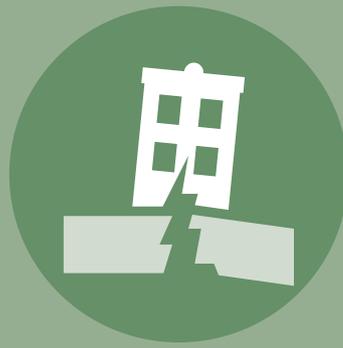


The future framework for disaster risk reduction

A guide for decision-makers

November 2014

2nd edition



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Acronyms and abbreviations

CAF	Cancun Adaptation Framework	IPCC	Intergovernmental Panel on Climate Change
CBO	Community-based organisation	UNISDR	International Strategy for Disaster Reduction
CCA	Climate change adaptation	MDGs	Millennium Development Goals
CDKN	Climate and Development Knowledge Network	MMC	Multihazard Mitigation Council
CSO	Civil society organisation	MTR	Mid-Term Review
DFID	UK Department for International Development	ODA	Official development assistance
DGIS	Netherlands Directorate-General for International Cooperation	ODI	Overseas Development Institute
DMN	Direction de la Météorologie Nationale du Niger	PWC	PricewaterhouseCoopers
DRM	Disaster risk management	SDGs	Sustainable Development Goals
DRR	Disaster risk reduction	SOVI	Social Vulnerability Index
FEMA	Federal Emergency Management Agency	STAG	Scientific and Technical Advisory Group
FFWC	Flood Forecasting and Warning Centre	STC	Scientific and Technical Committee
GBV	Gender-based violence	UN DESA	United Nations Department of Economic and Social Affairs
GDP	Gross domestic product	UNFCCC	UN Framework Convention on Climate Change
HFA	Hyogo Framework for Action	UNFPA	United Nations Population Fund
IFRC	International Federation of Red Cross and Red Crescent Societies	VCA	Vulnerability and capacity assessment
		WFP	World Food Programme
		WHO	World Health Organization

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Introduction: a future framework for disaster risk reduction

This guide to the future framework for disaster risk reduction (DRR) is intended for decision-makers, particularly those in government responsible for contributing to the new agreement.

The guide is organised into a set of modules, each representing important aspects of the successor to the existing Hyogo Framework for Action (HFA). By presenting evidence in the form of data, facts and summary messages, the modules highlight what should be covered by a new agreement.

There are eleven modules:

1. Making the case
2. The architecture
3. Monitoring and accountability
4. Financing disaster risk reduction
5. Vulnerability and inclusion
6. Climate change and disaster risk
7. Environment and ecosystems
8. Science and technology
9. Conflict and fragility
10. Stakeholders and leadership
11. Interfaces with the post-2015 framework for sustainable development

This document is the second draft prepared by ODI and CDKN. It includes seven original modules, three of which have been extended. To this new modules covering ‘monitoring and accountability’, ‘environment and ecosystems’, ‘science and technology’ and ‘interfaces with the post-2015 framework for sustainable development’ have been added. Clarifications have been made where required and sections tailored where appropriate to the pre-zero draft of the new framework.

Context

2015 is a crucial year for promoting efforts to reduce disaster risk.

Not only is it likely that we will see a successor to the HFA on DRR, we are also likely to see new Sustainable Development Goals (SDGs), as well as a new climate change agreement. This represents a unique alignment of major international policy frameworks and an unparalleled opportunity to make inroads into reducing disaster risk globally, regionally and nationally.

Key to this is the growing realisation over the decade of the HFA that risk and development are inextricably linked. We cannot separate the creation, avoidance or reduction of disaster risk from development processes or those associated with economic growth.

Risk management has to be enshrined as part of development, and only then can development progress be adequately protected and disaster risks minimised.

The road to Sendai

The new framework for DRR is due to be agreed in Sendai, Japan in March 2015, at the World Conference on Disaster Risk Reduction (WCDRR). The first of two preparatory meetings of member states took place in Geneva in July 2014 – the second will take place in November 2014.

A pre-zero and zero draft of the likely future framework has already been prepared as part of this process. You can find more about the process of agreeing a new framework for DRR, and the current status of discussions, at the WCDRR website: www.wcdrr.org

Summary of recommendations

The following set of recommendations is a collection from each of the modules of this guide. Individually they provide snapshots representing key considerations for the post-2015

framework on DRR. Taken together they represent an interconnected articulation of the way a future framework can support the reduction of disaster risk through sustainable development.

