to those fleeing natural hazards and disasters.[14]

Table 5.1: Checking and challenging common assumptions about protracted displacement

Assumption	Challenge
1. Displacement associated with disasters is short-term and temporary, and as such protracted displacement is not an issue.	The evidence from 34 ongoing cases and other past cases shows that return is not necessarily safe or possible and does not imply that a durable solution has been achieved. Repeated cycles of temporary flight and return may contribute to protracted displacement and eventual settlement elsewhere.
2. The duration of displacement is determined primarily by the often short-lived nature of the threat from a natural hazard.	The consequences of rapid-onset natural hazards can continue for extended periods of time, and even become a permanent barrier to return. Some hazards remain a physical threat over longer periods of time. Repeated exposure to frequent short-lived hazards can have a similar effect to a long-lasting event.
3. Displacement associated with disasters is less complex and less political, and so easier to resolve than that associated with conflict.	The drivers of disaster and displacement - exposure and vulnerability - are complex, and many of the obstacles to durable solutions in the aftermath of a disaster are inherently political. They vary from context to context, but include access to land, discrimination and corruption.
4. Protracted displacement is a problem for developing countries in particular.	There is also evidence of protracted displacement in high-income countries, where the most vulnerable or marginalised people are disproportionately affected.

Map 5.1

Protracted displacement following disasters worldwide in 2014/2015



Sources: See annex C for listing of all events shown
Note: Events with at least 9,500 people still displaced and/or further discussed in case studies are labeled
All figures are rounded to the nearest 100

The international experts we interviewed tended to know of only one or two examples of protracted displacement associated with disasters, and most often referred to the 2010 Haiti earthquake. Among interviewees based at country-level, however, a pattern emerged. Those who said at first that they knew of no examples began to recall situations as the interviews progressed though they were often unable to provide evidence in documented form.

Local community-based organisations were generally the best informed about the often largely invisible people affected, and as such they will be vital in efforts to monitor and research the issue.

Displacement tends to be well reported in the immediate aftermath of larger disasters, but then to drop off over time. All of our interviewees confirmed the lack of monitoring of "pockets" of IDPs who fall off the radar in the aftermath of disasters, with ongoing situations documented only by the media or anecdotally.

The phenomenon has received more attention in Asia and the Americas than in Africa and the Middle East (see annex C). As for displacement in general, reporting is also biased towards IDPs in official shelter sites or camp settings. The situation of people who end up living for extended periods with friends and family or in informal settlements tends not to be monitored at all.[15]

There is also an operational blind spot created by the limited availability and interoperability of information collected about IDPs and their needs by organisations serving the same populations across different sectors of assistance, or at different points in time. It becomes particularly significant when the emergency response is phased out and the role of the development sector comes to the fore as the focus switches to recovery.[16]

5.3 Checking common assumptions

A number of direct or implied assumptions about displacement associated with disasters, and protracted displacement more specifically, emerged from our research. The following four are particularly common:

1. Short term and temporary?

It is often assumed, particularly in the context of rapid-onset natural hazards, that IDPs are able to return to their homes relatively quickly, recover and get on with their lives.[17] According to a review of protection in humanitarian crises, "recovery from isolated, rapid onset disasters is more linear and expected within 12 months, while conflict settings are complex and often lead to protracted crisis and displacement requiring longer term programme response and funding".[18] Fifteen out of the 21 international interviewees asked to describe the nature of displacement associated with disasters said it was commonly seen as short-term and temporary, but many also questioned the assumption.

2. Short-lived hazards make for short-lived displacement?

Different types of natural hazard create different displacement dynamics (see section three), but disasters are often referred to without reference to these differences. It is assumed that the impacts of rapid-onset hazards dissipate as quickly as they occur, making prompt return possible. Little or no consideration is given to the extent and nature of the devastation and insecurity in their aftermath, when a storm has passed, floodwaters have receded or the ground has stopped shaking following an earthquake.

3. Less complex and easier to solve?

Most of the current literature and discourse on protracted displacement sees it primarily as an issue in the context of conflict. It also assumes that disasters are less political if not apolitical, with the implication that the displacement they cause is easier to resolve and so less likely to become protracted.[19]

4. An issue for developing countries only?

Our global estimates show that displacement associated with disasters is widely distributed across the world, including both the richest and poorest countries. Protracted displacement is often assumed to be an issue for developing and fragile states only, which have less capacity and resources to facilitate durable solutions.

5.4 The problem with assumptions

Knowledge blind spots are reinforced by such broad generalisations, and avert attention from the phenomenon of protracted displacement. There is a danger that families and communities displaced for far longer than expected following a disaster will be neglected, because responders are simply not looking for them.

The above assumptions also belie the complexity and long-term nature of recovery processes and the particular challenges displacement poses in different contexts. This can have direct impacts on policy and practice, as seen in the aftermath of superstorm Sandy when US government funding to help IDPs meet their short-term housing needs was based on the idea that they should be able to move back home within two years. In reality this was not always the case, leaving some struggling to pay their rent, taxes and mortgages while still living in displacement.[20]

Emergency evacuations also tend to be planned on the assumption that evacuees will be able to return to their homes relatively quickly. When return is made impossible or is significantly delayed, the use of public buildings, including schools, as evacuation centres can quickly become a problem as services need to be resumed.[21]

Given the limited knowledge and awareness of protracted displacement, examples tend to be treated as exceptions to the rule, rather than evidence of a widespread phenomenon. This in turn creates the risk that the needs of vulnerable individuals, families and communities unable to achieve a durable solution to their displacement will be overlooked.

As increasing population exposure and vulnerability to hazards drive an upward trend in displacement, disasters and their impacts are also likely to be making recurrent and protracted displacement worse. As Professor Susan Martin of Georgetown University observes: "In the past … these protracted examples were exceptions to the rule … But now we are seeing a shift in terms of frequency and the scale of devastation, and it's hard to believe people can go back very quickly."[22]

As disaster patterns change, current assumptions need to change accordingly. The idea that the displacement

they cause is short-lived feeds a reactive approach that provides relief but not solutions. Unmitigated risk leads to cycles of repeated displacement and loss that erode the resilience of those affected, leaving them unable to recover between one disaster and the next.

5.5 Evidence to the contrary

1. Short term and temporary?

Displacement often lasts far longer than assumed in the aftermath of disasters. All of the 34 cases listed in annex C have been ongoing for at least a year, and many of them for far longer. In Papua New Guinea, 15,000 IDPs displaced by the 2004 eruption of the Manam volcano are still living in temporary shelters more than ten years later. Some who fled the 1999 Marmara earthquake in Turkey remain displaced after more than 15 years, and for as long as 26 years in the case of the 1988 Spitak earthquake in Armenia (see annex C).

In relation to the "temporary" displacement assumption, return home is not always safe and possible or permitted following a disaster. This is the situation for displaced people in almost half (16 out of 34) of the cases listed in annex C- including the examples discussed below from, Colombia, Indonesia, Japan, Pakistan and Papua New Guinea.

This assumption is derived from patterns of early return by people to their homes in the aftermath of many disasters,[23] but such cases are context specific and should not be over-generalised. As Professor Roger Zetter, Oxford University observes, "Even if the majority are able to return, a small but significant minority often remain displaced" and "disappear below the horizon."[24]

Nor does early return imply that a durable solution has been achieved. Repeated cycles of temporary flight and return may contribute to protracted displacement and eventual settlement elsewhere, as seen in the case from Bangladesh discussed below.

2. Short-lived hazards, short-lived displacement?

The protracted nature of displacement associated with disasters is influenced by the ongoing threats posed by long-lasting or frequent natural hazards. In Indonesia, the Sidoarjo mudflow developed fairly quickly in 2006, but it is still active. It has created a permanent impediment to return and forced displaced families to relocate elsewhere. The lake formed after Attabad landslide in Pakistan and the nuclear contamination after Tohoku disaster in Japan are similarly permanent impediments to return.

Exposure to frequent, short-lived hazards can have a similar effect to a single long-lasting one. In Bangladesh, protracted displacement is not just the consequence of cyclone Aila in 2009, but of the cumulative impacts of repeated disasters and short-term displacements that hamper the capacity of families to recover each time before another set back. In the Philippines, "no build zones" were established in low-lying coastal areas affected by typhoon Haiyan in 2013 on the basis that they are so prone to repeated flooding, storms and landslides as to make them uninhabitable. Displaced former residents, however, are still waiting to be permanently relocated elsewhere.[25]

It is clear from many conflict-related situations we monitor that people may remain displaced for years after hostilities have ceased, and the same is true of natural hazards. The devastation and disruption they cause to people's lives and livelihoods, and the psychological impact on those affected, can prolong displacement significantly. More than five years after the 2010 earthquake in Haiti, at least 64,700 people in the capital, Port-au-Prince, are still living in temporary shelters.

3. Less complex and easier to solve?

Many of the protracted displacement situations we have identified highlight significant political obstacles to solutions, including the favouring of economic interests over IDPs' needs and rights, the alleged misuse of resources, corruption and weak governance. Disasters do not take place in a political vacuum and the drivers, as discussed in section 4, are related to processes of impoverishment and marginalisation. Protracted situations and the obstacles to solutions are often political in nature. Some of these cases are also in countries affected by conflict, such as Pakistan, Colombia and Bangladesh.

Lack of access to land is the most frequently cited obstacle to solutions (in two-thirds of the cases listed in annex C) and land is more often than not an inherently political issue. The plight of landless families displaced to or from informal urban settlements are highlighted in examples from Haiti, Bangladesh, and the Philippines.

Informal settlers are among people most vulnerable to protracted displacement, whether they became informal settlers before or after a disaster as Conrad Navidad, IOM Philippines explains: "If IDPs after a disaster are unable to return or be relocated, some of them end up as informal settlers. This is common knowledge. If you ask informal settlers in metro Manila, in the slum areas, why did you come here … some would likely tell you 'we are victims of typhoons or natural disasters, and we couldn't wait for solutions from the government.'" Informal settlers' lack of tenure security can also lead to their forced eviction, as was the case in Kenya for people living in Embobut forest, where they had taken refuge following landslides (see annex C). Once dispersed among the urban poor, IDPs are difficult to identify, making their needs invisible to organisations who might otherwise prioritise them for assistance.[26]

The tenure status of those who rented rather than owned their homes before their flight creates specific needs, which make them prone to neglect and prolonged displacement.[27] In the aftermath of superstorm Sandy in the US, reconstruction assistance was allocated disproportionately to homeowners rather than tenants, even though the latter were more likely to be in the lower-income bracket.

4. An issue for developing countries only ?

Most of the cases of protracted displacement we identified are in low and middle-income countries. A few, however, reveal that poor and marginalised people in high-income countries are also affected. In such cases, displacement may be a symptom of pre-existing patterns of discrimination and inequality. A disproportionate number of people of colour from low-income backgrounds remain displaced in the US following su-

perstorm Sandy in 2009, and indigenous "First Nation" communities in Canada are still displaced from their homes and way of life on reservation land following the 2011 Manitoba floods (see annex C).

> **We don't know when we are going to go home, or where home is going to be.**
>
> *Manitoba flood IDP, Treading Water documentary*[28]

Large protracted cases are found in both the richest and poorest countries. 230,000 people have been displaced for more than four years following the 2011 Tohoku earthquake, tsunami and nuclear accident in Japan, while in Haiti at least 64,700 remain displaced for more than five years after the 2010 earthquake.

5.6 Leaving no-one behind[29]

The sample of just 34 ongoing cases in annex C accounts for at least 715,000 people in long-lasting and protracted displacement. This, in turn, points to the likelihood of hundreds of thousands more who have yet to be identified. Protracted and recurrent displacement drain resources at all levels, from household to international. They erode resilience and undermine the development prospects of those affected, and left unmitigated and unresolved they contribute to increasing impoverishment and the risk of further cycles of disaster.

IDPs should not be assumed to have achieved a durable solution when they return to their former home areas or move on elsewhere in the aftermath of a disaster. Nor should they be allowed to drop off the radar when displacement continues beyond the timeframes set by government and donor policy or the limitations of responders' capacities and mandates.

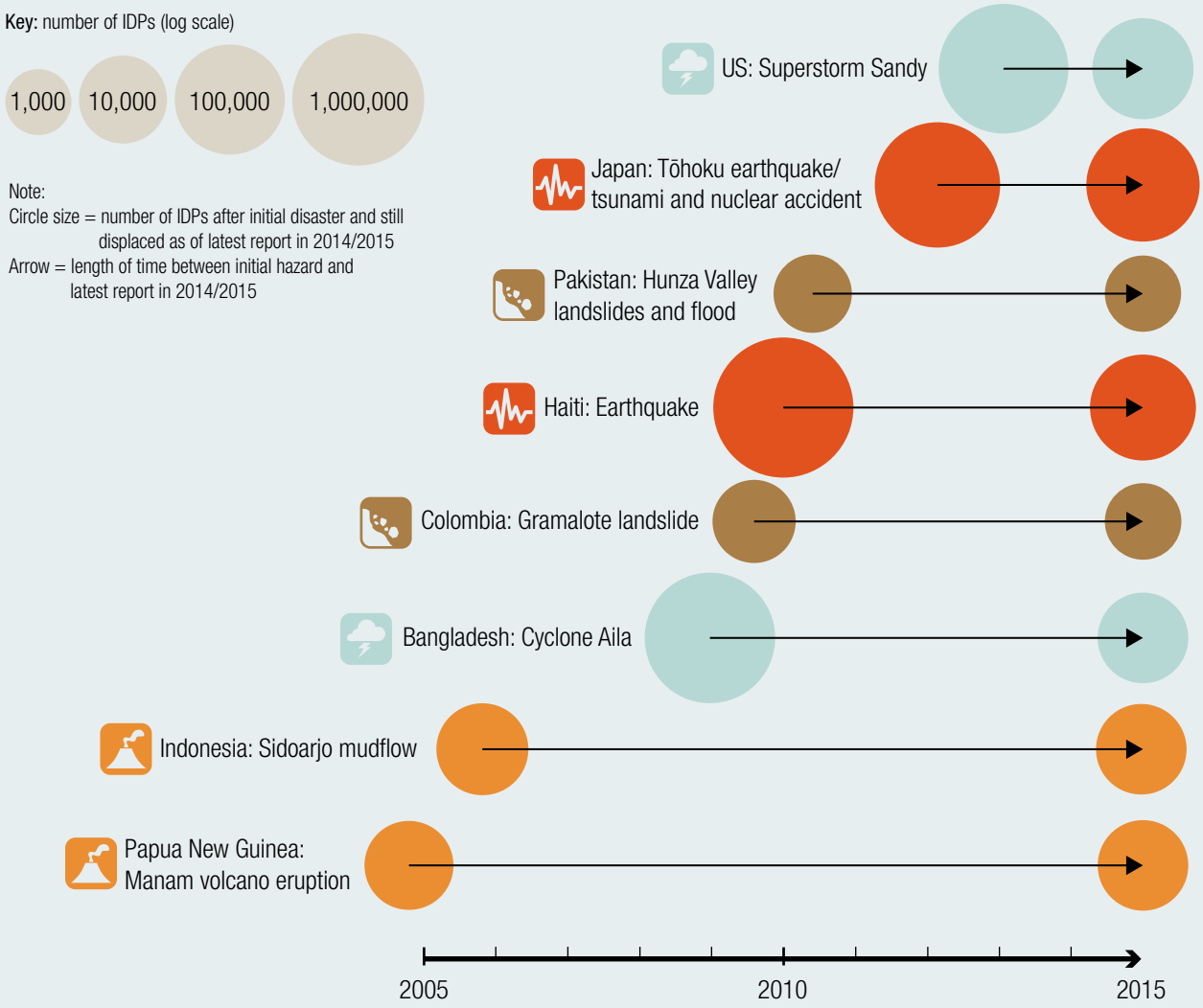
More robust evidence is needed with which to re-examine the broad assumptions about protracted displacement associated with disasters, and ensure they are adapted to specific situations and contexts.[30] As Professor Walter Kälin, Envoy of the Chairmanship of the Nansen Initiative observes: "I don't think you can find a single situation where absolutely everyone can go back. There are always some people who will not go back, and this will always be linked to their situation before."[31]

These "residual caseloads" include people with specific needs for protection and development assistance. Displaced women following typhoon Haiyan in the Philippines, for example, were not consulted on the prioritisation of households for permanent housing assistance.[32] Highlighted examples below show that they also include informal settlers and poor tenants (see case from Haiti) and other vulnerable people who face discrimination on the basis of their class or ethnicity (see case from US), gender (see case from Bangladesh) or age (see case from Japan). An improvement in governments' data collection and monitoring of their situations would do much to avoid displaced people becoming forgotten and side-lined in sustainable development processes.

5.7 Spotlight cases

To demonstrate the diversity and challenges associated with protracted displacement in the aftermath of disasters, eight cases drawn from annex C are summarised in figure 5.1 and discussed in detail in the following section.

Figure 5.1: Eight cases of protracted displacement following disasters



SPOTLIGHT

PAPUA NEW GUINEA

Manam islanders still displaced ten years after volcanic eruption

Papua New Guinea (PNG) is prone to a range of natural hazards, including drought, floods, tropical cyclones, landslides, volcanic eruptions, earthquakes and tsunamis. It is also highly vulnerable to the impacts of climate change and rising sea-levels. An estimated 21,186 people were displaced by natural hazards and the disasters they triggered in 2014, with flooding being the main driver.[33]

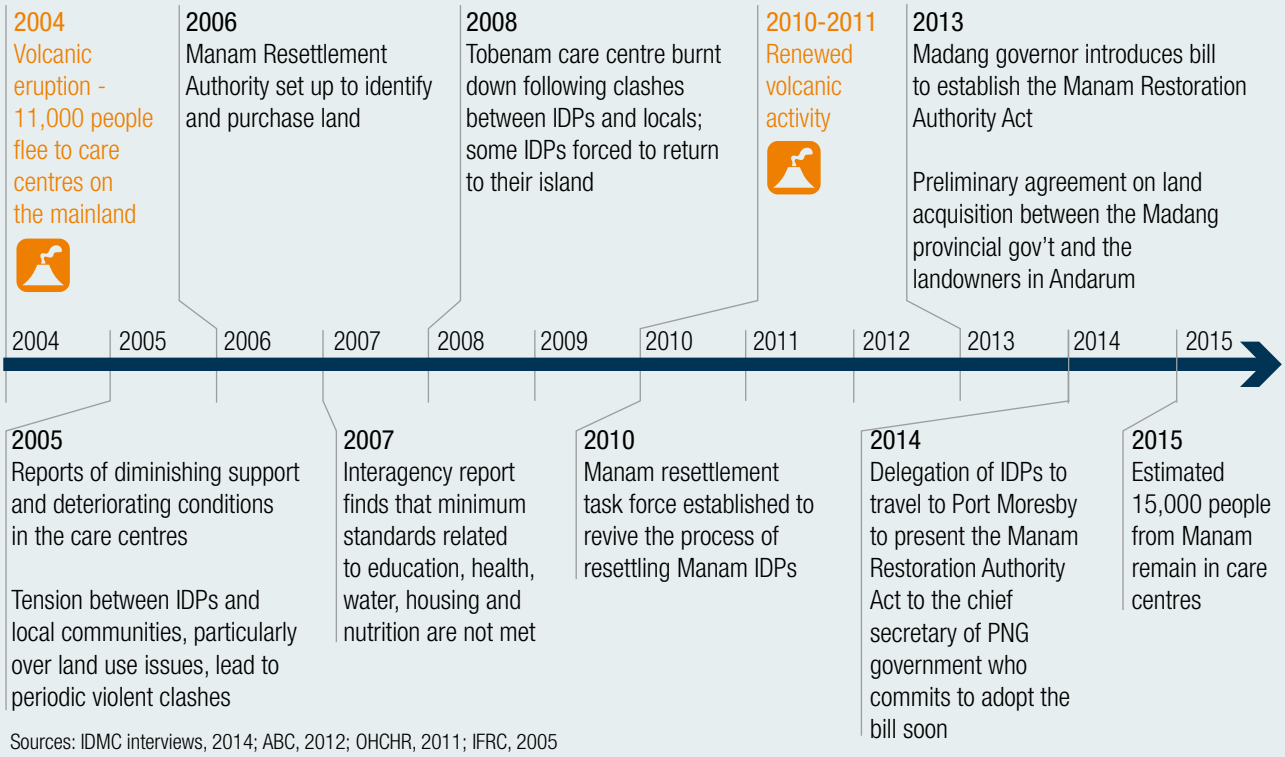
One of the largest displacements caused by a volcanic eruption in PNG took place in late 2004 when around 11,000 people were forced to flee their homes on Manam island in Madang province.[34] All were evacuated 15 kilometres to mainland areas near the town of Bogia, where many were accommodated in temporary government settlement sites or "care centres", as they are officially known. Others sought refuge with host communities.[35]

Given the risk of further volcanic activity, Manam was declared unsafe for return and the authorities began to consider alternative settlement options for the island's IDPs. Local integration in the care centres was quickly deemed unsustainable because of a shortage of land and resources, and rising tensions between the displaced and local communities. The land on which the centres were set up was said to be owned by the government, which gave IDPs permission to stay temporarily. Locals, however, claimed that they, not the state, were the rightful owners.[36]

In 2006, the government identified land for the IDPs' relocation in Andarum, around 50 kilometres from Bogia. The majority agreed to move providing infrastructure including roads, schools and health centres was built and they would have enough land to cultivate. Legislation was passed and the government established the Manam Resettlement Authority (MRA), tasked with taking the project forward.