MAKING THE CASE

- Making risk reduction a central dimension of the future development and climate change agendas is a key way of ensuring that disasters do not derail development progress and that development does not inadvertently create new risks.
- The post-2015 framework on DRR has an important role to play as part of this new development agenda, but must work together in partnership and support other international frameworks to be agreed in 2015.
- The outcomes, targets and indicators of the post-2015 framework on DRR should be directly aligned with the position and framing of DRR in other key frameworks.
- The post-2015 framework on DRR must focus on the dimensions of DRR that cannot be achieved at local and national levels without an international agreement.

Consequently, the agreement should focus on:

- setting standards
- guiding priorities
- establishing an accountability framework
- outlining targets and indicators
- developing protocols for sharing knowledge
- setting out the need for financial resources and the way in which incentive structures need to be aligned
- describing approaches to governing risk across borders
- detailing capacities to support national and sub-national levels where necessary, providing scientific advice, implementation support, capacity building and other services where state capacities are insufficient.

THE ARCHITECTURE

The post-2015 framework on DRR should present its constituent parts as fundamentally interlinked elements – a set of three components, underpinned by seven building blocks.

Component A: Minimising Risk Creation

- DRR must be integrated into all development decisions, programming and practice, with climate change an active component. Central to this is the building of the institutional and enabling environment for risk-sensitive practices, and the involvement of all stakeholders.

Component B: Reducing existing risk

- Building on a strengthened institutional environment for risk reduction, dedicated and deliberate attempts must be made to reduce existing risk, through and across all sectors, through both structural and non-structural methods.

Component C: Managing residual risk

- A certain level of disaster risk will always remain. The residue must be adequately managed, through preparedness for effective response and relief, financial protection at all levels, coping mechanisms including social protection. Risk reduction must, in addition for recovery and reconstruction efforts.

The building blocks:

- The measurement of progress should be based on outcomes rather than process.
- The post-2015 framework on DRR needs to be an essential, integrated part of key development frameworks.
- Risk assessments must be the foundational component.
- High levels of accountability and transparency are required, which needs investment.
- Social inclusion and empowerment are essential to tackle vulnerability.
- Contextualised implementation should be tailored to each country.
- Policy developments must be underwritten by financial commitments.

MONITORING AND ACCOUNTABILITY

Propositions for a global monitoring framework on DRR:

- Targets should be combined with a methodology that assesses levels of disaster risk.
- Targets should be included in both the SDGs and the post-2015 framework on DRR, using identical language.
- Numerical targets at a global scale act as an eye-catching reference point and also help direct actions. Space should be made for the creation of national-level targets.
- A data revolution is needed, involving the systematic collection of data on disaster risk and losses across countries.
- A monitoring methodology for tracking national progress on DRR must focus on the use of detailed disaster risk information.
- Upgrades to poverty data should involve modules on shocks.

- The SDGs and the post-2015 framework on DRR should include DRR targets with the same start and end points and synchronous reporting periods.
- Tracking progress on disaster losses and risks requires normalisation of data for key variables, to allow for comparisons between time periods and establishment of a baseline to assess progress.
- The institutional architecture for delivering a global monitoring system needs to involve multiple groups at different scales, each serving a distinct function.
- While governments will continue to self-report on progress, transparency and accuracy will only be achieved if independent groups at all levels can contribute to monitoring progress on DRR.

FINANCING DISASTER RISK REDUCTION

The financing of the post-2015 framework on DRR must be aligned with the financing of the SDGs, with the larger part of the burden falling upon national governments, with a commitment to finance the integration of risk as part of delivering sustainable development. Specific elements of this commitment should be enshrined in the post-2015 framework on DRR as follows:

- National commitments to reduce risk must be underpinned by a targeted commitment to spend, especially at a local level.
- These commitments must include both stand-alone financing of DRR as well as DRR embedded into broader development planning and expenditures.
- The post-2015 framework on DRR must prioritise the provision

of very specific tools and guidance on financing for national governments.

- International DRR financing must be targeted to those countries most in need and the activities that are most needed.
- Donors must shift the burden of DRR to their development aid budgets.
- The DRR community has to do much more to communicate the many incentives for investing in DRR, focusing first on the need to integrate risk concerns into development.
- The private sector must become a key stakeholder in future DRR policies, programmes and platforms, with its financing leveraged to reduce rather than increase disaster risk.

VULNERABILITY AND INCLUSION

The post-2015 framework on DRR needs to incorporate activities and outcomes based on the needs, vulnerabilities, capacities and expectations of all. The contribution and participation of these groups remain 'largely isolated from government, private sector and multi-stakeholder decision-making' in DRR, making it essential that these aspects are considered in the successor to the HFA.

- DRR practices must promote and monitor activities and outcomes that are based on context-specific analysis of the differential needs, vulnerabilities, expectations and existing capacities of all groups.
- The post-2015 framework on DRR must advocate for DRR practices that reduce people's vulnerability to shocks and stresses, by promoting human rights, fostering community participation, valuing local and indigenous knowledge and ensuring equitable access to assets and resources.

- DRR practices should also acknowledge and strengthen people's capacities, draw upon their self-identified and prioritised needs and empower socially marginalised groups to participate as active agents of change to prepare for and respond to disasters.
- The post-2015 framework on DRR must promote gender equality as well as social and cultural diversity as fundamental goals to be achieved in their own rights and as key aspects of resilience to disasters.
- Governments must create an enabling environment for socially marginalised people and grassroots organisations to engage in and/or lead decision-making processes and DRR programme design.
- The post-2015 framework on DRR monitoring process must incorporate a social vulnerability dimension in the design of the new set of indicators. Data collection, assessments and analysis should be disaggregated according not only to gender but also to other aspects of social vulnerability, where appropriate, including age, disability, ethnicity and socioeconomic status.

CLIMATE CHANGE AND DISASTER RISK

- Close alignment is needed between the post-2015 framework on DRR, the post-2015 development goals and the UNFCCC negotiation processes to ensure complementarity and to avoid confusion over the roles and mandates of each agreement. More specifically, those involved in the post-2015 framework on DRR process should be conscious of ongoing DRR-related discussions and mechanisms within parallel negotiations, such as the Cancun Adaptation Framework and the Warsaw International Mechanism for Loss and Damage.
- There should be a clearer sense of ownership in driving forward the climate agenda within the HFA process, and greater clarity on how incentives and enforcement mechanisms for promoting DRR and CCA can be operationalised in practice.
- A particular emphasis is key on ensuring coherence and improved metrics for tracking disaster risk and adaptation finance across international, national and sub-national financial systems.
- Climate change needs to be better taken into account within existing risk assessments to understand the changing nature of risk profiles up to 2030 and beyond.
- Regional science facilities need improved support to enable a deeper understanding of the impacts of climate change on disasters.
- There is a need to support calls for an enhanced science advisory mechanism on DRR to support the post-2015 framework on DRR, including the periodic release of reports reviewing the state of knowledge about the links between climate change and disasters and the effectiveness of implementation measures to address them.

ENVIRONMENT AND ECOSYSTEMS

- The environment needs to be strengthened as a key consideration in the post-2015 framework on DRR, as well as the post-2015 development goals and UNFCCC negotiations. The opportunity for closely aligning these frameworks must not be missed, in order to ensure coherence but also to realise the potential co-benefits of sound environmental management for sustainable, climate-compatible development.
- The HFA does not adequately acknowledge the cross-cutting nature of the environment or the different dimensions of the relationship with disaster risk. Its successor must move beyond simple consideration of environment as a risk factor and incorporate it into all aspects of the framework.
- Environmental factors need to be fully integrated into risk assessment and monitoring processes.
- More detailed measures for ‘soft’ engineering solutions for DRR, such as restoration of coastal ecosystems or reforestation of watersheds, should be acknowledged in the successor to the HFA.
- Adequate financial, technological and knowledge resources will be needed to build capacity for integrating environmental management into national and international institutions. This should be explicitly recognised in the post-2015 framework on DRR’s approach to implementing and financing DRR.

SCIENCE AND TECHNOLOGY

Science needs to be thoroughly integrated into the post-2015 framework for DRR. In particular:

- The scientific community must demonstrate that science can inform policy and practice. Evidence must be shown of the added value of a science-based approach to DRR.
- A problem-solving approach to research should be encouraged, one that integrates science into all hazards and disciplines;
- Knowledge should be promoted as a key feature of action, with key activities underpinned by evidence.
- An international science advisory mechanism for DRR needs to be created.

An agenda to establish and promote an international science advisory mechanism for DRR in the post-2015 framework is needed to:

- Champion and reinforce existing and future programmes and initiatives for integrated research and the scientific assessment of disaster risk.

- Strengthen the evidence base to effectively reduce disaster risk and enhance resilience, using scientific information and evidence to support implementation.
- The mechanism should draw on existing programmes, initiatives and resources and should introduce new elements where appropriate. These could include, but not necessarily be limited to:
- producing periodic reports on current and future disaster risks and on the status of efforts to manage such risks
 - monitoring progress towards internationally agreed targets for reducing disaster losses
 - providing guidance on terminology, methodologies and standards for risk assessments, risk modelling, taxonomies and the use of data
 - convening stakeholders to identify and address demands for scientific research, information and evidence
 - enhancing the communication of complex scientific information and evidence to support the decision-making of policy-makers and other stakeholders.