A displaced woman from Manam island carries on with everyday chores at the Mangem care centre, Bogia town, Madang province, Papua New Guinea. Photo: IDMC/Frederik Kok, October 2014

Figure 5.2: Displacement timeline following the Manam volcanic eruption in 2004



Sources: IDMC interviews, 2014; ABC, 2012; OHCHR, 2011; IFRC, 2005

Little progress was made in the following years, however, and the project remains stalled. The main obstacles have been a shortage of funds, a lack of political will, bureaucratic delays and poor local technical capacity. In 2009 the MRA was disbanded with new legislation needed to set up a new body. The provincial government has also had difficulties in acquiring the land concerned. It concluded a preliminary agreement with the owners in 2013, but as of early 2015 it had still not formalised the purchase and, more than a decade after their displacement, IDPs were still stuck in three care centres in and around Bogia. When IDMC visited in October 2014, the displaced population had reportedly grown to around 15,000.[37]

A few thousand people have returned to Manam despite its lack of arable land and the absence of public services.[38] Most did so between 2008 and 2009, following clashes between IDPs and the local population, and some returns were said to have been forced by the government.[39] Further returns have taken place since, driven by deteriorating living conditions in the care centres and unresolved tensions with local communities. Given the government's failure to update its data on Manam's IDPs, however, there is no clear picture of how many people are still living in the centres and how many have returned to the island.

Most of the houses in the care centres are in need of repair. Roofs leak and walls are in poor shape, but IDPs say they are unable to access building materials from the forest because the resources belong to the locals. They are also short of food, and their livelihood options are limited because what little land is available to them for cultivation is infertile. Some own livestock and are able to fish, but many are barely able to get by.

Poverty and insecurity also impede their access to healthcare services. In June 2010, 17 IDPs living in the Potsdam care centre died of cholera. The deaths could have been prevented if an early warning system had been in place to detect the outbreak, medicine had been available to treat the disease quickly and the IDPs had been able to afford the 100 kina ($40) it costs to reach the nearest health facility by boat. It is likely that malnutrition also contributed to the death toll.[40]

The threat of physical attack restricts IDPs' freedom of movement, and some women say they are too afraid to leave their camps to seek medical care. An increasing number of infants and mothers have died during childbirth as a result.[41]

After ten years in living in displacement, the Manam island IDPs are still no closer to achieving a durable solution. Local integration is not an option, and efforts to relocate them to Andarum have made little progress. Many have lost hope that it will ever happen. In the meantime both short and long-term solutions are needed to ensure that their most pressing concerns are addressed. They require immediate assistance in meeting their food, water, shelter and healthcare needs, and reducing the number of IDPs in the care centres is also becoming urgent. The government needs to make good on its repeated promises to ensure that the relocation project really moves forward.

Reports that the Manam Restoration Authority bill could be introduced in parliament in May 2015 offer a glimmer of hope.[42] If adopted, the legislation would provide a much-needed legal basis for the relocation project and the allocation of adequate resources. The Madang provincial authorities are also considering feasibility studies to assess its environmental and social impact.[43]

SPOTLIGHT

INDONESIA

Sidoarjo mudflow displacement unresolved after nine years

In May 2006 a mixture of mud, hot water and steam erupted near a gas drilling site belonging to the private company PT Lapindo Brantas. A mudflow spread quickly to nearby villages, engulfing homes, farmland and public infrastructure, including schools and factories. By the end of the year, it had forced more than 15,000 people to flee their homes. The local government set up temporary shelters for some of the IDPs, but most sought refuge with friends and families.

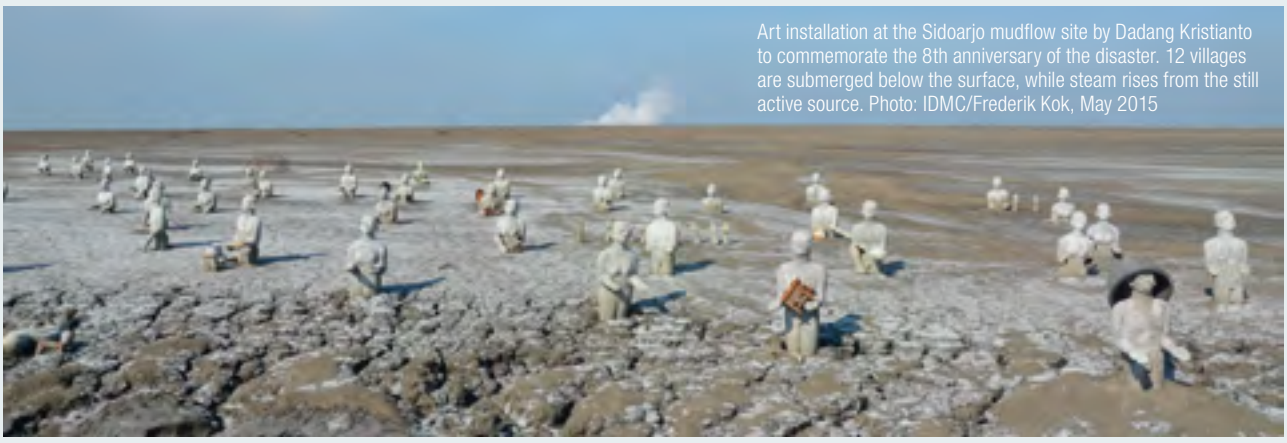
All efforts to stem the eruption and contain the mudflow failed, and over the next few years it continued to spread, albeit at a slower pace, reaching more villages and displacing thousands more people. By 2014, it covered around 600 hectares across three sub-districts, and had displaced 38,700 people from 12 villages and destroyed 11,241 buildings.[44] The mud continues to flow to this day, and some scientists estimate that it may do so for another 20 years.[45]

Controversy about the cause of the disaster has impeded an effective response to the needs of the people it has displaced and other residents it has affected. The company claimed an earthquake two days earlier in Yogyakarta, around 250 km away, had triggered the phenomenon. A presidential decree issued in 2007 established the Sidoarjo mudflow management agency (BPLS), an ad-hoc national agency to oversee the response, including the allocation of compensation for lost land and property.[46]

BPLS instructed Lapindo to compensate IDPs from the area the mudflow initially engulfed, known as the red zone, but in 2009 Indonesia's Supreme Court decided it was a "natural" disaster and that the company had no obligation towards those affected in terms of providing financial compensation.[47] Civil society organisations and victims' associations were highly critical of the ruling, and under public pressure the company eventually agreed to assume financial responsibility.

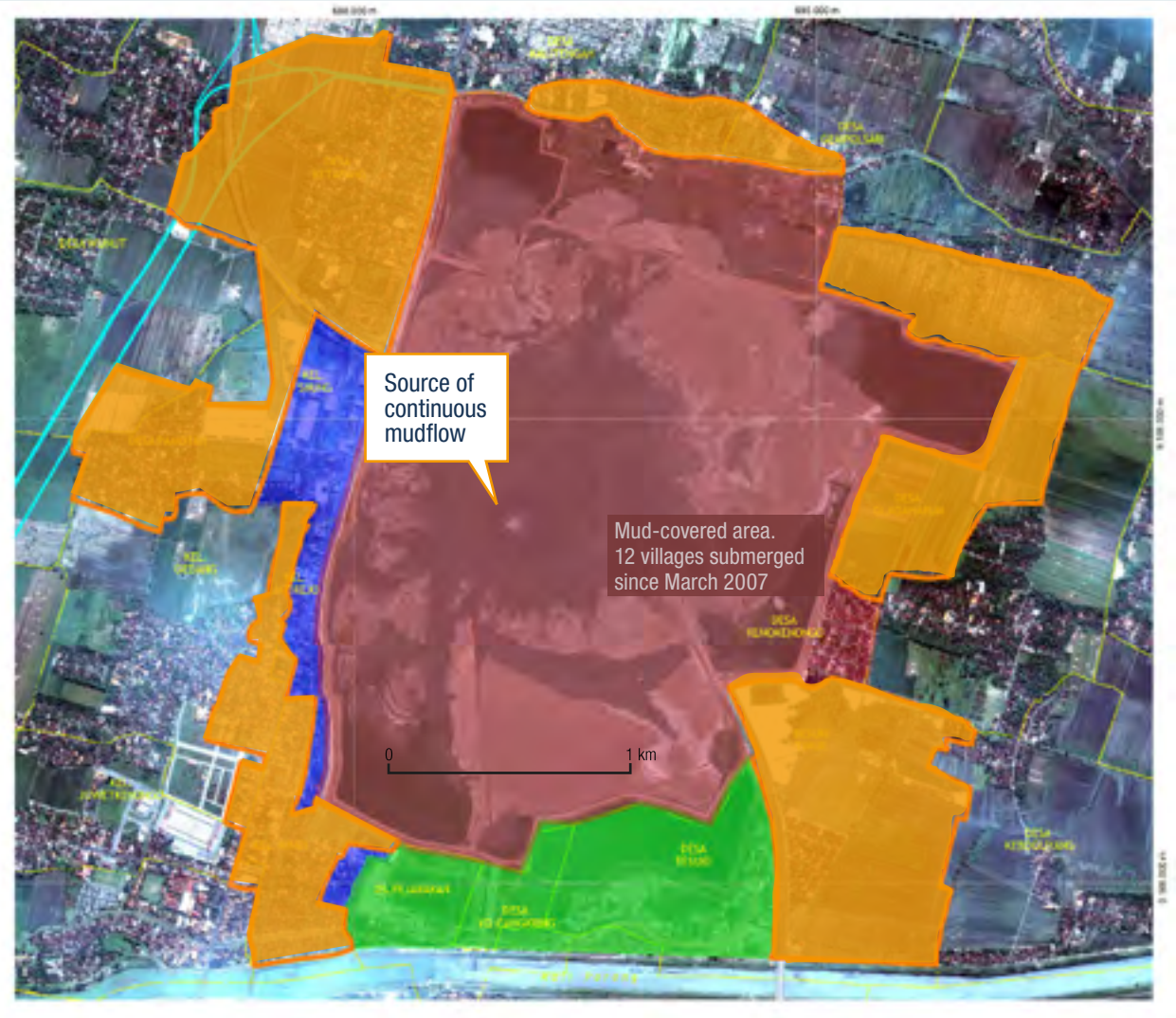
A further court ruling in 2014 determined that the company should pay compensation for land and property lost in the red zone, and that the government should do so for the green, blue and orange zones, which were affected from 2007 to 2013 (see map).[48] Compensation levels have been deemed fair, with different rates per square metre of paddy, dry land and built land.[49] As part of Lapindo's compensation package, around 4,000 homes have been built at relocation sites in Kahuripan Nirvana village, four kilometres from Sidoarjo, with the value of the property deducted from the total amount the company owes.[50]

Following the economic crisis in



Art installation at the Sidoarjo mudflow site by Dadang Kristianto to commemorate the 8th anniversary of the disaster. 12 villages are submerged below the surface, while steam rises from the still active source. Photo: IDMC/Frederik Kok, May 2015

Map 5.2: Sidoarjo mudflow affected areas



Note: Orange, green and blue shading indicates areas at risk with communities declared eligible for compensation by the government
Sources: Ikonos Quickbird Bapel BPLS 2008. Adapted from BPLS[55]

2008, however, Lapindo's payments to IDPs slowed and many instalments were missed, which led to demonstrations.[51] The delays and non-payments have prevented more than 13,000 IDPs from the red zone from achieving a durable solution, nine years after the onset of the disaster. They have received only an initial 20 per cent of the compensation due.[52]

The long wait has led to a number of associated problems for around 5,000 IDPs dispersed across the region and beyond. Many have had to borrow money either from banks or friends and family, and are unable to keep up with their repayments. To date they have received no government help in restoring their lost livelihoods, and have trouble finding work and supporting their families whether they have been compensated or not.

Those still awaiting compensation have been reluctant to update their identity cards with their new places of temporary residence for fear it will complicate their pending claims. Failure to do so, however, has prevented them from voting in elections and in some cases hampered their access to healthcare services.[53]

Neither has BPLS provided compensation or help in dealing with the health consequences of the mudflow, despite a spike in respiratory problems immediately after the eruption began and the emergence of other health issues including abdominal illnesses.[54] Environmental organisations continue to advocate for the government to recognise the high heavy metal content of the mud, which is contaminating waterways outside the compensation zones and affecting fish stocks, and to take action to reduce the pollution.[56]

In May 2015, following an audit of outstanding compensation claims, the government is taking measures to bail out Lapindo and thereby enable the company to complete compensation payouts still owed to displaced families. It has committed to loaning $66 million to Lapindo by the end of Ramadan on 17 July 2015 to purchase land made uninhabitable by the mudflow from IDP families at equivalent or above-market rates.[57] If payment is finally received, it will provide some means to end what for many has been a nine-year wait to secure new housing and repay their debts.

SPOTLIGHT

BANGLADESH

Six years after cyclone Aila, prolonged and repeated displacement continues

Six years after cyclone Aila brought disaster to communities in the Ganges delta region of Bangladesh, many of the people displaced are still to achieve a durable solution.[58] The prolonged displacement of people in such a highly exposed and vulnerable region is not just the consequence of the Aila disaster, but of the cumulative impacts of repeated disasters and short-term movements that hamper families' capacity to recover before the next setback.[59]

Aila made landfall on 25 May 2009, flooding villages and fields with seawater. Hundreds of kilometres of embankments that protect low-lying land from flooding were destroyed, leaving villages inundated long after the cyclone passed. Over 842,000 people were displaced, most of whom remained within Bangladesh, while subsequent cross-border movements of displaced people into neighbouring areas of India have also been reported (see figure 5.4).[60]

Early return and recovery were delayed as a result,[61] and months into the emergency response agencies on the ground described a deteriorating situation for IDPs and other affected communities. [62] Around 200,000 people were still displaced after six months,[63] living in makeshift shelters on roads and embankments and "surrounded by unruly water at high tide and at low tide by thousands of hectares of desolate muddy land"[64] (see figure 5.3).

Between 2008 and 2014, IDMC estimates that more than 4.7 million people were newly displaced by rapid-onset, weather-related disasters in Bangladesh.[65] The Nowabenki Gonomukhi Foundation (NGF)[66] and its network of partners have been monitoring displacement in areas affected by cyclone Sidr since 2007. According to their reporting in May 2015, as many as three million people have been displaced through losing their access to habitable land due to the impact of climate-related hazards and environmental degradation, while the total number of displaced are probably even higher.[67]

It is unclear how many people from across all of the areas affected by Aila are still living in displacement six years on, but NGF's community-based surveys provide insight into the situation of some of the worst-hit communities. In Sutarkhali and Kamarkhola villages on Polder 32 of Dacope Upazila in Khulna district, the cyclone destroyed 100 and 90 per cent of homes respectively.[68] Six years later, 2,617 families or 13,085 individuals - a quarter of the population of the two villages - are still living in makeshift shelters on embankments within the same polder.[69] Only one per cent of displaced families have moved out of the area.[70]

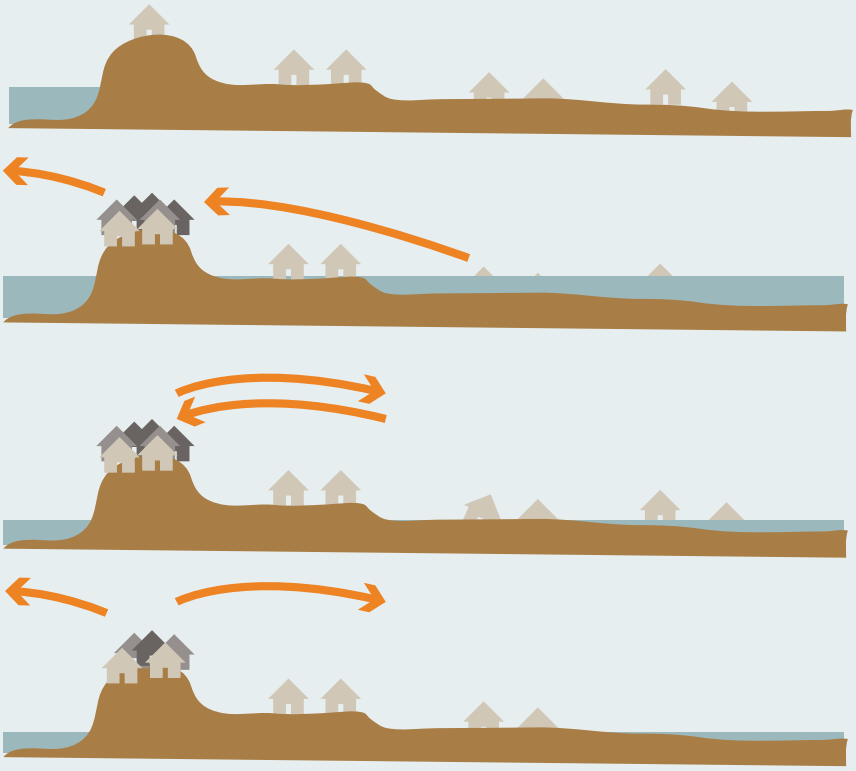
Communities across the delta are exposed and vulnerable to recurrent storms, tidal floods and the gradual process of saltwater intrusion that degrades the land on which many of their livelihoods depend. In 2010, tidal floods affected some of the same populations displaced by Aila about a year earlier,[71] and in 2013 around 15,000 families from Polder 32 were forced to take refuge inflee to storm shelters for up to week by the onset of cyclone Mahasen.[72] The extensive damage Aila caused to embankments has left their original homes even more exposed to flood risk, and some delta communities have been evicted from their homes to make way for the building of new embankments.[73]

> **We repaired the dykes and our villages emerged from the water. A week later, we are homeless again.**
>
> *IDP from Dacope, hit again by floods a year after Aila*[74]

Displaced people in Dacope identify a range of obstacles to finding sustainable settlement options.[75] The repeated disruption of their traditional livelihoods by floods and cyclones, and the limited alternatives available, has eroded household savings and many are unable to afford the high cost of relocation and settlement elsewhere. Such a move is estimated to cost around $1,000, while average per capita income is $1,190.[76]

Landless people who were squatting on public or private land before Aila

Figure 5.3: Displacement patterns and vulnerability in flood-prone areas



Before Cyclone Aila, people lived on land protected by embankments. Some landless people lived on embankments and roadsides.

Immediately after the cyclone, many people moved onto roads and embankments because their land was flooded.

Six months after the cyclone, many embankments were still broken and land flooded. Around 200,000 people were still living on embankments and roadsides. Some returned to their land during the day but spent the night and/or high tide times on higher ground.

Until the embankments are properly repaired, return to flood-prone areas will continue to be a highly limited and unsafe option. Six years later, many people still live in temporary shelters on embankments and roadsides.

Note: Adapted from IFRC/UN-Habitat report, 2009

struck are not eligible for government or NGO housing assistance, despite their obvious needs.[77] Eligibility for relief and rehabilitation support is also a major concern for displaced families who move away from their registered areas of residence as shown on their identity cards.[78] Some IDPs have also experienced discrimination in accessing government assistance on the basis that they belong to an opposition party.[79] This is contrary to international standards and constitutes a violation of their human rights.[80]

In a region where livelihood options are very limited, the seasonal migration of male family members to work as agricultural or construction day labourers is a common coping strategy among IDPs living in protracted displacement on embankments, including those on Polder 32.[81] The women left behind live in precarious conditions and are vulnerable to a range social risks, including sexual and gender-based violence.[82]

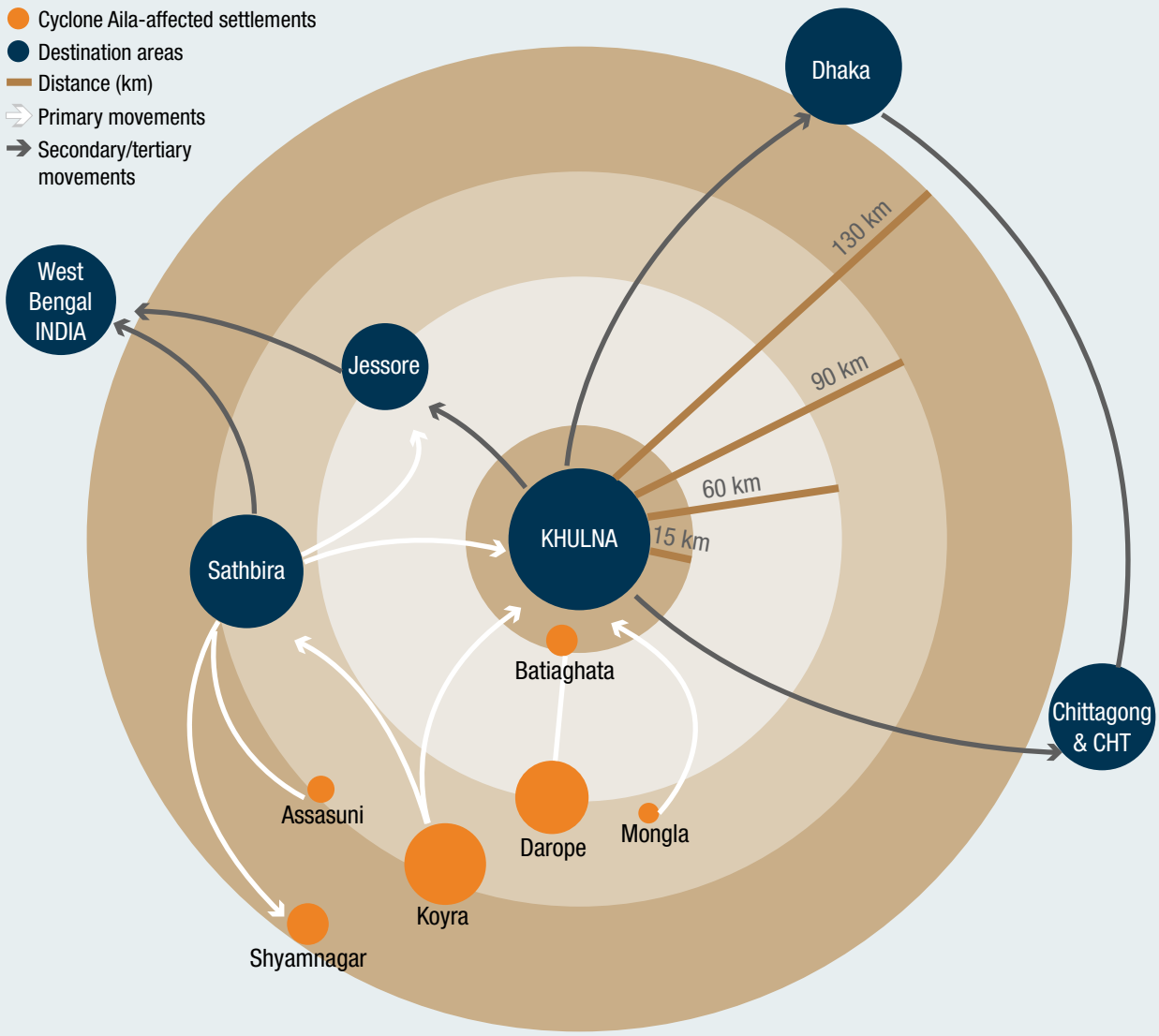
In other affected areas, people unable to find solutions in their areas of origin have moved more permanently to larger towns, the megacities of Khulna and Dhaka or across the border into the Indian state of West Bengal (see figure 5.4).[83] Ninety-five per cent of the families from Gabura island on Polder 15 who were displaced after Aila and the subsequent flooding have relocated away from the area.[84] Various studies have highlighted links between the destruction wrought by Aila and an increase in the trafficking of women and children to megacities in Bangladesh and across the border into India.[85]

The onward movement of people living in chronic displacement situations in their home areas may be difficult to distinguish from voluntary economic migration, but given such severe vulnerability the notion of migration as a choice is "often inappropriate".[86] Neither can people who relocate to live in poor conditions and without access to basic services in informal urban settlements be considered to have achieved a durable solution. Many continue to be vulnerable to natural hazards, violence, exploitation and eviction.[87]

The extreme exposure and vulnerability to displacement of millions of people in Bangladesh's low-lying coastal and river basin areas constitutes a major crisis, and the government has increased its attention to the issue significantly in recent years, particularly in the context of climate change. National civil society and grassroots organisations working with vulnerable communities have also done much to raise awareness of the huge scale and immediacy of the problem, and more than 200 NGOs in Bangladesh organised under the umbrella of the Association of Climate Refugees are developing solutions.[88] Their work includes monitoring and reporting on climate-related displacement, and facilitating the safe and voluntary relocation of people away from low-lying and exposed areas to safer locations with better prospects. One example of best practice is the "new land" initiative by ACR-Kurigram, under which private plots have been pledged for IDPs to relocate to in other parts of the country.

Given the scale of long-lasting and repeated patterns of displacement, however, and the expected effects of climate change, which will increase future risk, there remains much to be done.

Figure 5.4: Movement of IDPs from areas affected by cyclone Aila



Note: The size of the circles indicates the approximate scale of the movement. Source: Adapted from Hasan Mehedi, CLEAN (NGO), July 2010

SPOTLIGHT

COLOMBIA

The long road to relocation for Gramalote's IDPs

In 2010 and 2011, a particularly intense iteration of La Niña, the cooling of the Pacific Ocean's surface, caused heavy rainfall throughout the Andes and intense flooding and landslides in Colombia. Among the many places severely affected, the north-eastern town of Gramalote in the mountains of Norte de Santander department was all but levelled by a landslide. All 2,900 *Gramaloteros* were evacuated before the disaster struck, and four-and-a-half years later they remain displaced. Most moved to the city of Cúcuta, 45 kilometres away.[89]

Colombia has managed many relocation processes in preparation for, and in response to the onset of natural hazards, but Gramalote was unique in terms of the extent of the destruction it suffered, and the fact that the landslide took place while the country as a whole was in the throes of a disaster.

The events of 2010 and 2011 shaped the country's response and set it on track towards better preparedness in the future. The systems put in place were developed with a long-term view to mitigating and managing risk, including the *Fondo Adaptación*, or Adaptation Fund - an institution with budgetary and administrative autonomy and a strong technical focus. Creating a new institution from scratch in the aftermath of a large-scale disaster was no easy task, however, and it took 18 months to get the fund up and running as a functioning entity.

The delay set back the *Gramaloteros'* efforts to bring their displacement to an end, and they are still to achieve a durable solution. Their cultural attachment to their town and land remains strong, however, and translates into a yearning for return. They feel the town is not just their place of residence, but a defining feature of who they are.[90]

Around 35 families have returned to an area of Gramalote that was not destroyed by the landslide, but it is considered unsafe and they have done so at their own risk and without official support. Other families have resettled in another area on the outskirts of the town, through a process facilitated by the Catholic church.

The *Gramaloteros* continue to receive housing rental support in the form of cash and in-kind contributions of food items – they are the only community affected by the disasters of 2010 and 2011 to do so – but the Adaptation Fund and local authorities have moved at a snail's pace in helping them find a permanent solution to their displacement.

Once the fund was up and running, it proved difficult to find a nearby site suitable for the construction of a new town. Technical assessments were conducted and came close to identifying two locations, but they were ultimately dismissed as neither safe nor viable. The site finally chosen is located, as was Gramalote, on an Andean mountainside, meaning that there is little infrastructure in place to service a new town. New electricity, telecommunications, water and sanitation installations will be needed, along with access roads, housing, schools and public spaces.

In May 2015, the Adaptation Fund published a comprehensive development and relocation plan for Gramalote, with a budget of $93 million to build the new town and its associated infrastructure. Its timeframe includes the *Gramaloteros'* relocation by the end of the year, an ambitious target considering the extent of the public works required.[91]

That said, it must be hoped that implementation of the new plan will not take as long as its development, so that the *Gramaloteros* can at last re-establish their lives and their identity in a permanent new home.

SPOTLIGHT

HAITI

Chronic vulnerability and protracted displacement five years after the earthquake

Haiti has a long history of displacement, driven both by recurrent disasters and human rights violations, but the January 2010 earthquake forced people to flee their homes on an unprecedented scale. As many as 2.3 million people were displaced,[92] of whom 1.5 million took refuge in camps and camp-like settings, most of them in and around the capital, Port-au-Prince (see figure 5.5).[93] More than five years after the disaster struck, many have yet to achieve durable solutions.

The number of IDPs living in temporary or transitional camps has fallen by 96 per cent, but there were still 64,680 of them registered as of March 2015 (see figure 5.5).[94] Living conditions in the camps are very poor, and a combination of overcrowding and unsafe housing makes the risk of gender-based violence worse.[95] There is far less information on the number and living conditions of IDPs outside of camps or their living conditions.

Of the more than 1.4 million IDPs who have left their camps since 2010, 1.1 million did so for unknown reasons and there is no information on their current situation (see figure 5.6).[96] They cannot, however, be assumed to have achieved durable solutions. A 2013 survey on the living conditions of IDPs suggests that their access to key goods and services, particularly housing, education, healthcare, water, security and livelihoods, was worse than for the general population (see figure 5.7).[97]

Forced evictions from camps have caused significant secondary displacement since the earthquake, mostly as the result of private owners wishing to reclaim their land on which camps were set up.[98] Many evictions have fallen short of international standards on the right to adequate housing. They have involved the demolition of shelters, violence and intimidation by the police or individuals hired by owners to force residents to leave and those affected have lost assets and fallen deeper into poverty.[99] Many did not receive alternative accommodation.[100]

More than 60,000 IDPs have been evicted from camps since 2010, and 176 sites have been closed as a result.[101] The number of forced evictions fell in 2014,[102] in part thanks to advocacy efforts by the protection cluster's partners and various ministries.[103] Forced evictions have also taken place from informal settlements such as Canaan, Jerusalem and Onaville, where many previous camp inhabitants live.[104]

Since 2010, more than 260,000 left their camps after receiving one-year rental subsidies to address the needs of the majority of IDPs who were tenants rather than homeowners.[105] Many beneficiaries, however, have had to leave their accommodation when their grant expired, for the most part because they were unable to afford their rent without support.[106] In the absence of associated livelihood and income-generating initiatives, the cash grants offered only a transitional solution for many.[107]

IDPs' chronic vulnerability and the protracted nature of their displacement are a reflection of the significant development challenges Haiti faced before the earthquake and the high, ongoing level of disaster risk. The country is one of the world's poorest, most unequal and most prone to disasters.[108] Its ranking on the UN Development Programme's human development index fell from 149th out of 187 countries in 2009, to 168th in 2013. Taking the unequal distribution of wealth into account, this 2013 ranking falls to 171st.[109]

Lack of development and poor governance increase people's vulnerability to disasters, hamper their ability to recover and undercut the sustainability of interventions. In a context where state institutions and their enforcement capacity remain weak, the situation is made worse by new and repeated displacement caused by recurrent disasters, forced evictions, development projects and gang violence.[110]

The country's displacement camps are a symptom of a wider housing crisis. Some 105 000 houses were destroyed and 208 160 homes were badly damaged by the earthquake, adding to a pre-existing national shortage of 700, 000 units.[111] Reconstruction has been painfully slow. Only an estimated 37,000 permanent homes had been repaired, rebuilt or built by early 2015.[112]

Poverty and weak urban governance make reconstruction particularly chal-

Figure 5.5: Total number of people displaced by the Haiti earthquake disaster from January 2010 to March 2015

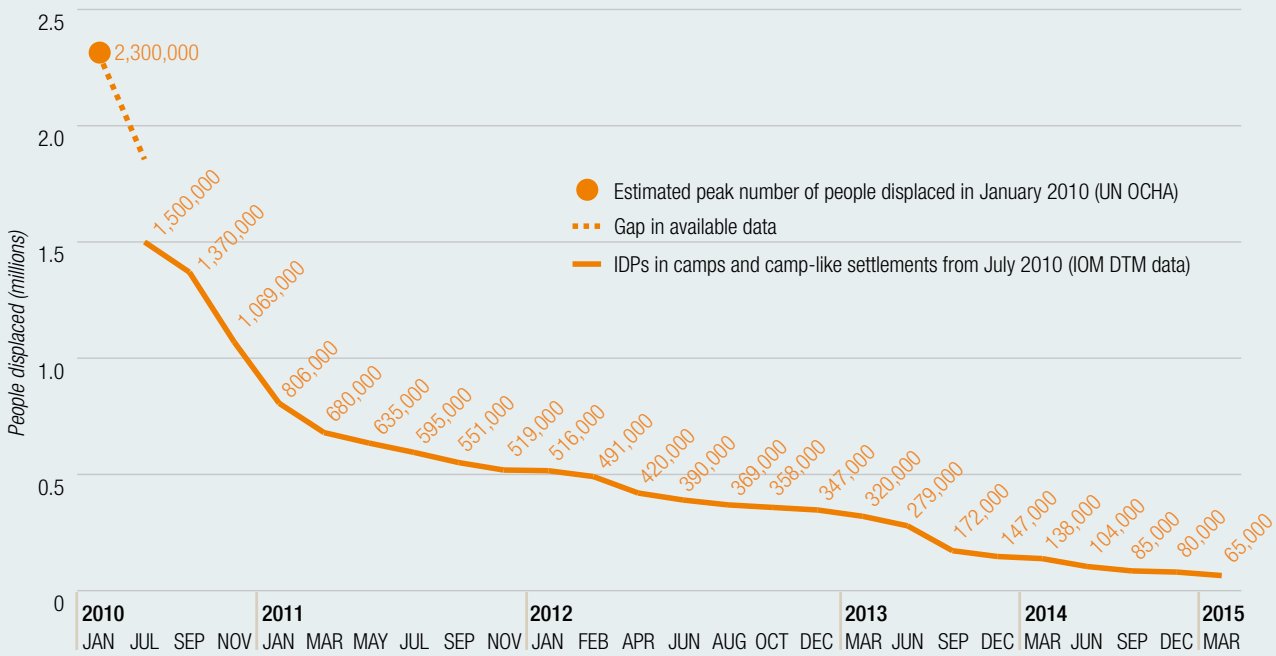
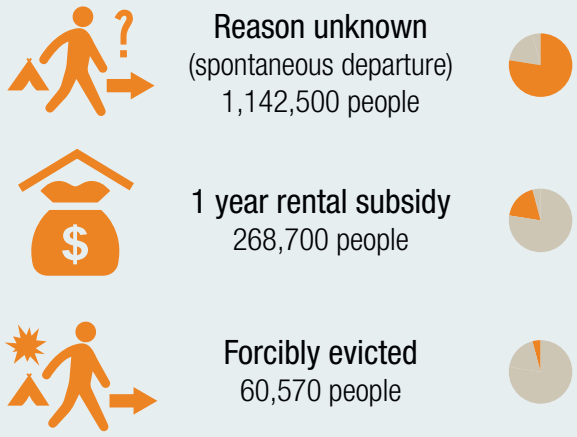
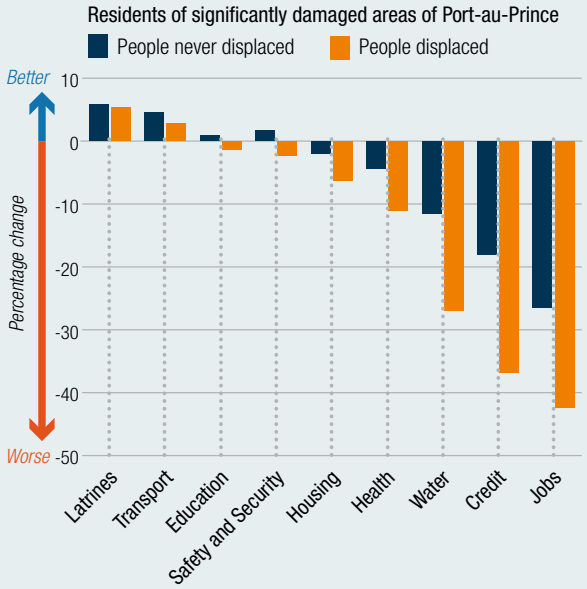


Figure 5.6: IDPs' reasons for leaving camps between July 2010 and March 2015



Source of data: IOM DTM, March 2015

Figure 5.7: Comparing access to key goods and services pre- and post-earthquake (better or worse; % change)



Source of data: Brookings and IOM, 2014. Based on survey of 2,576 households in areas where 25% or more of households were destroyed. Survey conducted October to December 2013

Conditions have continued to deteriorate in the remaining camps where earthquake IDPs like 74-year old Velina Saint Fleur are still living. Temporary tents have been left in shreds by rain and hurricanes.
Photo: ECHO/Evelyn Hockstein, April 2014
https://flic.kr/p/pZFube

lenging. Uncontrolled urbanisation of Port-au-Prince before the earthquake led to the rapid expansion of informal settlements, most of them in areas highly exposed to natural hazards such as floods and landslides and with only limited access to services.[113] Eighty per cent of city's population was living in such areas when the earthquake struck, and they suffered the worst of the destruction it caused.[114]

The absence until 2014 of a national framework to guide reconstruction efforts, clarify building regulations, determine residential areas and regularise informal settlements made it difficult for humanitarian and development organisations to engage in providing IDPs with permanent housing solutions.[115] A shortage of suitable urban land and an unclear ownership of land and housing presented further obstacles, leading most responders to focus on temporary solutions such as transitional shelter and cash grants for rent.[116]

The few permanent housing initiatives undertaken have focused on homeowners to the exclusion of the overwhelming majority of IDPs who were tenants before the earthquake, and who had to resort to makeshift housing thereby perpetuating the slum pattern with poor sanitary conditions and vulnerability and exposure to natural hazards.[117]

Achieving durable solutions for Haiti's IDPs will require a combination of short-term measures to mitigate the recurrence of crises and longer-term development interventions to reduce poverty and disaster risk, strengthen the rule of law and rein in human rights violations such as forced evictions. The reinforcement of accountable urban governance at both the national and municipal level would also facilitate IDPs' integration into development plans, and the provision of affordable housing for the most vulnerable.

Amid the tremendous challenges in this complex context, encouraging initiatives should also be noted. These include the gradual efforts to transform some informal settlements, such as Canaan, and IDP displacement camps into new neighbourhoods with permanent housing, improved tenure security and better access to services.[118]

SPOTLIGHT

PAKISTAN

Protracted displacement from areas affected by the Hunza valley landslide and floods

In Pakistan's mountainous Hunza valley in Gilgit-Baltistan territory, more than 2,000 people are still displaced after they were forced to flee their homes five years ago when two related disasters struck the area over the course of a few months.[119]

On 4 January 2010 a huge landslide destroyed parts of the villages of Attabad and Sarat, sweeping much of the former into the Hunza river.[120] Boulders and debris carried from the Attabad area were deposited in Sarat. Nearly 1,300 people, or 141 families were evacuated ahead of the landslide,[121] but it still took 19 lives.[122]

The second disaster ensued because material loosened by the landslide created a natural dam a kilometre wide across the Hunza river, behind which a lake formed over the following months. Flow into the lake was further increased by seasonal glacier melt in May 2010.