CONFLICT AND FRAGILITY

The post-2015 framework on DRR should explicitly recognise the need for and value of building disaster risk management (DRM) institutions as a means to strengthen disaster risk governance.

- For contexts where formal government structures are in place, disaster management should be seen as a means of strengthening policy formulation processes, national fiscal and budgetary arrangements and institution building.
- For vulnerable populations living in areas where the state and/or governance structures are lacking, or where those in power are a party to conflict, international support should be provided to enhance DRM through local action, through governance arrangements at the sub-national level and through informal institutions.
- Investments in DRR and DRM should not only be sensitive towards contexts of conflict, but should actively encourage, support and be integrated into the management and reduction of conflict risk.

- Building disaster resilience should be a vital part of long-term stability and national security, and adequate investment in disaster resilience needs to be part of those strategies.

The successor framework should include action and indicators on:

- Complexity of risk: Including the relationship between natural hazards, climate change, conflict and fragility in risk and vulnerability assessments.
- Dual benefits: Seeking opportunities for co-benefits for peace-building and state-building as well as risk-informed development progress; at a bare minimum, climate- and conflict-sensitive approaches to DRM should be adopted.
- Inclusive governance: Adopting inclusive decision-making processes, with appropriate mechanisms in participation, accountability and transparency.

STAKEHOLDERS AND LEADERSHIP

Acknowledge differences in governance contexts and trajectories:

- The post-2015 framework on DRR should articulate a set of principles or standards that states are expected to adhere to, although the specific institutional arrangements through which they achieve them should be defined by the existing governance context of each country.

Take advantage of policy windows:

- While timeframes and targets are important for ensuring that progress is achieved in a timely manner, plans of action should be devised that accommodate a range of different futures – plans that allow stakeholders to take advantage of policy windows when they arise. In some countries, planning processes may be well-defined; in others, they may require more flexibility to account for ‘unknowns’ in future governance challenges.

Focus on linkages and relationships between and across scales of governance:

- Greater monitoring and accountability are required at the sub-national level, to capture differentiated levels of progress within a country. More disaggregated data is needed on the effectiveness of actions that link stakeholders across scales of governance. This will help inform national and international knowledge and understanding of why particular regions lag behind and identify those that require more concentrated support.

Encourage local innovation:

- Greater flexibility is needed to encourage local solutions and ones that take into account different risk perceptions, and to incorporate these as the starting point for DRM. The development of more flexible and culturally appropriate risk reduction approaches and behavioural change processes at the local level should be a core feature of the post-2015 framework on DRR.

INTERFACES WITH THE POST-2015 FRAMEWORK FOR SUSTAINABLE DEVELOPMENT

Five ways in which the future framework for disaster risk and the post-2015 framework for sustainable development should be aligned:

- Targets and indicators on risk and resilience should be mainstreamed into the SDGs.
- Monitoring will ensure that progress across the same thematic areas is integrated and reinforced.

- Financing mechanisms for the future framework for DRR and the post-2015 framework for sustainable development should be shared.
- Science, data and information should be shared by both frameworks.
- Each framework should connect to the other through appropriate textual references.

How to use this guide

The guide is structured around a set of modules, with each module consisting of the same component parts.

Key message

A summary of why the issue being discussed is particularly important for the successor framework to the HFA.

Infographics

A series of inter-connecting graphics, key sets of data, data and information and analysis from key reports and papers provides the evidence needed to support the key message and the recommendations.

The source for each statement or piece of data can be found in the endnotes. A full reference list can also be found at the back of the guide, listing in full the supporting documentation used in its preparation.

ELEMENTS OF INFORMATION



**ORISSA, INDIA, 1990,
SUPER-CYCLONE
MORE THAN**

80%

of disabled persons faced food shortages post-disaster, due to a lack of clear information on the location of relief supplies and how to access them.

ANALYSIS



Ensuring emergency aid reaches the poorest and most vulnerable: After an earthquake hit a remote region of Morocco in 2005, the El Manal Association for women's activities mobilised women and youth to facilitate emergency response, working together with other NGOs to prioritise needs according to vulnerability.

ICONS



Earthquakes, tsunamis, volcanic eruptions



Storms



Flooding



Extreme temperatures, droughts, forest fires

Recommendations

Each section contains a set of recommendations – the authors' suggestions for how the successor to the HFA should articulate and cover each particular issue. The exceptions here are the modules on 'architecture', 'monitoring and accountability' and 'interfaces with the post-2015 framework', which are in their entirety sets of recommendations.

RECOMMENDATIONS BOXES



At the end of each section a set of references provides background information:

How the issue is featured in the HFA

This section outlines how the issue highlighted is treated in the HFA. It includes direct quotations from the HFA document itself as well as, on occasions, a summary of relevant sections.

How the issue is included in statements and consultations on the successor to the HFA

Key documents that have considered ways in which this issue can be better articulated within the future framework are introduced here, using direct quotations or summaries of pertinent information.

The key documents include:

- Hyogo Framework for Action 2005–2015: *Mid-Term Review 2010–2011*
- Chair's Summary: *Fourth Session of the Global Platform for Disaster Risk Reduction*
- Synthesis Report: *Consultations on a Post-2015 Framework on Disaster Risk Reduction (HFA2)*
- Proposed Elements for Consideration in the Post-2015 Framework for Disaster Risk Reduction

Recommended reading

A list of useful further reading is provided for each issue discussed.

Making the case

Why we need an international framework for tackling disaster risk and building resilience

Disasters are having ever greater social and economic impacts. They already drive people into poverty and threaten to reverse human development.

Accordingly, reducing disaster risk is a critical facet of sustainable development and of healthy, wealthy, secure and resilient nations and cities, and as such is reflected in plans for the post-2015 SDGs.

The post-2015 framework on DRR should be anchored primarily in the development discussion, representing a shift from its foundations in the humanitarian sphere.

Thus, the post-2015 DRR framework is an important operational guide and policy framework for achieving the SDGs and the wider post-2015 development agenda and for securing sustainable growth in a risky world.

Lead authors: Jan Kellett and Tom Mitchell

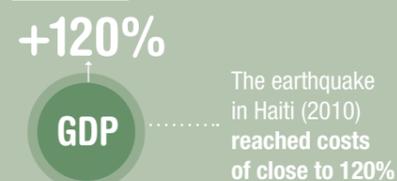
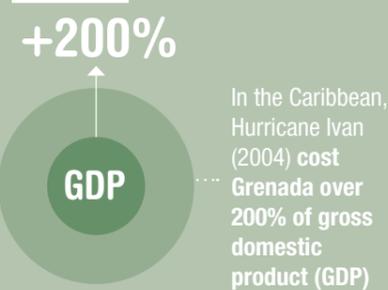
DEVASTATING IMPACTS

Disasters have devastated the lives and livelihoods of billions of people and have caused massive economic loss

The 20-year story¹



Disasters in many countries, developing countries in particular, destroy gains built up over decades, and can have a significant impact on economies



In larger economies, such as Bangladesh or Mozambique, **THE LOSS OF 3–5% OF GDP EVERY 5–10 YEARS**

from recurring disasters has a heavy cumulative impact on development.³

Disasters cause the greatest loss of life in low- and lower-middle-income countries

Over the past 20 years, low-income and lower-middle-income countries account for:



Urban earthquakes highlight the unequal impacts:⁵

	Size	Urban population	Deaths	Deaths/population	Total damage (\$ billions)
1994, Northridge, USA	M _w 6.7	3,000,000	57	0.0019%	48.0
2011, Christchurch, New Zealand	M _w 6.3	341,500	185	0.054%	15.8
1995, Kobe, Japan	M _w 6.8	1,520,000	6,434	0.42%	155.6
2010, Port au Prince, Haiti	M _w 7.0	900,000	200,000	22%	8.7
2003, Bam, Iran	M _w 6.6	74,000	26,000	35%	0.6

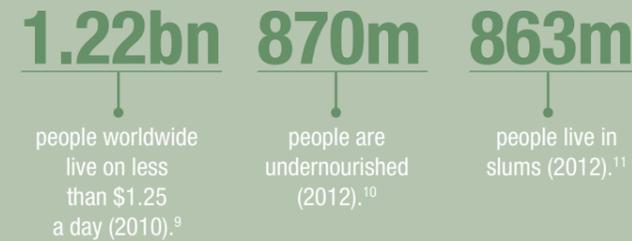
The social impacts of disasters reinforce inequalities and keep the poorest people poor



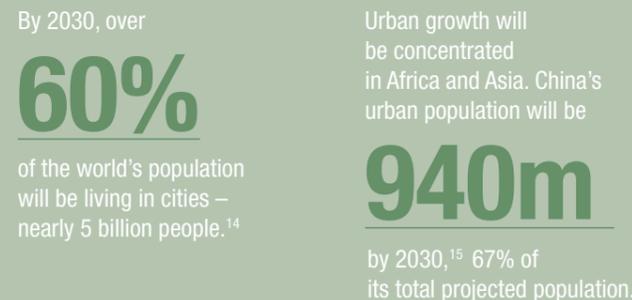
GROWING RISKS

Disaster risks are growing, driven by underlying development processes and a changing climate

VULNERABLE LIVES



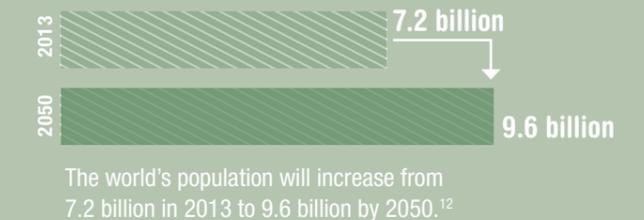
URBAN GROWTH



Much urban growth is taking place in areas already exposed to

EARTHQUAKES, FLOODING, STORM SURGES AND TROPICAL CYCLONES.