Before the rising waters all but submerged the villages of Ainabad, Shishkat, Gulmit, Ghulkin and Hussaini,[123] more than 2,340 people, or 260 families were evacuated, increasing the overall number of IDPs to more than 3,600.[124] They took refuge in camps and with host families in nearby villages.

Those still displaced as of May 2015 live in the villages of Altit, Aliabad, Karimabad and Hyderabad. The majority are still housed in transitional shelters, and the remainder live with host families and in rented accommodation.

The lake also submerged around 15 kilometres of the Karakoram highway, the only road connection between the area and the rest of the country, and between Pakistan and China.[125]The loss of the highway affected 20,000 inhabitants of the Gojal sub-district who, although they were not displaced, were cut off from markets, education and healthcare services in downstream areas such as Aliabad and Gilgit.[126]

The Pakistani government provided emergency relief through its National Disaster Management Authority, and the Chinese government gave food assistance to both IDPs and the 20,000 people in Gojal. The army also dug a spillway for the dam to prevent the water level in the lake from rising further and eventually to reduce it. Its effect has been limited, however, and draining the lake has proved a slow process.[127]

In mid-2011 the government paid compensation to each displaced family of 600,000 rupees ($5,600) for destroyed or submerged housing and 200,000 rupees ($1,900) for lost land. The payments did not reflect the actual losses incurred, however, because habitable and arable land in Gojal and Gilgit-Baltistan as a whole are expensive and in short supply. The formation of the lake has reduced the amount of viable land still further, which in turn has been a major factor in prolonging

Table 5.2: Number of Hunza valley IDPs

Hazard	Village of origin	Number of people still displaced at the end of 2010		Number of people still displaced as of May 2015	
		Families	Individuals	Families	Individuals
Landslide	Attabad and Sarat	141	1,269	100	900
Lake formation	Ainabad	32	288	21	189
	Shishkat	150	1,350	100	900
	Gulmit	More than 61	More than 549	10	90
	Ghulkin	7	63	0	0
	Hussaini	10	90	0	0
	Total	More than 401	More than 3,609	231	2,079

Sources: Sökefeld M, The Attabad landslide and the politics of disaster in Gojal, Gilgit-Baltistan, 2012, p.185; IDMC interview, May 2015; number of individuals calculated from the number of families based on a family size of nine

Map 5.3: Ongoing displacement in the Hunza valley following the 2010 Attabad landslide

the displacement of the remaining IDPs.[128]

The Pakistan Red Crescent Society and Focus Humanitarian Assistance, an organisation affiliated to the Aga Khan Development Network, have also provided IDPs with assistance.[129] Focus distributed two months' worth of aid from the World Food Programme, paid for with a USAID grant. The Aga Khan Rural Support Programme set up a business revitalisation programme and a cash-for-work project, and the government has provided school subsidies.[130] Since 2014, two river ambulances have been transporting people to medical facilities downstream from the dam as part of a USAID programme.[131]

Overall, much less assistance was delivered than originally promised. Nor were different programmes well coordinated, and government officials were accused of corruption.[132] A series of protests were organised against the authorities' perceived inaction in draining the lake, and untimely and inadequate assistance. In August 2011, police killed two protesting IDPs and injured another three, which triggered further rallies and led to the arrest of a number of demonstrators on sedition and other charges.[133]

A Chinese state company is building a new section of road which, if it opens as planned in August 2015, will complete the Karakoram highway again. This should help the valley's inhabitants, including the remaining IDPs, to at least partially re-establish their former lives and livelihoods by restoring their access to markets, services, education and employment opportunities further south.

They will also be able to work in the transport sector and set up small roadside businesses again, but opportunities to return to cultivating cash crops will be limited for a number of years to come. The lake no longer covers much of the area's arable land, but it has left it covered in a thick layer of sediment, making it very difficult to farm.[134]

SPOTLIGHT

JAPAN

Living in limbo four years after the Tōhoku earthquake, tsunami and nuclear accident disaster

In March 2011, a powerful earthquake off the east coast of Japan triggered an unprecedented disaster in the region of Tohoku. The magnitude 9.0 event was the strongest ever to hit the country, and caused a tsunami on a scale expected only once in 1,000 years.[135] Most of the immediate damage and losses were linked to the tsunami, including the deaths of 18,479 people and the inundation of the emergency generators needed to cool the reactors at the Fukushima Daiichi nuclear power station.[136] The power failure led to the meltdown of three reactors and the worst radiation leaks since the 1986 Chernobyl disaster in Ukraine.

More than 470,000 people were forced to flee their homes, and four years later around 230,000 are still displaced and unable to achieve durable solutions.[137] High levels of radiation, low levels of trust in official information and poor consultation with the communities affected have delayed solutions for IDPs who are unable or unwilling to return to their homes. Most are from Fukushima prefecture, where 164,865 people living near the damaged nuclear plant were evacuated. According to official figures, 116,284 were still displaced as of March 2015 (see figure 5.8).[138]

Wide areas around the damaged nuclear plant were still under evacuation orders as of October 2014, as shown in map 5.4. In May 2015, the government announced its intention to lift its orders in remaining parts of areas one and two within two years,[139] but the number of people who have returned or intend to return remains low.[140] Many are still concerned about radiation levels, and unsure as to whether they would be able to resume a normal life.[141] It is unlikely that return to area three will be permitted for the foreseeable future.

Some people living in parts of Fukushima not officially designated evacuation zones left of their own accord because of increased radiation levels. There is no systematic data on those who did so, but research suggests that many were mothers with young children who feared health risks, and who left their husbands behind to work and support their families.[142] Mandatory evacuees from official zones are eligible for compensation according to the category of area they left, with payments ending a year after the evacuation orders are lifted. In contrast, voluntary or unofficial evacuees receive little compensation and are not entitled to the same assistance.[143] This differing treatment, anxiety about radiation risks, varying attitudes towards return and the general instability of IDPs' situations have combined to create tensions within affected communities and families, and have led some couples to divorce.[144]

Many evacuees had to move a number of times in the first six months after the disaster,[145] which has also contributed to the splitting up of members of the same households. Forty-seven per cent of those surveyed towards the end of 2011 said they had moved three or four times, and 36 per cent five or six times. Some younger adults have made their own temporary housing arrangements, such as renting apartments, while older generations have stayed in the prefabricated facilities provided. Some IDPs have left for other parts of the country.[146]

Given their disrupted livelihoods and dispersed and divided communities, neither mandatory nor voluntary evacuees have been unable to plan for the future, and prospects for a return to normality are dwindling. In the immediate aftermath of the disaster, evacuees' primary concern was when they would be able to return home. Four years on, however, it is primarily older residents, and particularly those still living in temporary housing, who long to return.

The mental and physical health of IDPs has also deteriorated. A 2015 survey of evacuees revealed that many from both inside and outside official evacuation zones were suffering from sleeping disorders, anxiety, loneliness and depression.[147] Fukushima is the only prefecture where the number of deaths resulting from health issues and suicides related to the disaster has exceeded the toll from the direct impacts of the earthquake and tsunami.[148] Older people are particularly affected, with those above the age of 66 accounting for more than 90 per cent of such fatalities.[149]

There are also many obstacles to IDPs' achievement of durable solutions in Miyagi and Iwate, the two prefectures worst affected by the tsunami. Recovery could start sooner in these prefectures than in Fukushima's evacuation zones, but they face their own contextual issues. Less data is available on the situation of IDPs in Miyagi and Iwate than in Fukushima, and the latter has received much more political attention.[150] The number of evacuees has dropped in both prefectures since its peak in June 2011[151], due in large part to people moving away from coastal areas, particularly from towns whose centres were razed.[152]

Many areas were already experiencing depopulation before the tsunami, and the disaster has increased this trend. As in Fukushima, many younger residents and families frustrated by the slow pace of reconstruction have moved to urban centres in search of better housing, education and work opportunities.[153]

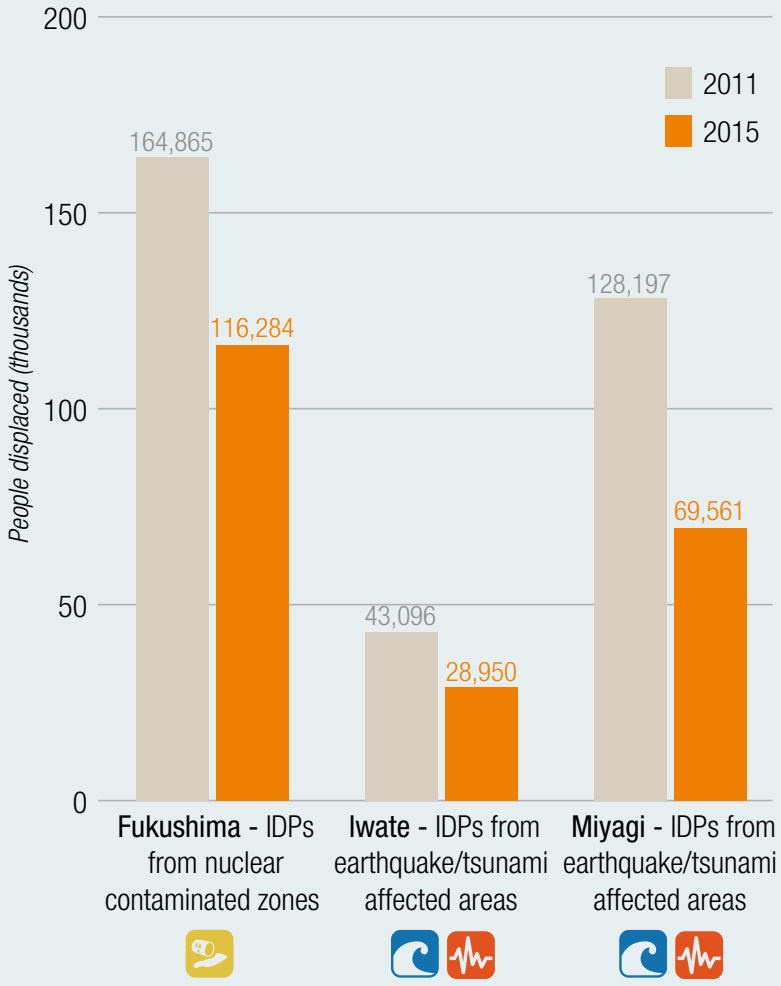
A number of coastal municipalities in Miyagi and Iwate have begun the process of permanently relocating communities from tsunami devastated areas to higher ground or inland, where they are less exposed to future risks.[154] The length of time needed to complete these schemes is measured in years rather than months.[155] Collective resettlement schemes in Japan have traditionally been designed with the relocation of smaller communities in mind, as in the case of mountainous villages affected by landslides. As of December 2011, 37 municipalities had included collective relocation in their recovery plans, but only 26 eventually decided to implement such schemes.[156]

The plans were designed to preserve social cohesion, but one of the main factors behind municipalities' decisions not to go ahead with them was the difficulty they faced in reaching a consensus among the communities concerned and many such schemes have left the local population divided. Some residents, such as those who previously worked in the fishing industry, were unwilling to resettle away from the coast.[157] Others, particularly those who lost family members, felt too traumatised to rebuild their homes in areas the tsunami devastated.[158]

Cost and the availability of suitable land have also been significant obstacles. Many subsidies have been introduced, but relocation remains an expensive option for the struggling municipalities and many of their displaced residents. The acquisition of enough land suitable for large-scale relocation proved difficult in coastal areas with complex topography, and some schemes had to be redrafted several times as a result.[159] Only 48 per cent of land development in relocation sites is expected to be complete by March 2016.[160]

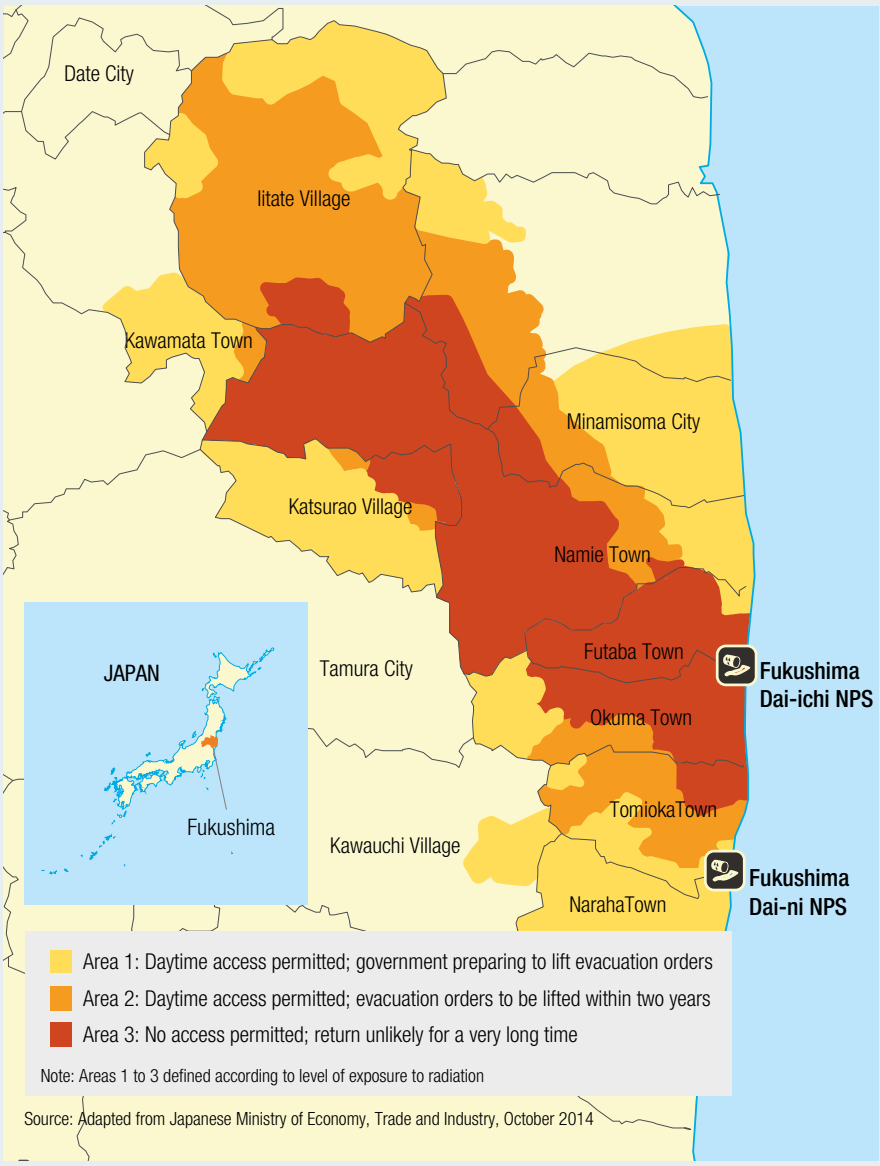
Relocation schemes have been put in place for a relatively small number of coastal communities from areas officially designated as unsafe for reconstruction and habitation. Residents are free to choose whether or not to participate in the schemes, but the basis on which they make their decisions are often inconsistent and unclear, with confusion between different administrative levels of government and poor communication

Figure 5.8: Displacement following the Tōhoku disaster from nuclear contaminated areas and earthquake/tsunami affected areas, 2011-2015



Source of data: Fukushima prefectural government, 2015; Japan Reconstruction Agency, 2015

Map 5.4: Mandatory evacuation zones in Fukushima prefecture



with the affected communities.[161] Some households who initially opted to relocate changed their minds as the timeframe for the process lengthened and costs increased.[162]

Those able afford it, most often younger families, have started to rebuild their lives elsewhere or moved to more urban and convenient locations, accentuating the shrinking economies and aging populations of rural areas. For those who remain, this raises serious questions as to whether relocation will provide new homes and create sustainable communities in places where people are both physically safer and also want to live.

The uncertainty and anxiety of prolonged displacement and an unclear future looks set to continue for many of the communities affected by tsunami and those from the areas of Fukushima contaminated with radiation. In both cases, addressing the long-lasting social and psychological consequences of displacement remains as important as the reconstruction of infrastructure and environmental remediation.

SPOTLIGHT

UNITED STATES

Displaced people in New Jersey still seeking solutions after superstorm Sandy

Over 39,000 people who fled their homes in east coast regions of the United States in October 2012 to escape superstorm Sandy are still in need of housing assistance and longer term solutions.[163] Their predicament has lasted well beyond the two-year recovery period envisaged by the state and federal authorities.[164]

In far more vulnerable countries hit by the same storm, such as Haiti, protracted displacement might be expected given the country's relatively weak capacity for recovery.[165] The situation in the US shows that poorer and more marginalised members of the population in a high income country are also more likely to face long term challenges.

Heavy rains, hurricane-force winds and extensive coastal flooding caused severe disruption and damage to private homes, businesses and public infrastructure along the eastern seaboard, in the Appalachians and across parts of the Midwest, forcing more than 750,000 people to flee their homes at the peak of the crisis.[166] In the absence of a local, state or federal agency that monitors displacement caused by disasters, there are no official estimates of how many people are still without solutions to their displacement.[167]

Specific information about the plight of people displaced in the badly affected state of New Jersey, however, provides important insights into their ongoing needs and the obstacles they face in achieving durable solutions.[168]

Of the 161,000 families (430,700 people) recorded as displaced in New Jersey the day after Sandy struck, around 39,000 families (104,300 people) were still displaced six months later, according to the state governor.[169] Two and a half years later, based on applications made for government reconstruction assistance, 14,650 families or around 39,200 people who owned their destroyed pre-Sandy homes are still in need of housing solutions (see figure 5.9). An unknown number who were tenants before Sandy severely damaged their homes are similarly in need.[170]

> **We cannot move one more time to a home that's not ours … Every day is 30 October 2012 for us. We're stuck where we were the day after the storm.**
>
> *Displaced woman, Belmar, New Jersey, 4 February 2015* [171]

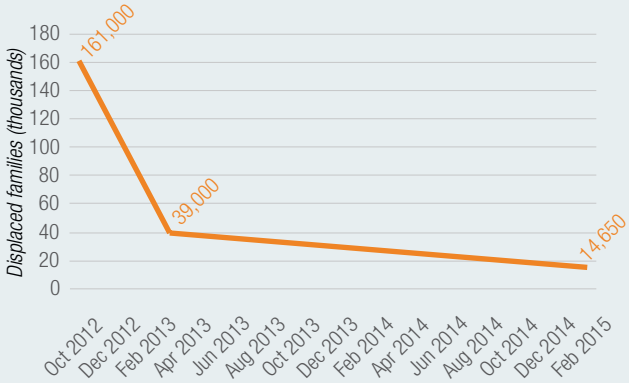
Many are living with family and friends or in temporary rented accommodation, and some have had to move a number of times.[172] Some people living in damaged mobile home communities have been forcibly evicted and their trailers bulldozed.[173] Many people who were not displaced or returned quickly are still living in homes that are damaged or do not comply with building standards.[174]

Monmouth University's polling institute has tracked the experiences of the New Jersey residents hardest hit by the disaster over time. It defines "hardest hit" as those "who were displaced from their homes for a month or more, or sustained $8,000 or more in damage to a primary home due to Sandy". Findings from a survey in October 2014 show that only 28 per cent of people still displaced after a year were able to move back to their homes over the following 12 months. Sixty-seven per cent remained displaced after two years, and six per cent said they would never return to their original homes (see figure 5.10).[175]

The longer people are displaced for, the greater their needs become across a range of areas.[176] The greatest need among all people surveyed was for money to rebuild their homes and retrofit them for flood resilience. Among those still displaced after two years, the need to replace household items such as furniture and appliances was far greater than among other groups (see figure 5.11).