POPULATION PRESSURES



The population of the 49 least developed countries is projected to double in size from around 900 million in 2013 to 1.8 billion in 2050.¹³



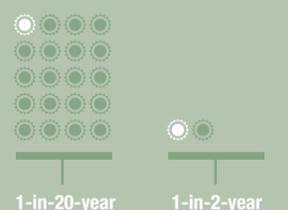
CLIMATE CHANGE



Climate-related disasters will affect poor people in developing countries the most: in some countries, particularly those in sub-Saharan Africa, the proportion of the population living in extreme poverty could be well over

50% by 2013.¹⁸

A changing climate is increasing vulnerability and leading to more severe, more frequent and less-predictable hazards.



By 2100, a 1-in-20-year hottest day now is likely to become a 1-in-2-year event in most regions.¹⁷

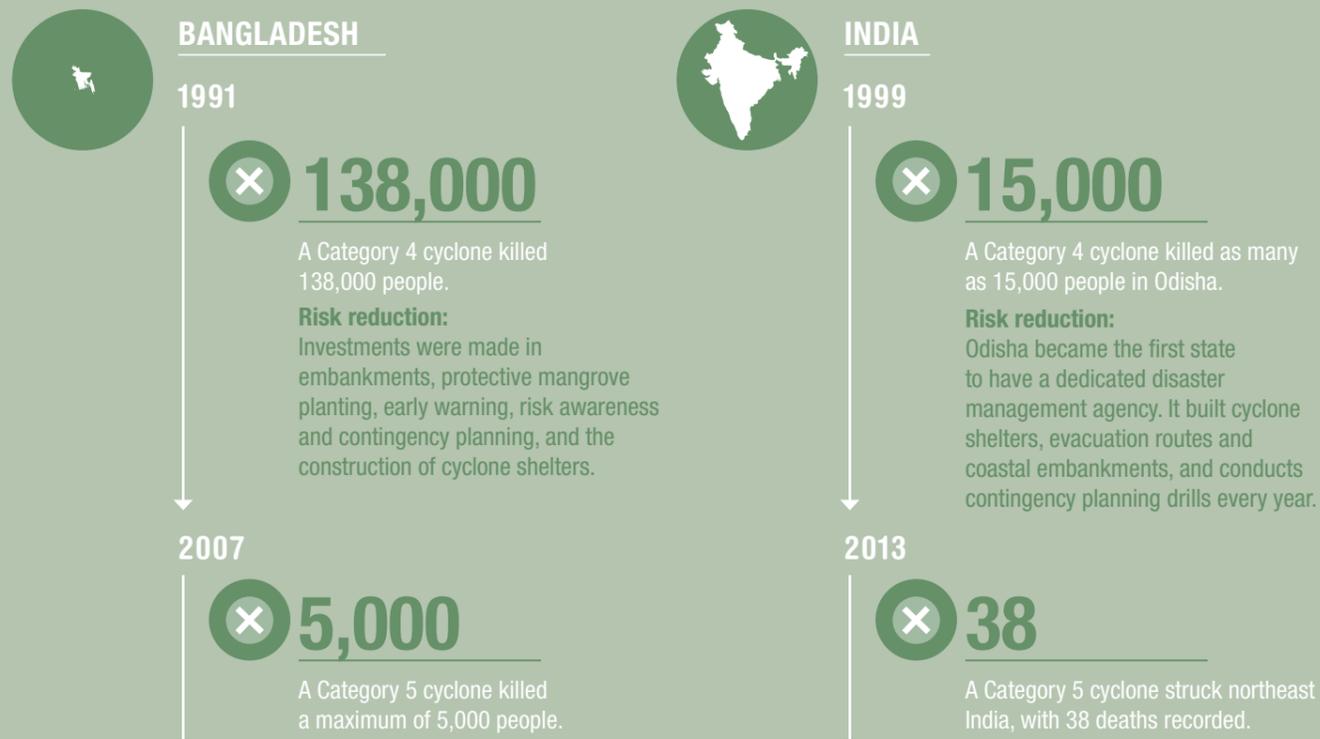
TRANSFORMATION THROUGH RISK REDUCTION

Evidence consistently shows that investing in DRM saves lives and money in the long run