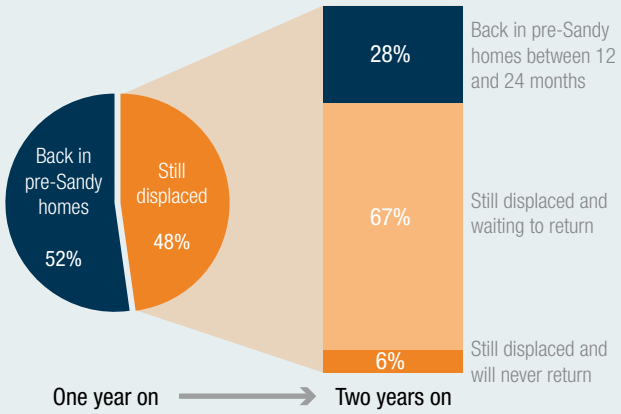
Those still displaced after two years were also in much greater need of financial assistance. Some were struggling to meet their basic needs and feed their families, in many cases because they faced the double burden of paying both rent and the mortgage on the former

Figure 5.9: New Jersey families displaced following superstorm Sandy



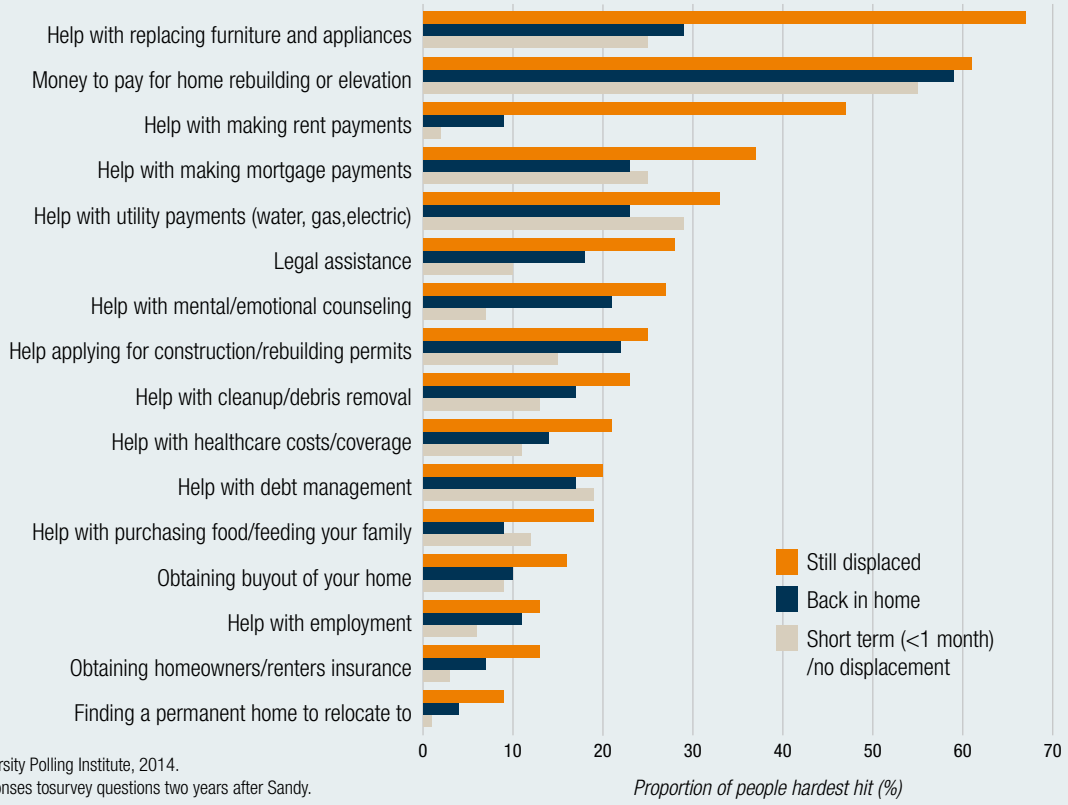
Note: Feb. 2015 figure includes home owners only and not tenants
Source of data: Oct. 2012 and Feb. 2013 - Governor of New Jersey, 2013;
Feb. 2015 - Fair Share Housing Centre, Latino Action Network and NAACP, 2015

Figure 5.10: People hardest hit in New Jersey one and two years after superstorm Sandy



Source of data: Monmouth University Polling Institute, 2014. Based on individual responses to survey questions both one year and two years after Sandy.

Figure 5.11: Needs of the population hardest hit by superstorm Sandy by displacement status



Source: Monmouth University Polling Institute, 2014.
Based on individual responses tosurvey questions two years after Sandy.

homes. They were also more likely to need legal assistance, mental healthcare and counselling (see figure 5.11).

Monmouth University's research found that 31 per cent of people still displaced after two years showed potential symptoms of post-traumatic stress disorder.[177] The figure rises to 38 per cent for those unable to return and who will have to find alternative solutions, and compares with 3.5 per cent for the general population and 18 per cent of those badly affected but who were able to return home within two years or not displaced at all by Sandy.

The high incidence of psychological distress among people living in prolonged displacement is not unique to this disaster. Similar findings were reported after hurricane Katrina in 2005.[178]

People displaced by Sandy, and particularly the most marginalised among them, face a range of obstacles specific to their different situations and needs in their efforts to achieve a durable solution. These include geographical barriers to housing, land use and zoning restrictions, and discrimination in credit and lending practices.[179] Other issues widely cited include a lack of transparency and access to information, and discrimination in the allocation of funding.[180]

Numerous sources point to problems arising from the lack of information about

assistance available and implementation processes at various levels of government. Some people have been waiting for funds for two and a half years, and have been offered no explanation as to the delay. Those whose first language is not English are at a particular disadvantage. According to one legal complaint filed about housing discrimination, information in Spanish was not posted until after the close of public comment periods, and in some cases contained inaccuracies including incorrect deadlines for applications.[181]

The initial distribution of recovery funds and assistance was biased towards homeowners. Despite the fact that 40 per cent of the homes Sandy damaged were occupied by tenants rather than property owners, this group received only 25 per cent of the housing assistance available in 2014. Given that African-American, Asian-American and Latino families, and lower income families across all ethnicities were more likely to be tenants, the bias entrenched pre-existing inequalities and discrimination.[182] After settlement of the complaint filed by the Fair Share Housing Centre, the Latino Action Network and the New Jersey National Association for Advancement of Colored People, US (NAACP), the authorities have begun to address the issue, as evidenced by an increase in assistance for tenants to 33 per cent as of January 2015 (see figure 5.12).

Getting people back in their homes is not a panacea for healing all the mental health concerns of Sandy survivors. However, it is the biggest single factor we see in these results.

Patrick Murray, director of the Monmouth University polling institute

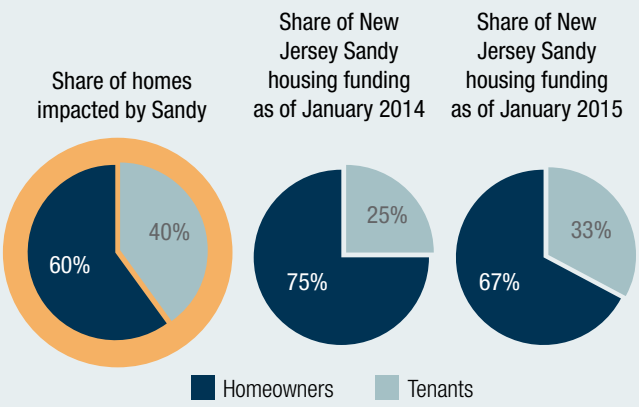
The Fair Share Housing, Latino Action Network, and New Jersey NAACP report also suggests discrimination on the basis of race and ethnicity in the allocation of funding for rehabilitation, reconstruction, elevation and mitigation projects for homeowners. Applications from African-American families were initially rejected twice as often as those from their white non-Latino counterparts, and those from Latino families were rejected 20 per cent more often. Eighty per cent of rejected applications were later deemed eligible on reassessment (see figure 5.13).[183]

People like me have largely been forgotten in the recovery effort.

Response of 71% of hardest hit people surveyed by Monmouth University

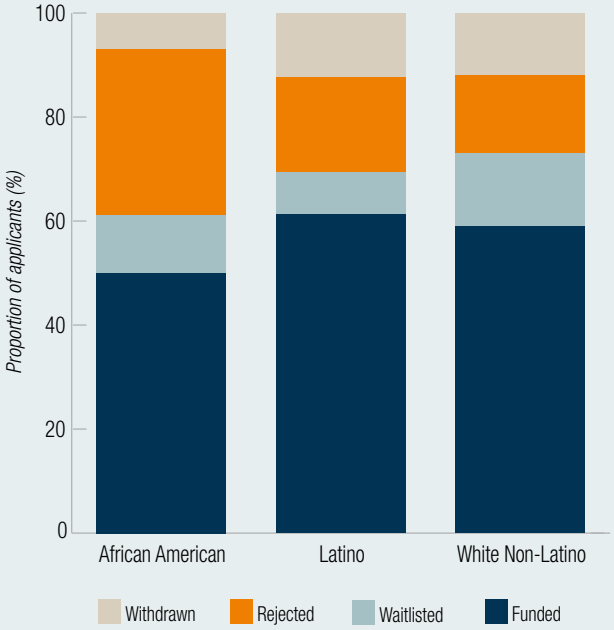
Superstorm Sandy had a devastating impact on New Jersey, and huge progress has been made in the state's overall recovery. For the thousands of people still displaced, however, the disaster is not yet over, and many say they feel neglected. Their feelings reinforce the need for state and federal authorities to focus their attention on those living in prolonged displacement, particularly given that many are also some of the most marginalised members of the affected communities.

Figure 5.12: Financial assistance allocated for the repair of homes damaged by superstorm Sandy – owners compared to tenants



Note: Funding for homeowners comes from the Reconstruction, Rehabilitation, Elevation and Mitigation (RREM) programme, while funding for tenants comes from the Fund for Restoration of Multi-family Housing (FRM)
Source: Fair Share Housing Centre, Latino Action Network and NAACP, 2015. Using FEMA data.

Figure 5.13: Response to homeowner applications for financial housing assistance - by applicants' race and ethnicity



Note: State of New Jersey funding program for Rehabilitation, Reconstruction, Elevation and Mitigation (RREM)
Source: Fair Share Housing Centre, Latino Action Network and NAACP, 2015. Using FEMA data.

A girl still living on low-lying embankments in Dacope, Bangladesh. Hit by Cyclone Aila in 2009, the area is still very vulnerable to hazards including cyclones and tidal surges. Photo: Chirine El-Labbane/ Nansen Initiative, April 2015

6 THE POST-2015 GLOBAL POLICY AGENDA

Key findings and messages

- **The time is opportune for displacement associated with disasters to be better addressed in major global policy agenda and their implementation in the post-2015 period.** They include the Sustainable Development Goals, the Sendai Framework for Disaster Risk Reduction, action on climate change under the UNFCCC and preparatory work for the 2016 World Humanitarian Summit.
- **A comprehensive approach to displacement** will help to forge strong links and continuity between these initiatives, and support the implementation of global and national commitments.
- **Displacement can no longer be considered as a primarily humanitarian issue**, nor one that is specific to conflict situations. In most countries affected it has multiple and overlapping causes, and addressing it requires close coordination of humanitarian and development policy and action within and between governments.
- The increasing number of people displaced and at risk of becoming trapped in protracted situations following disasters underscores the **urgent need to include people displaced or at risk of becoming so in sustainable and inclusive development measures.**
- **Improved monitoring and data on displacement is needed to measure the achievement of national and global policy targets** for inclusive and sustainable development, disaster risk reduction and management, and adaptation to climate change.
- In order to prioritise resources and target responses to where they are most needed, **a common framework for collecting, interpreting and comparing displacement data** should be established between government and partner organisations and across different timeframes.
- Special attention should be paid to collecting **data disaggregated by gender, age and specific vulnerabilities**, and to monitoring the situation of people caught in **long-lasting or chronic displacement.**

Displacement associated with disasters is a global phenomenon with implications for major areas of policy and action currently under discussion. These include the Sendai Framework for Disaster Risk Reduction endorsed in March, the Sustainable Development Goals (SDGs) to be adopted later in the year, negotiations ahead of the conference of the parties to the UNFCCC in Paris at the end of it, and preparations for the World Humanitarian Summit in May 2016.

The relevance of displacement to all these initiatives underlines the need for strong links and continuity between them, global commitment to their implementation and national accountability for doing so. Their success will depend on the extent to which they provide a coherent framework for comprehensive, integrated and long-term approaches to the issue. Their outcomes will also rely heavily on signatory governments' ability to measure and demonstrate concrete progress towards achieving their goals.

6.1 Sustainable development for all: Including those displaced by disasters

The Millennium Development Goals (MDGs) were established in 2001 to guide the international community's development agenda. World leaders are due to adopt their successor, the SDGs, at a summit in September. Preparations for the summit represented an important opportunity to put displacement on the agenda, and to better focus support for governments to ensure that related issues are properly addressed in national and local development plans.

During the final stages of preparing proposals on the SDGs and their associated targets, UN member states debated the inclusion of a stand-alone target for reducing the number of IDPs and refugees, including via long-term efforts to facilitate the achievement of sustainable solutions to their displacement. Ultimately, however, they were unable to agree on such an undertaking among the set of 17 SDGs and 169 targets.

In its absence, discussions have been underway to consider other ways of incorporating displacement into the final framework, including explicit reference to IDPs in its definitions of vulnerable and marginalised groups. Displacement indicators may also be incorporated into resilience targets 1.5 and 11.5:

> 1.5: "By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters."

> 11.5: "By 2030, significantly reduce the number of deaths and the number of people affected and decrease by [x] per cent the economic losses relative to gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations."

This could, in effect, provide a measure of the number of people displaced by the events mentioned, and those who have achieved durable solutions. Member states may also suggest that the SDGs' central commitment to "leave no one behind" should explicitly include IDPs and refugees, a point already underscored by the UN secretary general, Ban Ki-moon, in his synthesis report on the post-2015 agenda.[1] Reference to the devastating impact of chronic and protracted humanitarian crises and displacement on sustainable development may also be included in the political declaration on the post-2015 agenda.

No matter how and where displacement features in the SDGs, it should be recognised as a global issue requiring a particular focus. Alongside countries' broader efforts to make progress toward the proposed goals - whether on poverty reduction, health, nutrition and food security, education, income and gender inequality or access to safe drinking water - they face the additional and considerable challenge of responding to the needs of large numbers of people displaced by disasters every year.

From one perspective, preventing and responding to displacement represents just another in a long list of intractable problems. From another, however, it addresses an urgent global issue that threatens to undermine all of the SDGs. In other words, helping people displaced by disasters to rebuild their lives and livelihoods forms a necessary part of making progress towards them.

As signatory states embark on their efforts to reach the SDGs, the monitoring and measuring of progress will be vital. Doing so will require agreement on global, national and sub-national baselines, benchmarks and definitions for the aggregation of data, and local to global sharing of information. To enable the monitoring of people who face challenges and risks related to displacement that may lead to their exclusion from development gains, data should be collected by gender, age and specific vulnerabilities, and pay particular attention to those trapped in long-lasting or chronic displacement.

Work is already underway at different levels, including the UN Statistical Commission (UNSC)'s recent global initiative to address gaps in displacement data and work on disaster statistics at the regional level by the UN Economic and Social Commission for Asia and the Pacific. As the secretary general's special representative for disaster risk reduction has said: "Access to information is critical to successful disaster risk management. You cannot manage what you cannot measure."[2]

6.2 Down to business: Implementing the Sendai framework

Displacement is well positioned in the Sendai Framework for Disaster Risk Reduction 2015-2030. Endorsed by 187 countries in March, it contains four paragraphs that mention the term, spanning the background rationale and the issues of risk governance, preparedness, response and recovery and reconstruction. Evacuations are addressed in a separate paragraph, and relocation as a preventative measure is also mentioned, as are migrants as a group whose participation at the local level should be supported. Sendai's predecessor, the Hyogo Framework for Action, made only passing reference to displacement issues.

Priority two of the Sendai framework calls on states to:

> "Promote transboundary cooperation to enable policy and planning for the implementation of ecosystem-based

A landslide devastated villages in Badakhshan province, Afghanistan on 2 May 2014. Over 6,300 people were displaced. Photo: IOM/Matt Graydon, 2014

> approaches with regard to shared resources, such as within river basins and along coastlines, to build resilience and reduce disaster risk, including epidemic and displacement risk."

Priority four highlights the need to:

> "Promote regular disaster preparedness, response and recovery exercises, including evacuation drills, training and the establishment of area-based support systems, with a view to ensuring rapid and effective response to disasters and related displacement, including access to safe shelter, essential food and non-food relief supplies, as appropriate to local needs."[3]

The framework does not, however, specifically call on states to collect data on displacement. One solution to this might be to incorporate displacement-specific indicators into national disaster loss databases. Another cause for concern is that it lacks measurable benchmarks for assessing progress towards implementation. Rather than including quantitative targets, its seven global objectives aim to reduce risks and enhance capacities "substantially".[4]

UNSC and other bodies working with displacement and disaster risk data at the global and regional level have an important role to play in developing standards, baselines and benchmarks for monitoring the framework's implementation. As the region worst affected by disasters and their impacts, Asia and the Pacific will have a strong voice in policy dialogue and reporting at the global level. Regional efforts are underway by member states and experts from the UN Economic and Social Commission for Asia and the Pacific (ESCAP)'s statistics committee. An expert group has been tasked with developing common basic standards and a compilation guide for the disaster statistics needed to monitor progress towards achieving the objectives of both the Sendai framework and the SDGs.[5]

In the long run, the main challenge for Sendai's signatories will lie in the robust implementation of the framework's provisions. If the Hyogo framework serves as an indicator, states will have to make more effort to reduce disaster risks effectively. Thus far they have made progress in life-saving areas such as early warning, evacuations and response, but they have struggled to address drivers of risk such as poverty, rapid and unplanned urbanisation, weak governance and environmental degradation. If they fail to make significant progress in these areas, the inclusion of displacement in the Sendai framework will have been a pyrrhic victory.

6.3 Heading for Paris: Displacement in climate change negotiations

In the 2010 Cancun Adaptation Framework, parties to UNFCCC recognised the need to address displacement as part of countries' efforts to adapt to the negative impacts of climate change.[6] Given that the Cancun framework still stands today and is not time-bound, some have questioned why the anticipated agreement at the Paris conference of parties (COP21) should have to reaffirm this.

The fact is, however, that the Paris agreement will set the agenda for the coming years. The increased risk of displacement triggered by weather-related hazards underscores the need for the issue to be put firmly on that agenda. The agreement will also establish both implicit and explicit guidelines on financing and action to miti-

gate the effects of climate change, and it will be much easier to mobilise resources in support of issues included in it.

The issue of displacement associated with climate change appears in the draft text that will serve as a basis for the agreement. The agenda item related to "the work programme on loss and damage associated with the negative impacts of climate change" includes a proposal to establish a "displacement coordination facility". This has the potential to address a number of issues related to population movements, be they planned or unplanned, voluntary or forced.

The current proposal, however, is flawed in two ways. Not only would the suggested facility duplicate some functions of existing UN entities, but addressing displacement exclusively as an issue of "loss and damage" ignores the fact that there are many ways in which the risk of it can be reduced through effective adaptation.

The Paris agreement should encourage countries to reduce the risk of displacement occurring in the first place, facilitate responses when it does happen and ensure that IDPs achieve durable solutions that remove them from cycles of ongoing and worsening risk. It should also consider displacement risk associated with efforts to mitigate greenhouse gas emissions, something that has never been addressed as part of the UNFCCC.

6.4 Towards Istanbul: Transforming humanitarian action

The first World Humanitarian Summit will take place in Istanbul in May 2016, and preparations are reaching a crucial stage. Since the UN secretary general launched the initiative in 2013, nearly three years of regional and thematic consultations have taken place involving governments, UN agencies, NGOs, universities, think tanks and private companies from all over the world. Many of them come to an end on 31 July 2015, but not before they have captured different perspectives on the future of humanitarian action and helped to prioritise recommendations.

The consultations have been guided by four major themes - humanitarian effectiveness, reducing vulnerability and managing risk, transformation through innovation, and serving the needs of people in conflict. All four are relevant to some of the challenges inherent in displacement associated with disasters, and aim to build clear links between concurrent global development, disaster risk reduction and climate change processes around a common thread of building resilience to the changing nature of shocks and stresses.

A number of recommendations relevant to disaster displacement have emerged. They emphasise the need to better align humanitarian and development approaches and action on disaster risk reduction, and to invest significantly more in the pursuit of sustainable solutions to protracted displacement. They also encourage governments to invest more money and effort in managing disaster risk, including through the improvement and implementation of legal frameworks, and stress the important role of regional organisations in disaster preparedness, and of civil society in strengthening local communities' capacities and resilience.

Regional consultations in Abidjan, Tokyo, Pretoria and Budapest recommended the strengthening of national and regional legal frameworks on displacement, and mentioned the Kampala Convention as a model. The convention has a number of provisions relevant to displacement associated with disasters. It calls for the development of early warning systems, disaster risk reduction strategies and response measures in areas at risk of displacement. In line with the Guiding Principles, it also obliges states to protect communities with special attachment to or dependence on their land, such as pastoralists.

Discussions leading up to the summit have also explored the interplay between disasters and conflict, and recognised that addressing them as separate issues in countries affected by both leads to a poor analysis of the risk environment and the range of solutions required. Other discussions have covered risk finance mechanisms to address displacement issues, recognising that insurance and risk transfer instruments can help to mitigate some risks and even improve resilience.

As this report shows, the scale and complexity of displacement in countries unable to cope with the phenomenon puts considerable and growing pressure on the international system for humanitarian protection and assistance. It is also clear that displacement cannot be considered a purely humanitarian issue. The increasing number of people trapped in chronic and protracted displacement underscores the urgent need for greater investment in disaster risk reduction and development approaches that facilitate the achievement of durable solutions.

At this crossroads for key global agendas addressing some of the world's most pressing problems, situating displacement accurately within each of them can seem daunting. It should, however, be framed and addressed as an issue that underlies and cuts across a number of global challenges. Preparedness and response initiatives must also be more effective in prioritising stretched resources to reach the most vulnerable populations in multi-risk environments.

It is encouraging that so many governments and civil society partners are working together on cross-cutting issues of global concern. The very fact that forums exist within which such issues can be addressed is a sign that there is political will to improve on the status quo.

In terms of displacement associated with disasters, governments and their partners need to collect and report high-quality data and use it to inform targeted responses to what constitutes a growing global crisis. Such information will also enable them to gauge to what extent they are succeeding in making a difference to the tens of millions of people whose lives are turned upside down each year when they are forced to flee their homes.

ANNEX A
Methodology

IDMC's annual Global Estimates report provides a quantified global view of displacement associated with disasters brought on by natural hazards, based on the best data available. Depth is addressed in a more anecdotal way, via case studies and other specific examples that provide insights into patterns, trends and qualitative issues. These notes detail the methodology we use to produce our global estimates, modelled displacement trends and research on protracted displacement.

The annex is divided into three parts:

1. the methodology used to create our global dataset, which measures the incidence of new displacement for each year since 2008 and now includes 2014
2. the methodology used to produce the latest iteration of our probabilistic model of average historical displacement and trends from 1970 to 2014
3. the methodology used to gather and analyse information about prolonged and protracted displacement

A.1
The annual measurement of new displacement caused by disasters between 2008 and 2014

This part of the annexe refers only to our annual global estimates based on the direct reporting of displacement events. As explained in section two, we define displacement as the forced movement of individuals or groups of people from their homes or places of habitual residence, as described in the 1998 Guiding Principles on Internal Displacement.

It does not matter how far or for how long people are forced to move. We consider people rendered homeless or deprived of their livelihoods but who remain close to their original dwellings as displaced, whether they do so by choice or because they have no alternative access to shelter and assistance. A rapid-onset shock in the form of a natural hazard may trigger such movements, as a result of its direct threat to, or impact on exposed and vulnerable people.

This year's report presents our latest findings on displacement caused by disasters in 2014 and compares it with data for the seven-year period from 2008 to 2014. We encountered regular challenges in the collection, compilation and interpretation of data from different sources, including varying institutional mandates, research domains, terminology and definitions, and the variety of reasons organisations had for collecting and publishing the data in question.

We have introduced new developments into our methodology since last year's report as part of our continuous efforts to increase the accuracy, quality and consistency of our data. They include a new formula for the calculation of average household size, the use of UN naming for countries and territories and updates to the categorisation of different hazards.

Scope, resolution and limitations

Typological: The classification of the events behind our estimates and historical trend model refers to the original or primary hazard that triggered the disaster and displacement. It covers disasters associated with geophysical, meteorological, hydrological and climatological hazards that are rapid in their onset as identifiable events though their dynamics vary greatly. Some events fall on a continuum between rapid-onset and slowly evolving events.

Sub-types and "sub-sub-types" of hazard are also covered. Specific hazards are often part of a series of cascading or inter-related hazards that take place over hours or months as a disaster unfolds, such as aftershocks and other secondary hazards following a major earthquake, or floods and landslides during or after a period of heavy rainfall.

Our global data includes displacement associated with all of the hazard types described in the non-exhaustive list shown in table A.1, with the exception of drought. Drought and gradual processes of environmental degradation can be significant drivers of disaster and displacement, but they are less directly attributable as the primary trigger and are beyond the scope of our methodology for producing aggregated global estimates.

We are developing different methodologies to analyse slow-onset hazards and their contribution to crises and displacement as part of a complex mix of drivers - see section four of our 2014 Global Estimates report[1] - but we are not yet in a position to provide global statistics.

*Table A.1 Typology of natural hazards**

Hazard category	Hazard type	Hazard sub-type	Hazard sub-sub-type
Geophysical	Earthquake, mass movement, volcanic activity	Ground shaking, tsunami, sudden subsidence, sinkhole, landslide, rock fall, ash fall, lahar, pyroclastic flow, lava flow, toxic gases	
Meteorological	Storm, extreme temperatures	Extra-tropical storm, tropical storm (includes hurricane/cyclone), convective storm, cold wave, heat wave, severe winter conditions	Derecho, hailstorm, thunderstorm, rain storm, tornado, winter storm, blizzard, sand storm, dust storm, storm surge, gale
Hydrological	Flooding, landslide, wave action	Coastal flood, riverine flood, flash flood, ice jam flood, avalanche (snow, debris, mudflow, rock fall), rogue wave, seiche	
Climatological	Drought, wildfire	Forest fire, land fire (bush, brush, pasture)	

*This typology is adapted from the classification system developed by the international disaster database (EM-DAT), maintained by the Centre for Research on the Epidemiology of Disasters (CRED) in Brussels.

Spatial/geographical: Using an inclusive global scope, we recorded the incidence of displacement induced by disasters in 173 countries between 2008 and 2014, and 100 in 2014 alone. We aggregate event-based estimates to provide national, regional and global estimates, but the data does not allow for cross-event statistical analysis at the sub-national level. Nor is it currently possible to analyse the data by other location-related variables relevant to understanding exposure to hazards and vulnerability, such rural and urban settings, mountainous, river basin and coastal areas. For the same reason cross-border movements are also not identifiable across the global data.

We have increased our access to information at the country level over the past few years in a number of ways. We undertake our own country missions, and we cooperate with our colleagues in the Norwegian Refugee Council's country offices and other organisations such as IOM and IFRC that have a local presence.

Despite these efforts, our data compilation is still limited relative to the number of countries where displacement is known to have occurred. Our research is also limited by the linguistic scope of our in-house experts, who work primarily in English, French and Spanish, and to a lesser extent in Italian, German, Russian and Japanese. That said, our access to local language sources has been improved through a partnership with IOM and its national and international staff.

For the purpose of this report, countries are defined as independent nation states, including their overseas territories and protectorates. For the few countries covered where sovereignty is contested - Kosovo/Serbia, Taiwan/China and Palestine - separate information was available and estimates were possible. The inclusion or exclusion of these and other contested territories does not imply any political endorsement or otherwise on IDMC's part.

Though it does not change our estimates per se, we have adopted the UN naming of countries and territories more precisely this year, and three-digit International Organisation for Standardisation (ISO) country codes are included in our database.

Temporal: Our data for each year since 2008 includes all identified displacements for which information was available from accepted sources, and that started during the calendar year. It also includes a few events associated with disasters that started at the end of the previous year.

In such cases, it was sometimes difficult to ascertain whether figures referred to displacement that began in the previous year or not, but we were careful to minimise the risk of double counting. The consideration of a range of reports that described the disaster context as well as providing figures was helpful in this sense.

The estimates for each event or disaster represent the new incidence of displacement, or the number of people reported as having become displaced at any point during them. They do not capture rates of return, the duration of displacement, the pattern of IDPs' movements after their initial flight or people living in prolonged displacement from one year to the next.

For the time being, we are only able to report on repeated and complex movements and protracted situations anecdotally or via case studies. This represents an important gap in terms of identifying displaced populations likely to be at particular risk and in need of protection and sustainable solutions. To address the gap, this year's report includes an additional annex that lists current long-lasting or

protracted displacement situations as a starting point for further monitoring.

Demographic: We collect our data in ways that aim to be as inclusive as possible of all displaced people and without bias towards particular countries, population groups or in terms of where IDPs take refuge.

The displaced population in any given situation is far from a homogenous group, but disaggregated data is relatively rare. Analysis using key metrics such as gender and age is only possible for specific situations or segments of the overall displaced population. Higher quality data is usually limited to IDPs living in collective sites or settings, where they are assessed in more detail for operational purposes. The paucity of data on those dispersed outside official camps and collective sites is another important gap. Were such information more widely available, the statistical analysis of patterns and trends in IDPs' differentiated needs in diverse contexts would be possible, which would in turn enable the ability of governments, humanitarian and development organisations and donors to determine where assistance is most needed.

For the purpose of providing comprehensive estimates, we base the overall estimate for an event on broader but less granular information sources if they are available. This seeks to include IDPs living with host communities and in other dispersed settings, both within and beyond the areas affected by a given disaster. In many cases, however, the only information we are able to identify refers to a particular segment of the displaced population, such as those living in officially recognised sites, and as such the figure we record in many cases is likely to be an underestimate.

Event-specific data

We only record new displacement in our annual datasets when the information available allows event-specific estimates to be made. We do not use figures that we are unable to break down, such as those already aggregated at the national level, for a whole year or by type of hazard or disaster. This enable verification and ensures consistency and comparability across the data captured.

For this reason we did not include 2014 estimates for South Korea and Angola, and they are not included in the 2014 dataset. It is worth noting that for other countries where alternative event-based data was found, official, pre-aggregated statistics gave a higher estimate of total displacement than our own, most likely because some events were missing from our data and/or because we underestimated the displacement involved in one or more of that year's events. This was the case for aggregated data for 2014 from China and Nepal.

Events caused by "unnatural" hazards

We have excluded events related to hazards that were clearly not "natural" in origin from our 2014 data. In Iraq, for example, we did not include the displacement caused by flooding after Islamic State insurgents destroyed a dam. Given that the destruction was not a response to dangerously high water levels behind the dam, we classified the event as conflict-related instead. As discussed in section 2 of the report on concepts and definitions, it is often difficult to determine whether hazards are more natural or manmade, particularly where floods, landslides and wildfires are concerned.

Defining a displacement event and its size

Our data includes events of all sizes, ranging from a few records of only one IDP to mass displacements of more than 15 million people, but the sources available and our methodology create a bias towards larger, more visible and more widely reported events. Frequent small-scale displacements are included whenever information is available, but such events are underreported.

We only recorded displacements of fewer than 100 people in 29 countries in 2014, less than a third of those covered. From this, we can infer that frequent and widely occurring small-scale events are significantly under-reported for most countries, as discussed in section 2. Data for Pakistan and Timor-Leste came from national Desinventar disaster loss databases, and for Colombia and Indonesia from government-hosted online databases. US data was captured from the Federal Emergency Management Agency's situation reports. IFRC, IOM, national societies and the media yielded most of the data for the remaining countries.

Our 2014 data includes a significant increase in the recording of smaller-scale extensive disasters. Highly detailed information on small local events was aggregated when they were clearly identifiable as related to a main weather system, flood season or other hazard, including secondary hazards such as landslides during a period of flooding. This type of aggregation is widely used in the international reporting of disasters, and we applied it to 71 events in nine countries in 2014.[2] Detailed records of sub-events are maintained in our database to facilitate more granular analysis in the future.

Our data also includes reported disasters for which no displacement was recorded. If information was not available to compile an estimate in accordance with our methodology, it was recorded as "no data available", while those for which sources explicitly stated that no displacement occurred were recorded as "zero displaced". The difference is important to note, because it is much more common for the scale of displacement associated with a disaster to be unknown than confirmed as zero.

Defining the duration of a disaster

Defining and classifying a disaster period can be challenging in terms of its start and end date, and its complexity beyond the direct impact of the main hazard, where such a hazard is clearly discernable. In reality, a disaster usually involves a number of sub-events and phases. This is particularly true of displacement across wide areas during successive periods of heavy rainfall together with secondary hazards such as landslides, or when similar events happen in parallel or close succession in the same country or locality.

As the Dartmouth Flood Observatory notes: "Repeat flooding in some regions is a complex phenomenon and may require a compromise between aggregating and dividing such events".[2] The issue does not alter the overall estimate of the number of people displaced, but it does affect the number of events recorded and the analysis of those events according to their size.

Secondary displacement

In some cases, people fleeing a natural hazard or disaster were already living in displacement before it struck. If it was clear, for example, that people already displaced by conflict were then forced to flee again in 2014 by an event such as the flooding of their camp, the new movements were recorded as new incidences of displacements related to a natural hazard. It should be noted that the very few events of this type that we record probably under-represent the frequency of secondary displacement related to natural hazards as information across most situations is hard to identify.

Sources of information

We regularly review the types of information different sources release on the number, needs and characteristics of displaced people, primarily by gathering and monitoring secondary reports. We systematically seek a range of sources for each country and each disaster. For our 2014 estimates, we increased our research capacity and analysed data from sources including government reports and national disaster loss databases, IOM, IFRC's disaster management information system, UN Office for the Coordination of Humanitarian Affairs (OCHA) and other UN agencies, humanitarian cluster reports, the Asian Disaster Reduction Centre's global unique disaster identifier website and NGO reports.

We also used reputable media outlets as a source of quotes from government officials and local authorities, and local media reports provided an additional source for small events. IOM country offices provided field data and/or gave us access to official sources that we incorporated into our data for 37 countries. If the original source of quantified information was unidentifiable, mostly in the case of figures quoted in the media, we recorded it as "unspecified" rather than referencing the publisher.

Selection and calculation of estimates by event or disaster

In providing our global estimates, we aim to arrive at the best approximation of the total number of people displaced by a specific event or disaster, measuring the incidence of displacement rather than the evolution of the number of people displaced and their movements and situations over time. Our analysis and interpretation of information from multiple sources includes the cross-checking of reported locations and dates to ensure that figures are associated with the same disaster and time period, and that double counting is avoided or minimised. All new incidences of displacement during a given event or disaster period are recorded, which requires the analysis of reporting dates and the consideration of series of situation reports.

The estimate per event is selected according to the most accurate and reliable figure provided or calculated based on a single source, or combined sources when it is clear that overlap and double counting can be avoided. The number of original sources available (disregarding those that re-publish original information from elsewhere) varies from one or two for smaller events to more than four for larger events. Disasters widely covered by the media or which continue for long periods of time also tend to have more sources from which to draw.

If displacement was clearly reported but no explicit figures were available on which to base an estimate, we did not include the event in our data. When figures were only provided in generic terms and more precise data was not available, we applied the following rule: "hundreds" = 200; "thousands" = 2,000; "hundreds of thousands" = 200,000

Reporting terms that identify displacement

A wide range of methods, definitions and terms - such as evacuated, homeless, damaged and destroyed housing, fled, relocated and affected - are used for collecting and reporting figures, and different sources use them in different ways. Such variations arise in part because organisations have different reasons for collecting and reporting data in the first place. In operational settings, the term "displaced" is often applied more narrowly than our definition. It may be used only for people staying in official collective sites or camps, or those displaced a certain distance from their homes.

In some cases evacuees who move to short-term evacuation centres are counted separately from IDPs in camp-like settings. In others, they are considered a subset of the displaced population. IDPs are sometimes considered a subset of the affected population, and sometimes additional to it. Information describing the context and point in time at which displacement is reported, knowledge of typical patterns observed in similar contexts and the quality and reliability of different sources are also taken into account.

We interpret the data we collect using the same broad and inclusive definition of displaced people across all events worldwide. Our definition assumes they are part of the population affected by a disaster, but this does not imply that all those affected have been displaced. We consider evacuees to be IDPs whether or not their evacuation was pre-emptive, and we define people whose homes are rendered uninhabitable as displaced, regardless of how near or far from their homes they move and whether or not they are able to return.

We recognise that different situations create different needs, but our research does not suggest that IDPs who flee further necessarily have greater needs or are more vulnerable. On the contrary, displacement over short distances may be a better indicator of vulnerability, particularly if it is recurrent, given that those affected may be unable to make their way to safer locations or places where they have better access to assistance.

Evacuation data

In addition to direct reports of people having been displaced, fled or been forced to leave their homes, we often use data about mandatory evacuations and people staying in official evacuation centres to estimate event-based displacement.

On the one hand, the number of people counted in evacuation centres may underestimate the total number of evacuees, given that some may take refuge at unofficial sites or with family and friends. On the other, the number of people ordered to evacuate may overstate their true number, given that some will usually not heed the order. The potential for such discrepancies is much greater when authorities advise rather than order evacuation, and as a result we do not incorporate such figures into our estimates.

Data on housing rendered uninhabitable and people made homeless

Data on people rendered homeless points to a severe situation and the risk of prolonged displacement. Areas where homes and infrastructure have been severely damaged or destroyed are unlikely to be able to support early safe returns. The number of people made homeless may be reported directly, but if not we infer it from the number of homes reported as severely damaged or destroyed, multiplied by average household size. We do not use data on homes reported simply as damaged, because the term tends to be too broad to determine whether or not they have been made uninhabitable.

A new formula for calculating average household size

Nearly half of our event-based estimates rely in part on calculations based on houses rendered uninhabitable multiplied by average household size, but standardised and up-to-date information is not available for all countries. In its absence it is not an easy parameter to enumerate, but given its importance we have improved this aspect of our methodology.

We previously applied a rough but consistent calculation by adding an "adults in household" constant of two to the modelled fertility rate for 2010 to 2015. Our new formula, applied to our 2013 and 2014 datasets, is as follows:

1. If household data is available from the 2013 UN Statistics Division (UNSD) household size dataset, these figures are used - total population/total households - otherwise:
2. If household data is available from the 1995 UNSD household dataset, these figures are used - 1995 total population/total households - otherwise:
3. If living quarter data is available from the 1995 UNSD household dataset, these figures are used - 1995 total population/total living quarters - otherwise:
4. If fertility rate data for 2000 to 2005 is available from the UN Population Division is available, these figures are used - adding an "adults in household" constant of 1.7, otherwise:
5. The previous formula using the modelled fertility rate for 2010 to 2015 plus an "adults in household" constant of two is applied.

The process is honed further by prioritising selected events and countries for additional research to glean the most recent statistics available from the websites of national statistics offices. For 2014, this was done for all disasters that displaced more than 100,000 people and all countries with three or more event estimates that relied on household-level data.

Where time permitted, the same research was done for countries with significant events that displaced fewer than 100,000 people but which met the second criterion. Official average household sizes for Bangladesh, Bolivia, Cambodia, China, India, Indonesia, Japan, Malaysia, Pakistan, the Philippines, Sri Lanka, Sudan and the US were calculated in this way.

Full technical notes on this part of our methodology are available on request.

Reporting bias

There are a number of causes of bias in our source information and methodology that should be noted:

- It is often difficult to determine whether displacement data is reliable and comprehensive. Global reporting tends to emphasise large events in a small number of countries where international agencies, donors and media have a substantial presence, or where there is a strong national commitment to, and capacity for disaster risk and information management.
- Data on smaller-scale disasters is far more scarce and on the whole significantly under-represented. The effects of disasters on isolated and insecure areas also tend to go relatively unreported because access and communications are limited.
- There tends to be significantly more information available on displaced people in official or managed collective sites than there is on those living with host families and communities or in other dispersed settings. Given that the majority of IDPs usually fall into the second category, figures based on data for collective sites only are likely to be substantial underestimates.
- Reporting tends to be more frequent but less reliable in the most acute and highly dynamic phases of a disaster, when peak levels of displacement are likely to be reached. It becomes more accurate once there has been time to make more reliable assessments. This means that estimates based on later evaluations of severely damaged or destroyed housing will be more reliable, but they are also likely to understate the peak level of displacement, given that they will not include people whose homes escaped severe damage but who fled for other reasons.
- Reporting bodies may have an interest in manipulating the number of people displaced. It may be to maximise the amount of external assistance received, downplay the scale of a disaster if the government may be held accountable or because international attention is deemed politically undesirable.