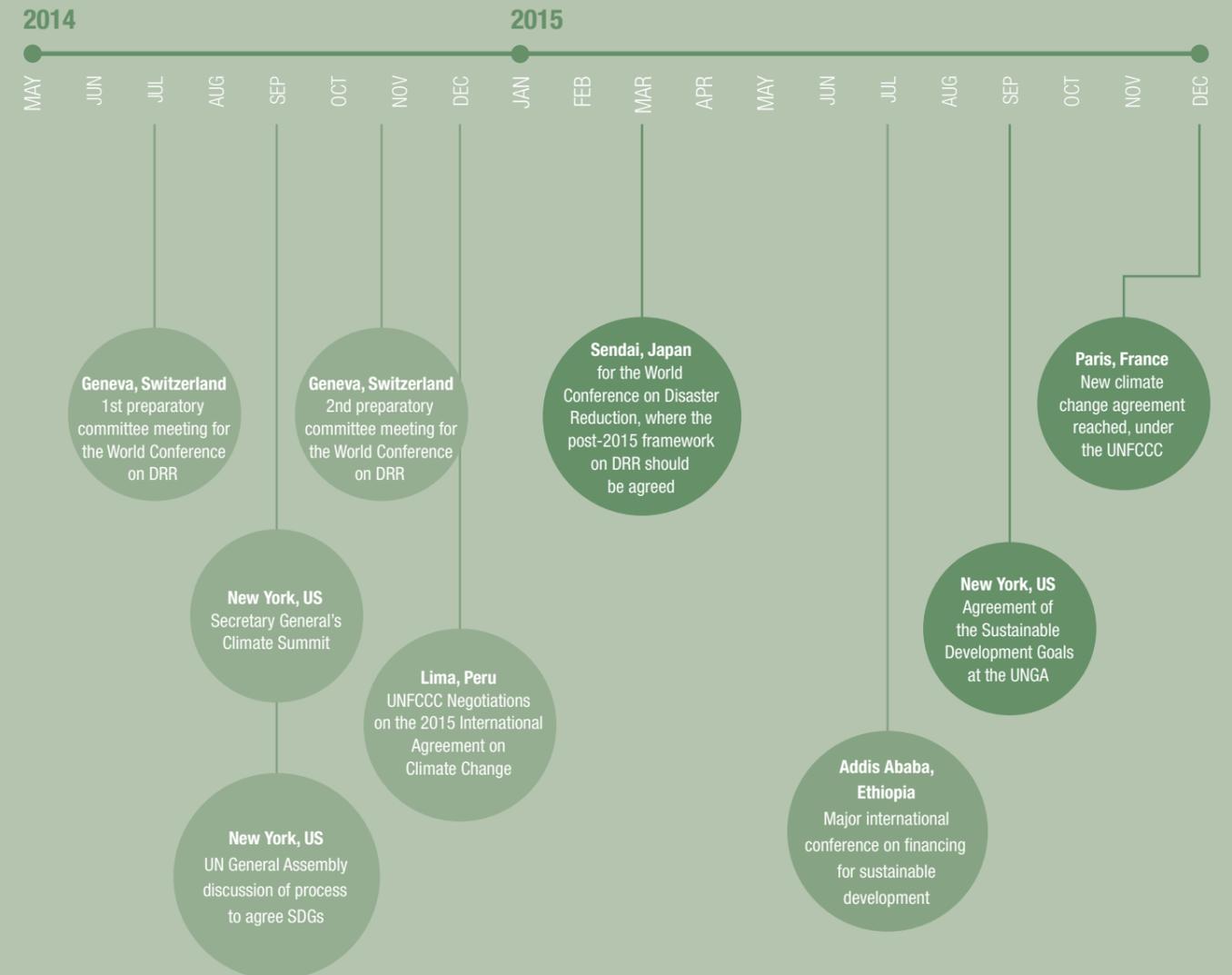
FINANCE



MORTALITY²²



This is an almost unique opportunity, with key risk and development frameworks likely to be agreed in the same year



SUMMARY OF RECOMMENDATIONS

- Making risk reduction a central dimension of the future development and climate change agendas is a key way of ensuring that disasters do not derail development progress and that development does not inadvertently create new risks.
- The post-2015 framework on DRR has an important role to play as part of this new development agenda, but must work together in partnership and support other international frameworks to be agreed in 2015.
- The outcomes, targets and indicators of the post-2015 framework on DRR should be directly aligned with the position and framing of DRR in other key frameworks.
- The post-2015 framework on DRR must focus on the dimensions of DRR that cannot be achieved at local and national levels without an international agreement.