Improvements in the systematic collection and sharing of reliable information on displacement are essential if we are to continue to improve the quality of our reporting and monitoring - a critical first step in identifying needs, prioritising assistance and informing longer-term solutions.

Quality assurance

Ahead of this year's report, our event-based datasets for 2008 to 2014 underwent further improvements in terms of normalisation and standardisation, which has increased the type and quality of analytics we can run. Background information collected for all displacement events is now archived, and preliminary estimates for all events that displaced 100 people or more were reviewed by a minimum of two in-house researchers. The threshold of 100 was chosen to ensure that as much data as possible was of the best quality within time constraints that did not permit the review of every event.

Reviewers checked the data recorded for each event against its source documents, recorded discrepancies and commented on the quality of the overall estimate. Revisions were made by the person who originally entered the data. Events that displaced 100,000 people or more were reviewed for a third time by a different reviewer to minimise the potential

for errors. IOM field and liaison offices provided extensive inputs to assist in the analysis.

To improve the quality and comprehensive nature of the data we use to produce our global estimates each year, we collaborate with an increasing number of partner organisations and incorporate lessons learned from previous years. Feedback on our work and suggestions for the future are always very welcome.

A.2

Modelling historical displacement

IDMC's historical displacement model incorporates 45 years of data from 1970 to 2014. In tandem with our hand-screened dataset covering 2008 to 2014, it provides a longer timeframe within which to examine disaster-related displacement trend. Now in its second year, we have run several iterations using improved and expanded data, and together with ongoing refinements to our calculation methodology, each one has reduced sources of uncertainty and expanded the model's descriptive capacities.[3]

We undertake our trend-based analysis with a number of important caveats in mind, most of which relate to the quality and availability of the global data on which the model is based.

Firstly, the sample sizes are too small to make inferences about individual countries. Trends based on region, continent or other means of grouping countries with similar characteristics together are more likely to produce accurate and meaningful results. This applies particularly to small territories and populations and those relatively unexposed to hazards, both of which may only be recorded a few times if at all, either in the seven-year dataset of our disaster displacement database, or the 45-year dataset of historical model.

Secondly, some hazards occur regularly and with relative predictability, sometimes several times a year in a particular country or region, but others are far less frequent. Those that only occur once every 100, 500 or 1,000 years are unlikely to be captured in four decades' worth of data and by their very nature they are hard to quantify.

Disaster loss variables and datasets for modelling displacement

As explained in annex A1, we used direct proxies for displacement in the creation of our 2008 to 2014 dataset, including figures for evacuees, people rendered homeless or those whose homes were severely damaged or destroyed, and those living in temporary shelters. Comparable and consistently recorded proxies are not, however, readily available at the global level for the 1970 to 2014 period.

Given this limitation, our historical model augments such information that is available with data on indirect disaster loss variables such as the number of people affected and the number of people killed. This kind of data is among the most commonly and accurately collected for disasters over the long term. That said, data on homes destroyed, though less complete, tends to be a particularly good indicator of the number of people displaced in earthquake scenarios, and so is weighted more heavily for this hazard type in the regression model coefficients.

At first glance, disaster mortality might seem a strange proxy for displacement, but statistical analysis shows that for certain hazards, such as floods, there is a correlation between the number of people killed and the number displaced. At the same time, the number of people affected by disasters has risen significantly since 1970, but the data shows that mortality across all types of hazards increased only slightly. This points to improvements in preparedness, early warning systems and other life-saving measures. Assuming the trend continues, disaster mortality will become a weaker proxy for displacement. We have already removed it from calibration in cases where it is a poor fit for the regression model.

We source additional global data from the EM-DAT international disaster loss database,[4] national disaster loss databases,[5] and datasets from the World Bank,[6] the UN,[7] Index for Risk Management and other demographic sources.[8 9] EM-DAT is the most thorough and widely cited source of global data on disaster impacts.

At the national level, 82 countries have developed national disaster loss databases using the DesInventar methodology, which provides disaggregated and geospatially referenced data on a number of disaster impacts and variables.[10] National DesInventar databases were first established in Latin America in the late 1990s to satisfy a need for high quality local-level information with which to better understand patterns across geographical, political and economic areas.

Many contain highly detailed information across a wide range of categories, from damage to health facilities to secondary and downstream economic losses. Given, however, that each country administers its own database, there are slight variations in structure and more significant variations in data entry, coverage and thresholds that determine whether or not an event is included.

In both the EM-DAT and national databases, mortality data is of better quality than that on people affected or rendered homeless. Quality also varies from hazard to hazard. Homelessness data, for example, tends to be most accurately represented for earthquakes, and least well-tracked for smaller floods. Disasters triggered by storms and major floods have both the highest number of entries and largest totals for people killed, affected and left homeless. Given the larger sample size, subsequent results and analyses for such events are generally more robust.

Disasters linked to frequently occurring and localised hazards such as landslides and small seasonal floods receive substantially less attention because of the difficulties in collecting data on so many events, and differences in methodology. EM-DAT's threshold for including an event is 10 deaths or 100 people affected, which means that the data will be biased towards events in which one or both metrics are met, and against those during which just homes are damaged or livelihoods disrupted. Similar issues and variability occur across hazards and loss metrics as well as databases.

Modelling and calibration using the 2008 to 2014 dataset

Our historical model is calibrated using our high-quality 2008 to 2014 dataset, and improvements to the calibration process have refined the modelling substantially. This year's calibration used a sample size of more than 800 paired entries, almost double the number used in 2014. The 2008 to 2014 and historical datasets also now have compatible structures, extending analytical capacities and enabling direct comparisons between them.

It is important to note that the overlapping years between the datasets provide only a limited sample, which may not be representative of the relationship between disaster impacts and displacement over the whole 1970 to 2014 period. In contrast to the event-based data of the 2008 to 2014 dataset, annual disaster loss data for the historical model is compiled by total per hazard type and country. This is to keep the size of the dataset manageable and, more importantly, to enable matching by year, hazard and country between the two datasets. We are addressing these limitations by continuing to research additional years and past events.

The calibration model finds the best fit between the disaster loss figures and our annual displacement estimates to produce a mean average trend for the period. The modelled annual figures are subject to high levels of variance and should not be considered representative of actual displacement for those years.

This is because calibration is limited to data points between 2008 and 2014, while earlier years contain data points beyond those the model considers in achieving its best fit. The model also seeks only to represent average annual mean displacement, meaning that individual data points fit the trend as a whole. Extremes largely cancel each other out in the trendline.

We ran three iterations in 2014. The first, based on EM-DAT data, applied a naive multiplier across all hazard types. This had the benefit of providing a rough estimate without any significant variance issues, but it failed to produce a good fit in terms of underlying hazard, country and annual data when compared with the events in our 2008 to 2014 dataset.

The second used regression coefficients for each hazard where possible, and generic values for hazard types with limited samples. This meant the impacts of different hazards were weighted more realistically. The third sought to address some of the challenges that arose in the second by using values relative to population and increasing the sample size of disasters.

Given the limited sample sizes, the underlying distribution of the proxy variables over the 1970 to 2014 period was much larger than in the 2008 to 2014 dataset used for calibration. As a result, some entries appear as extreme outliers and skew the results. Several approaches were taken to deal with the most extreme, including scaling values to mortality, affected, homeless and displaced figures expressed per million inhabitants.

In the first half of 2015, we ran three more iterations, eventually arriving at a composite model. For hazard types with large sample sizes, such as floods and earthquakes, the regressions were run with data corresponding to each type of hazard. For hazard types with limited data, such as landslides, values were obtained from a generic regression analysis covering all the hazard types we identify Calibration was done using coefficients obtained from regression analyses between our annual displacement totals by country and year for 2008 to 2014, and equivalent annual mortality, affected and homeless data by country from EM-DAT.

Next steps

We have identified several potential areas of improvement for the next iteration of both the 2008 to 2014 and modelled historical datasets. We envisage expanding the event-by-event coverage in the 2008 to 2014 dataset to also include displacements of more than three million people over recent decades, and to focus on hazard types for which sample sizes are highly limited. This will help to increase the robustness of the calibration algorithm.

Event-by-event matching between the 2008 to 2014 and the historical data for a proportion of the largest entries will also help to address the way in which very large events skew the model for specific countries.

We also intend to investigate the causal relationships between underlying risk drivers and displacement further, using the increased analytical capacities of both datasets. This will include comparison with demographic, social, economic, land-use, governance and other variables. Ongoing improvements in data management, review tracking and the archiving of source documents will continue to improve the depth and breadth of our datasets.

A.3

Building understanding and evidence of protracted displacement following disasters

IDMC conducted a scoping exercise to shed light on an important global blindspot in knowledge about displacement associated with disasters - people living in long-lasting and protracted situations. It had two objectives: to summarise current knowledge about long-lasting and protracted displacement associated with disasters and to compile evidence of ongoing examples of such situations.

We used a range of methods to achieve our aims. We conducted a literature review of peer-reviewed journal articles and news stories from media outlets, and interviews with experts and practitioners, including IOM field office staff. A summary of our findings is presented in section five of this year's report, and the ongoing cases we identified are listed in annex C.

The issue is not addressed in our global estimates for new displacement, nor is it monitored at the international level, while people in such situations are likely to be among the most vulnerable of the millions forced to flee their homes each year. At the same time, the very existence of the phenomenon is also called into question by the common assumption that displacement following disasters, and particularly rapid-onset events, is short-term and "temporary", and that return home is the end of the story. We intend to continue building up and analysing the evidence as part of our global monitoring.

Scope and limitations

Defining a long-lasting and protracted situation, in which people continue to be displaced for longer than is normal or expected and where little or no progress is being made towards achieving a durable solution, is highly context specific and dependent on the perspective from which this is considered, including that of displaced people themselves. Given the international audience for this report, we have interpreted information based on the timeframes commonly applied by governments and donor organisations for disaster relief and early recovery, and at the same time allowed the cases highlighted to question their appropriateness. Therefore, we focused on situations that have lasted for at least a year, beyond the timeframe commonly assumed emergency funding and response planning.

Emphasis was also placed on situations reported as ongoing in 2014/2015, the aim being to highlight cases of immediate relevance and in need of attention, rather than those of more historical interest in terms of establishing lessons learned.

We looked for and found examples of long-lasting and protracted displacement associated with slow-onset as well as rapid-onset hazards and disasters. Ultimately, to be in line with the scope of this report, we chose to include only those for which the hazard event could be clearly attributed as a direct factor driving displacement –that caused by the ongoing Sidoarjo mudflow in Indonesia– in our list. The mudflow and its consequences are also the subject of a spotlight in section five of the report. Other research we have carried out has shown that displacement associated with drought other slow-onset hazards and processes can be long-lasting, and we will continue to investigate and analyse displacement related to such situations also.

It should also be noted that, with a few exceptions, our research relied on documents published in English. As a result, the cases listed in annex C are biased towards examples from English-speaking countries or with a strong international presence at the time of reporting.

Literature review

The literature review focused on two types of source. The first was conceptual and thematic, providing overall analyses or syntheses of key issues. The second was case specific, focusing on particular situations of long-lasting and protracted displacement. The two categories are not mutually exclusive, however. Many sources that focus on a specific example of protracted displacement also have implications for conceptual framing and vice versa.

The thematic category included a number of overarching issues in the aftermath of disasters: the pursuit of durable solutions; overcoming the obstacles that lead to protracted displacement; shelter and land tenure; informal settlers and the challenges of recovery in urban areas; populations awaiting relocation or resettlement within the country; comparisons of displacement dynamics in conflict and disaster situations; ethnographic analyses of disaster recovery; and psychological studies of long-term impacts.

Sources were aggregated from databases of articles published in peer-reviewed academic and professional journals, including Disasters, Forced Migration Review, the Oxford Monitor of Forced Displacement, the Journal of Refugee Studies, Refugee Survey Quarterly and International Migration Review. We also consulted research from think tanks and other institutions that publish research online, including the Brookings Institution-LSE Project on Internal Displacement, the Oxford Refugee Studies Centre, The Overseas Development Institute, IFRC and the UK government's Foresight project.

Sources on specific cases were first identified from our country overview reports. We then aggregated them via searches on humanitarian information services such as ReliefWeb and Integrated Regional Information Networks (IRIN). We also identified sources from the websites of international agencies such as IOM, the camp coordination and management, protection and shelter clusters, IFRC and OCHA; and the websites of international NGOs such as Oxfam, Care, Save the Children, the Solutions Alliance and Displacement Solutions. In addition, we did broader searches for media reports on World News Connection, Google News and Google Search. These yielded information published in newspapers and on news websites, radio and television programmes and blogs.

To identify and aggregate sources across databases, websites and search engines, we used a variety of combinations of keywords and phrases associated with disasters and protracted displacement:

Disaster search terms

- Disaster
- Natural hazard
- Climate
- Specific hazards - floods, earthquakes, volcanic eruptions, landslides, storms, typhoons, cyclones, hurricanes, mudflows, drought …

Protracted displacement terms

- One, two, five, ten years on
- Remain displaced, homeless, sheltered
- Still displaced, homeless, sheltered
- Remain in limbo
- Stalled durable solutions
- No solution near, in sight
- Await resettlement
- Neglect

In all, we aggregated and analysed 118 thematic and 328 case-specific sources.

Semi-structured thematic interviews

We identified potential key informants by reviewing our list of academic and operational contacts from the humanitarian, development and human rights sectors. Interviewees were selected based on the likelihood of their having direct knowledge of situations, their ability to advise or facilitate access to information, and their conceptual work or expertise on the topic. They were also invited to suggest other potential contacts in a process known as snowball sampling.

The interviews used a predetermined set of questions to standardise discussions, while remaining flexible enough to allow for deeper consideration of topics in which the interviewees were expert. The questions began by gathering information on their background to establish their perspective or theoretical approach. We then asked how they would conceptualise protracted displacement, and whether there were gaps in knowledge and reporting.

We also asked each interviewee to think of specific cases to flag for further research and potential addition to our database. The interviews concluded with questions about additional sources to supplement the literature review and suggestions of other potential contacts.

We conducted 21 interviews with experts at academic and research institutions, and practitioners in the fields of humanitarian disaster response, protection, human rights and development. We interviewed six key informants from UN agencies and other international organisations, six from university-affiliated research institutes, four from international NGOs, three from the intergovernmental Nansen Initiative and two from think tanks (see acknowledgements at the front of this report).

We also targeted 11 IOM country offices based on references to protracted displacement identified in their publications, including Afghanistan, Bangladesh, Cambodia, Madagascar, Micronesia, Mozambique, Myanmar, Nepal, Pakistan, the Philippines and Sri Lanka. Ten of the 11 offices knew of current cases in their countries. Some evidence was more formally documented through the displacement tracking matrix (DTM) and official publications, while other evidence was based on personal observations and common knowledge, and was more anecdotal in nature. We also reached out to a selection of in-country humanitarian protection clusters and received additional information from Haiti, Tonga, Solomon Islands, and Colombia.

Logging ongoing cases

The literature review and interviews yielded 66 cases of displacement associated with disasters that had lasted for longer than one year. We then filtered the sample looking for examples that were still ongoing in 2014/2015. This narrowed it down to 34 cases, which are detailed in annex C.

We have added these cases to our database, along with others which have less clearly defined start dates, and/or which we were unable to establish as ongoing. Together with further qualitative research on the dynamic nature of protracted situations, they will provide a starting point for our monitoring and analysis of this type of situation.

ANNEX B

Largest displacement events of 2014

Rank	Country	Event name	Affected areas	Figure source(s)*	Month	Relative estimate**	Absolute estimate
1	Philippines	Typhoon Rammasun (local name Glenda)	Manila and Southern Luzon island, Bicol region and Eastern Visayas	Govt: NDRRMC	July	2,994,100	29,911
2	Philippines	Typhoon Hagupit (local name Ruby)	Landfall in Dolores, Eastern Samar; other locations: Masbate, Sibuyan island, Romblon, Tablas island and Oriental Mindoro in Eastern Samar	Govt: NDRRMC	December	1,823,200	18,214
3	India	Flood	Odisha state; Jajpur, Cuttack, Sambalpur, Bhadrak and Keonjhar districts	International NGO: Oxfam	July	1,073,700	847
4	Chile	Iquique earthquake and tsunami	North Pacific coastline	Govt: National Director of ONEMI	April	972,500	54,715
5	India	Riverine flood	Jammu and Kashmir; worst affected districts were Srinagar, Anantnag, Baramulla, Pulwama, Ganderbal, Kulgam, Budgam, Rajouri, Poonch and Reasi	Govt: State authorities	October	812,000	640
6	Pakistan	Riverine flood	Azad Kashmir, Punjab, Gilgit-Baltistan, Sindh, PKP and Balochistan	OCHA, NDMA	September	740,150	3,997
7	India	Cyclone Hudhud	Coastal districts of Andhra Pradesh state - Visakhapatnam, Vizianagaram and East Godavari; Odisha state - Gajapati, Koraput, Makangiri and Rayagadathe worst affected of eight districts	IAG/Sphere India; Advisor to the Andhra Pradesh government and Odisha chief minister	October	639,300	504
8	China	Typhoon Rammasun	Hainan province, Guangdong province and Guangxi Zhung autonomous region, Yunnan province; provinces in southern China, Guizhou province	IFRC	July	628,000	450
9	Japan	Typhoon Halong	Mie prefecture	JMA	August	570,000	4,488

* Text in parentheses indicates the original source cited by the publisher of the information. Only the source(s) selected for the final event estimate are shown. The estimate for most events, especially those of larger scale, drew on multiple sources that were cross-checked before selecting the one that appeared to be the most comprehensive and reliable figure for the total incidence of displacement.

** Figures rounded to the nearest 100

Rank	Country	Event name	Affected areas	Figure source(s)*	Month	Relative estimate**	Absolute estimate
10	Bangla-desh	Flood	Nilphamari, Lalmonirhat, Kurigram, Rangpur, Gaibandha, Jamalpur, Sirajganj, Sunamjong and Sylhet districts: Bolha in the south	Govt	August	542,000	3,419
11	China	Storm	Provinces of Guangdong, Guizhou, Hunan and Jiangxi, Chongqing, Sichuan, Yunnan, Fujian and Guangxi	Unspecified	May	447,000	320
12	China	Flood	Guizhou, Hunan, Jiangxi, Hubei, Sichuan, Yunnan and Anhui provinces, and Chongqing municipality	Govt: Ministry of Civil Affairs	July	403,000	289
13	Philip-pines	Tropical storm Lingling (local name Agaton)	Northern Mindanao, Davao region, Caraga, ARMM and SOCCSKSARGEN	Govt: NDRRMC	January	400,000	3,996
14	India	Flood	Assam state - Goalpara, Kamrup and Boko districts; Meghalaya state - Tura and Garo Hills districts	Govt: Assam State Disaster Management Authority	Septem-ber	367,000	289
15	China	Flood	Nine southern provinces includ-ing Hunan, Jiangxi, Guangxi, Sichuan and Fujian	Govt (Media: Xinhua)	June	337,000	241
16	China	Typhoon Matmo	Liaoning, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shan-dong and Guangdong prov-inces	Govt: Ministry of Civil Affairs	July	289,000	207
17	China	Typhoon Kalmaegi	Guangdong, Hainan and Guangxi provinces	Govt: Ministry of Civil Affairs	Septem-ber	252,000	180
18	Malaysia	Flood	Kelantan (worst hit), Johor, Pahang, Perak and Terengganu states	Govt: Unspeci-fied	Decem-ber	247,100	8,185
19	China	Flood	Guizhou, Chongqing, Sichuan, Guangxi, Hunan, Guangdong and Zhijiang provinces	Govt: National Commission for Disaster Reduc-tion	June	239,000	171
20	China	Ludian earth-quake	Ludian county of Zhaotong city in Yunnan province	Govt: Ministry of Civil Affairs	August	236,900	169
21	Philip-pines	Tropical storm Fung-Wong (local name Mario)	Northern tip of Cagayan province on Luzon island; Metro Manila and Bulacan and Rizal provinces	Govt: NDRRMC	Septem-ber	206,400	2,061

* Text in parentheses indicates the original source cited by the publisher of the information. Only the source(s) selected for the final event estimate are shown. The estimate for most events, especially those of larger scale, drew on multiple sources that were cross-checked before selecting the one that appeared to be the most comprehensive and reliable figure for the total incidence of displacement.

** Figures rounded to the nearest 100

Rank	Country	Event name	Affected areas	Figure source(s)*	Month	Relative estimate**	Absolute estimate
22	Indonesia	Flood	Bekasi, Cianjur, Subang, Karawang, West Bandung and Indramayu districts in West Java province	Govt: BNPB	January	196,700	778
23	Bolivia	Flood	Beni department worst affected; floods across the country	IOM	January	190,000	17,514
24	Indonesia	Seasonal flood	Batang, Pekalongan City, Pati, Jepara, Kudus, Pemalang, Demak, Cilacap, Semarang City, Kebumen, Purbalingga, Kendal, Banjarnegara, Brebes, Klaten, Purworejo districts in Central Java province	Govt: BNPB	January	165,900	656
25	India	Flood	Assam state - Barpeta, Bongaigaon, Dhemaji, Dibrugarh, Jorhat, Lakhimpur, Morigaon, Kamrup, Nagaon, Nalbari, Tinsukia, Sivasagar, Sonitpur, Golaghat, Udalguri and Goalpara districts	Govt: Assam State Disaster Management Authority	August	163,000	128
26	Sudan	Rainy season flood	Khartoum, Kassala, Gezira, Northern, Sennar, North Kordufan, South Kordofan, River Nile, West Darfur and White Nile states	IFRC: Sudanese Red Crescent	August	159,000	4,102
27	China	Cyclone Fung Wong	Zhejiang province and Shanghai	Govt: Unspecified	September	158,000	113
28	Philippines	Tropical storm Jangmi (local name Seniang)	Central and southern provinces	Govt: NDRRMC	December	155,700	1,555
29	India	Flood	Bihar state	Govt: Disaster management authorities	August	130,000	102
30	China	Flood	Wuxi County in Chongqing province, Sichuan and Guizhou provinces	Govt: Ministry of Civil Affairs	August	121,700	87
31	Sri Lanka	Monsoon flood	North and north-east central regions	UN, DMC, OCHA	December	120,000	5,595
32	India	Flood	Nalanda (worst affected), Saharsa, Supaul, West Champaran, Madhubani, Darbhanga, Muzaffarpur, Sitamarhi, Patna, Sheohar, Araria, Sheikhpura, Khagaria and Gopalganj districts in Bihar state	Bihar Inter-agency Group	August	116,100	91

* Text in parentheses indicates the original source cited by the publisher of the information. Only the source(s) selected for the final event estimate are shown. The estimate for most events, especially those of larger scale, drew on multiple sources that were cross-checked before selecting the one that appeared to be the most comprehensive and reliable figure for the total incidence of displacement.

** Figures rounded to the nearest 100

Acronyms

BNPB	Badan Nasional Penanggulangan Bencana/National Disaster Management Authority
DMC	Disaster Management Centre
IAG	Inter-Agency Group
IFRC	International Federation of Red Cross and Red Crescent Societies
IOM	International Organisation for Migration
JMA	Japanese Meteorological Agency
NDMA	National Disaster Management Authority
NDRRMC	National Disaster Risk Reduction and Management Council
OCHA	UN Office for the Coordination of Humanitarian Affairs
UN	United Nations
ARMM	Autonomous Region in Muslim Mindanao
SOCCSKSARGEN	South Cotabato, Cotabato, Sultan Kudarat, Sarangani and General Santos City
ONEMI	National Emergency Management Office

ANNEX C

Protracted cases ongoing in 2014/2015

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Japan	Tōhoku earthquake/ tsunami and nuclear accident	Mar 2011	492,000	4 yrs	230,000	Source: Japanese Reconstruction Agency, March 2015. IDPs displaced by technological hazard as well as earthquake and tsunami.	Return to some radiation contaminated and coastal areas not permitted Political controversy related to nuclear plants, mistrust of government and private sector assessments of safe areas Lengthy and expensive community relocation: lack of suitable land, shortage of construction workers and materials Health and social impacts: stress, trauma; deaths during displacement; family and community separation and breakdown Mix of situations with different prospects for IDPs.
Philippines	Typhoon Bopha/ Pablo	Dec 2012	1,931,970	2 yrs, 3 mths	At least 140,000	Source: UNHCR Philippines, March 2015. Number of IDPs living in government-established bunkhouses, transitional shelters or tent cities.	Habitable land for relocation unavailable or prohibitively expensive; limited capacity of local authorities leading to delays in construction; ongoing disaster risk (repeated typhoons/floods); pre-disaster landlessness and poverty Ongoing violence and armed conflict in Mindanao prevents return to some areas Discrimination against tenants and landless in shelter assistance

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Haiti	Earthquake	Jan 2010	Up to 2,300,000 (1,500,000 in camps as of July 2010)	5 yrs, 2 mths	At least 64,700	Source: IOM's displacement tracking matrix (DTM), March 2015. IDPs still living in registered camps only. Number of people still displaced outside camps is unknown.	Chronic poverty, state fragility and disaster risk Extensive destruction Invisibility of IDPs among urban poor; Complex, informal land tenure; Discrimination against tenants and informal settlers; Forced evictions and camp closures Weak linkages between humanitarian assistance and long-term development
United States	Hurricane Sandy	Oct 2012	775,761 (430,675 in New Jersey)	2 yrs, 4 mths	At least 39,200	Source: Fair Share Housing, Latino Action Network, and New Jersey NAACP report, February 2015. Based on 14,650 families in NJ who have applied, are eligible and are awaiting government financial housing support. An underestimate as only includes homeowners and not renters. Does not include those still in need of housing support but who did not apply.	Land use and zoning barriers; lack of transparency and access to information Lack of long-term assistance based on assumption that displacement is short-term and temporary Forced evictions of some low-income families in mobile home communities Discrimination in share of initial recovery funds distributed to tenants and homeowners; discrimination against African American and Latino homeowners seeking assistance to rebuild; discrimination in access to information for people with limited proficiency in English
Pakistan	Monsoon floods	Sept 2012	1,856,570	1 yr, 9 mths	31,000	Source: Pakistan shelter cluster, June 2014. Number of beneficiaries of transitional shelters in 2014.	Repeated exposure to hazards and flood displacement Lack of land; limited technical proficiency for reconstruction; high cost of materials Discrimination towards those with limited literacy; discrimination in access for female heads of household
Mozambique	Floods	Jan 2013	130,000	1 yr, 3 mths	26,000	Source: IOM Field Office interview, April 2015. Number of IDPs awaiting plots of land for relocation. Same IDPs finally allocated sites in December 2014.	Exposure to additional hazards (recurrent floods); limited desirable land available in relocation sites; delays in relocation process Continued repeat displacement caused by recurrent floods Discrimination in access to services such as schools and hospitals

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Nigeria	Floods	Jul 2012	23,000	1 yr, 6 mths	Up to 16,500	Source: Government of Nigeria, January 2014. 165,000 people displaced by both floods and conflict in IDP camps, which can not be disaggregated. Therefore, estimate used for ongoing displacement matches the total initially displaced by floods.	Limited land; limited solutions because of multi-hazard environment; ongoing conflict No return possible to areas of ongoing conflict
Zimbabwe	Tokwe-Mukorsi floods	Feb 2014	20,000	1 yr	20,000	Source: Human Rights Watch, February 2015. Number of displaced people forcibly relocated to small plots of land and unable to access livelihoods or achieve durable solutions.	Disputes over land ownership; misuse of humanitarian aid; lack of compensation; insecure livelihoods and lack of irrigation schemes Land remains flooded following dam construction; return impossible IDPs forcibly relocated twice Reported human rights violations against IDPs include violent harrassment and coercion to accept smaller land parcels than promised through restriction of access to basic assistance
Armenia	Earthquake	Dec 1988	500,000	26 yr, 5 mths	18,500	Source: IDMC correspondence with local NGO Urban Foundation, May 2015. Number of displaced households still on the municipal waiting lists for housing, multiplied by average household size. Some are tenants or in other temporary housing. Vast majority living in domiks or converted shipping containers.	Lack of political will; IDPs dispersed among urban poor who also need housing solutions; lack of personal documentation required to relocate No return possible because of the scale of destruction Some IDPs forcibly evicted in early 2000s Discrimination in selection of beneficiaries based on Soviet or Armenian passports
Italy	L'Aquila earthquake	Apr 2009	70,000	6 yrs	16,000	Source: La Stampa Chronache, April 2015. Number of people living in temporary or unsafe/insecure houses.	Lack of compensation; lack of political will; widespread destruction Particularly vulnerable groups include children who still attend classes in temporary schools, and older people who remain in the city centre but whose livelihoods are severely restricted in "ghost town"

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Papua New Guinea	Manam volcano	Oct 2004	11,000	10 yrs	15,000	Source: Chairman of the Manam island council of chiefs and IDMC October 2014 field visit. Chairman estimates "15,000 to16,000" IDPs. The original figure is likely an underestimate, and population growth has led to a considerable increase in the care centre population.	Conflict with host communities; threat of physical violence; lack of funds and political will; alleged corruption; bureaucratic delays; poor local technical capacity; difficulties in acquiring land No return possible because of ongoing volcanic activity; some IDPs, however, were reportedly forced to return by the government Population in process of relocation; prohibitive costs; feasiblity studies underway
Philippines	Typhoon Haiyan/ Yolanda	Nov 2013	4,095,280	1 yrs, 3 mths	13,300	Source: Government of Philippines, February 2015. IDPs who remain in bunkhouses. Likely an underestimate as the overwhelming majority of IDPs live in host family arrangements or in makeshift shelters on pre-typhoon lands, the land of family members, or in other situations outside of formal or informal displacement sites.	Dispersed informal settlers among urban poor; lack of livelihood options near relocation sites; identification and aquisition of plots of land for relocation No return possible for those whose previous homes are in no-build zones Exposure to additional hazards leads to secondary displacement for some
Bangladesh	Cyclone Aila	May 2009	842,000	6 yrs	13,100	Source: Nowabenki Gonomukhi Foundation (NGF) and Association for Climate Refugees (ACR), May 2015. Number of people in Polder 32 of Dacope Upazila only. IDPs who have lost their original land, and live in makeshift shelters on embankments. The figure is clearly an underestimate as it refers to a only one region.	High exposure to hazards including cyclones, floods and saline intrusion causes repeated displacement and disruption to livelihoods Some IDPs evicted from embankments Discrimination in access to relief for those without identity cards for current area of residence, and for those of different political parties High costs of relocation; lack of land available
Indonesia	Sidoarjo mudflow	May 2006	15,000	9 yrs	13,000	Source: Jakarta Post and IDMC visit in May 2015. Total number displaced over time and who have not returned. It is unclear how many are still to achieve durable solutions, but most have not been properly compensated.	Delays in compensation; controversy over cause of hazard and responsibility for response; lack of political will No return possible because mudflow is ongoing IDPs awaiting compensation reluctant to get identity cards for new residence, and without them face discrimination in voting and healthcare access

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Indonesia	Sumatra earthquake	Sept 2009	675,500	5 yrs, 6 mths	9,100	Source: Jakarta Post (citing the West Sumatra Office of the Manpower and Transmigration Ministry), March 2015. 1,900 families multiplied by average household size. IDPs living with relatives or in shelters, and awaiting relocation by government.	Remote location; delays in obtaining permits for land; ongoing exposure to hazards and delays in reconstruction during rainy season; lack of livelihood opportunities in relocation sites No return possible because of landslide; some IDPs reluctant to join relocation programme Awaiting relocation by government
Haiti	Hurricane Sandy	Oct 2012	32,000	1 yr, 7 mths	At least 8,500	Source: Haiti shelter cluster, May 2014. Number of beneficiaries of transitional shelters as of May 2014, but there are more people in need of housing solutions.	Delays in reconstruction process; limited technical capacity; lack of land Repeated displacement for some already displaced by earlier earthquake
Cuba	Hurricane Sandy	Oct 2012	343,230	1 yr, 3 mths	At least 7,950	Source: Cuba shelter cluster, January 2014. Number of beneficiaries of transitional shelters as of January 2014, but there are more people in need of housing solutions.	Delays in reconstruction process; limited resources available; high cost of rebuilding
Dominican Republic	Hurricane Sandy	Oct 2012	19,000	1 yr, 6 mths	At least 5,000	Source: Dominican Republic shelter cluster, April 2014. Number of beneficiaries of transitional shelters as of April 2014, but there are more people in need of housing solutions.	Delays in reconstruction process; high cost involved
Kenya	Landslide	2010	Unknown	At least 4 yrs	Up to 4,200	Source: Embobut Task Force, February 2014. Number of IDPs who took refuge in the forest alongside Sengewar indigenous populations, and were forcibly evicted to clear land. Current whereabouts uncertain.	Lack of land; government restrictions in forest areas; IDPs invisible among indigenous Sengewar population Forced evictions cause onward displacement No return possible

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Indonesia	Mount Sinabung volcano	Nov 2013	17,713	1 yr, 6 mths	3,500	Source: Jakarta Post (citing the Mount Sinabung Disaster Mitigation Taskforce of the National Agency for Disaster Management (BNPB)), January 2015 and IDMC correspondence with local contacts, May 2015. Number of people still in evacuation shelters, staying with host families or in places of worship occupying rented homes.	Lack of political will; delays caused by government bureaucracy No return possible because of ongoing volcanic activity; IDPs awaiting relocation and development of basic infrastructure in a protected forest site identified by the government
Colombia	Gramalote landslide	Dec 2010	2,900	4 yrs, 6 mths	2,900	Source: Displacement Solutions and Adaptation Fund, May 2015. Number of people awaiting relocation, currently living in temporary accomodation dispersed around nearby municipalities.	Delays in reconstruction process; scarity of available land; difficulty in identifying site for relocation Return considered highly unsafe because of further disaster risk Population in process of relocation
Pakistan	Hunza Valley landslides and flood	Jan 2010	3,600	5 yrs, 3 mths	2,900	Source: Correspondence with IOM Pakistan and contacts at local NGOs, April 2015. Number of IDPs living in temporary shelters or with their relatives in the vicinity of Aliabad, Hyderabad, Karimabad and Gulmith villages.	Limited land available; high cost of land; ambiguity over ownership and responsibility; limited political will; limited funding directed towards rebuilding highway No return possible to areas submerged by Attabad lake Some IDPs awaiting relocation Discrimination against IDPs and protesters
Turkey	Marmara earthquake	Aug 1999	250,000	15 yrs, 4 mths	2,700	Source: IDMC, December 2014. Informal settlers who expected to become owners of their plot of land by the end of 2014, 15 years after their inital displacement.	Lack of available land; lack of political will; IDPs invisible among urban poor Discrimination against informal urban settlers excluded from government's post-disaster housing programmes

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Canada	Manitoba floods	Apr 2011	2,100	4 yrs, 1 mth	2,100	Source: Wookey Films, May 2015. Evacuees dispersed in hotels and temporary housing in Winnipeg and Manitoba.	Political conflict between First Nation people, private actors and federal and local government Little public support Return not a safe or sustainable option; awaiting relocation; plans for rebuilding at a standstill Some returns to condemned homes and contaminated reserves due to harsh conditions in city Discrimination against indigenous communities Families weakened by separation, rise in substance abuse, and suicide
Ethiopia	Nabro volcano eruption	Dec 2011	Unknown	3 yrs	1,800	Source: IOM, December 2014. Number of people who remain displaced three years after the eruption.	Lack of political will; lack of funds; many other displacement situations take centre stage, hampering response Safe return not possible because of risk of further volcanic activity Awaiting relocation
Fiji	Cyclone Evan	Dec 2012	8,416	1 yr, 10 mths	At least 1,250	Source: Shelter cluster, October 2014. Number of people receiving reconstruction assistance in 2014.	Lack of funds; difficulty in obtaining construction materials; IDPs invisible among urban poor Some still awaiting relocation
Colombia	Floods	May 2010	1,500,000	4 yrs, 5 mths	1,050	Source: Shelter cluster, October 2014. Number of IDPs awaiting housing solutions, who recieved assistance in 2014. Latest displacement figure refers to a smaller geographical region than the initial estimate.	Lack of income generation activities; lack of land Further floods cause onward displacement for some
Montserrat (UK)	Volcanic eruption	Jun 1997	7,000	17 yrs, 7 mths	Hundreds to thousands	Source: Government of Montserrat, January 2015. Hundreds of evacuees living without indoor running water and toilets in Montserrat, in addition to thousands in "exile" abroad and who face numerous challenges including discrimination.	Lack of funds; lack of available land Safe return possible because of damage and risk of further volcanic activity Some now living abroad face discrimination and reduced rights in terms of voting and access to education

Country	Disaster	Start date	Total no. of people displaced**	Duration of displacement*	No. of people still displaced in 2014/2015	Comment: Figures and sources	Comment: Situation
Canada	Alberta floods	Jun 2013	100,000	1 yr	930	Source: Globe and Mail (Canadian media), June 2014. Number of people still in "government-supported temporary accomodation", in hotels or living with family and friends a year after the floods	Lack of available land; lack of political will Return not possible Population awaiting relocation Discrimination against indigenous populations
Bolivia	La Paz landslide	Feb 2011	1,000	3 yrs, 5mths	At least 400	Source: Government of Bolivia, July 2014. Number of people displaced and did not have permanent solutions until they were encouraged by government to move to appartments in city centre.	Lack of land; lack of political will Population awaiting relocation Some IDPs want to stay in landslide zone to be near schools and livelihoods, despite government restrictions
Tonga	Cyclone Ian	Jan 2014	6,030	1 yr, 2 mths	At least 300	Source: Radio New Zealand, March 2015. Number of IDPs who remain displaced and are waiting for their homes to be rebuilt.	Unclear tenure and consent for building as owners are overseas; lack of available land; delays caused by government bureacracy Some IDPs in the process of relocation
Australia	Cyclone Oswald/ Bundaberg floods	Jan 2013	7,500	1 yr, 4 mths	At least 50	Source: NewsMail (Australian media), May 2014. Most are living with host families or in temporary accomodations.	Lack of available land; delays in rebuilding process Mental health impacts
Myanmar	Cyclone Nargis	May 2008	2,250,000	At least 6 yrs	Some (Unknown)	Source: Multiple (unquantified displacement). Number still displaced in 2014 or 2015 is unknown, but numerous sources say some IDPs have not achieved durable solutions.	High cost of relocation; lack of sustainable livelihood options; lack of available land Ongoing disaster risk and repeated displacement
United States	Colorado floods	Sept 2013	101,470	1 yr, 5 mths	Some (Unknown)	Source: BizWest North Colorado newspaper, February 2015. Of the tens of thousands who were initially displaced, "some" have still not returned. The exact number of those still displaced is unknown.	Delays caused by government bureacracy; legal disputes High cost of reconstruction Some IDPs awaiting relocation

* Duration of time from initial hazard impact date until latest report in 2014/2015
** Source: IDMC data as of 1 June 2015. Under "Total displaced", figures in brackets are location-specific, i.e. they reflect a proportion of the total number of people displaced.

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About IDMC

The Internal Displacement Monitoring Centre (IDMC) is the leading source of information and analysis on internal displacement. For the millions of people worldwide displaced within their own country, IDMC plays a unique role as a global monitor and evidence-based advocate to influence policy and action by governments, UN agencies, donors, international organisations and NGOs.

IDMC was established in 1998 at the request of the Interagency Standing Committee on humanitarian assistance. Since then, IDMC's unique global function has been recognised and reiterated in annual UN General Assembly resolutions.

IDMC is part of the Norwegian Refugee Council (NRC), an independent, non-governmental humanitarian organisation.

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