Consequently, the agreement should focus on:

- setting standards
- guiding priorities
- establishing an accountability framework
- outlining targets and indicators
- developing protocols for sharing knowledge
- setting out the need for financial resources and the way in which incentive structures need to be aligned
- describing approaches to governing risk across borders
- detailing capacities to support national and sub-national levels where necessary, providing scientific advice, implementation support, capacity building and other services where state capacities are insufficient.

How does the case for disaster risk reduction feature in the HFA?

Para 2: ‘Disaster loss is on the rise with grave consequences for the survival, dignity and livelihood of individuals, particularly the poor, and hard-won development gains. Disaster risk is increasingly of global concern and its impact and actions in one region can have an impact on risks in another, and vice versa. This, compounded by increasing vulnerabilities related to changing demographic, technological and socio-economic conditions, unplanned urbanization, development within high-risk zones, under-development, environmental degradation, climate variability, climate change, geological hazards, competition for scarce resources, and the impact of epidemics such as HIV/AIDS, points to a future where disasters could increasingly threaten the world’s economy, and its population and the sustainable development of developing countries. In the past two decades, on average more than 200 million people have been affected every year by disasters.’

Para 3: ‘Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities. Events of hydrometeorological origin constitute the large majority of disasters. Despite the growing understanding and acceptance of the importance of disaster risk reduction and increased disaster response capacities, disasters and in particular the management and reduction of risk continue to pose a global challenge.’

Para 4: ‘There is now international acknowledgement that efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction, and supported through bilateral, regional and international cooperation, including partnerships. Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such an approach is to be recognized as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.’

Para 5: ‘The importance of promoting disaster risk reduction efforts on the international and regional levels as well as the national and local levels has been recognized in the past few years in a number of key multilateral frameworks and declarations.’

How do statements and consultations on the successor to the HFA present the overall case for DRR?

Elements Paper

Para 24: ‘In the consultations, countries and stakeholders have indicated that the post-2015 framework for disaster risk reduction needs to: build on the experience from Hyogo Framework for Action, be practical and action oriented, strengthen accountability, be relatively short, and capable of addressing future natural and technological risk scenarios, hence far reaching.’

Para 25: ‘The post-2015 framework for disaster risk reduction should also build on the experience and the principles enshrined in the preceding frameworks, namely the International Framework of Action for the International Decade for Natural Disaster

Reduction, the Yokohama Strategy for a Safer World, and the Strategy “A Safer World in the 21st Century: Disaster and Risk Reduction” (International Strategy for Disaster Reduction [UNISDR]). As such it may not be necessary to repeat their content, but rather simply refer to and recall the past instruments.’

Para 32: ‘The principles enshrined in previous and existing frameworks remain, and may be complemented by the following:

- The sustainability of development and resilience of people, nations and the environment depend on sound risk management, which needs to guide private and public planning and investments. It goes beyond the reduction of existing risk and includes the prevention of new risk accumulation.
- Natural and technological hazards are within the scope of the post-2015 framework for disaster risk reduction.
- Prevention and reduction of disaster risk are an international legal obligation and constitute a safeguard for the enjoyment of human rights.
- The increasingly trans-boundary and global characteristics of risk drivers require further cooperative efforts in their assessment and management.
- The availability of open source and open access science-based risk information and knowledge is instrumental to cost-benefit analysis, transparent transactions, accountability, and the development of partnerships across public, private and other stakeholders.’

Para 33: ‘The reduction of disaster loss and damage per se, as an outcome of the existing HFA, reflects a vision of disasters as external events and disaster risk reduction as a sector that protects development. The expected outcome of the post-2015 framework for disaster risk reduction, therefore, should not be described only in terms of reduced loss but rather in positive and aspirational terms such as secure, healthy, wealthy and resilient nations and communities. This would create a direct and mutually reinforcing link to the SDGs and specific targets. At the same time, it would increase the political and economic imperative for managing disaster risks, changing the perception of investment in risk management as an additional cost to one of an opportunity to create shared value.’

RECOMMENDED READING

For how public regulation and private investment shape disaster risk, see: UNISDR (2013) *Global Assessment Report on Disaster Risk Reduction*. UNISDR, Geneva.

For the intersection of disasters, climate and poverty, see: ODI (2013) *The geography of poverty, disasters and climate extremes in 2030*. ODI, London.

For the intersection of DRR and adaptation to climate, see: Swedish Climate Change Commission (2009) *Closing the Gaps: Disaster risk reduction and adaptation to climate change in developing countries*. Commission on Climate Change and Development, Stockholm.

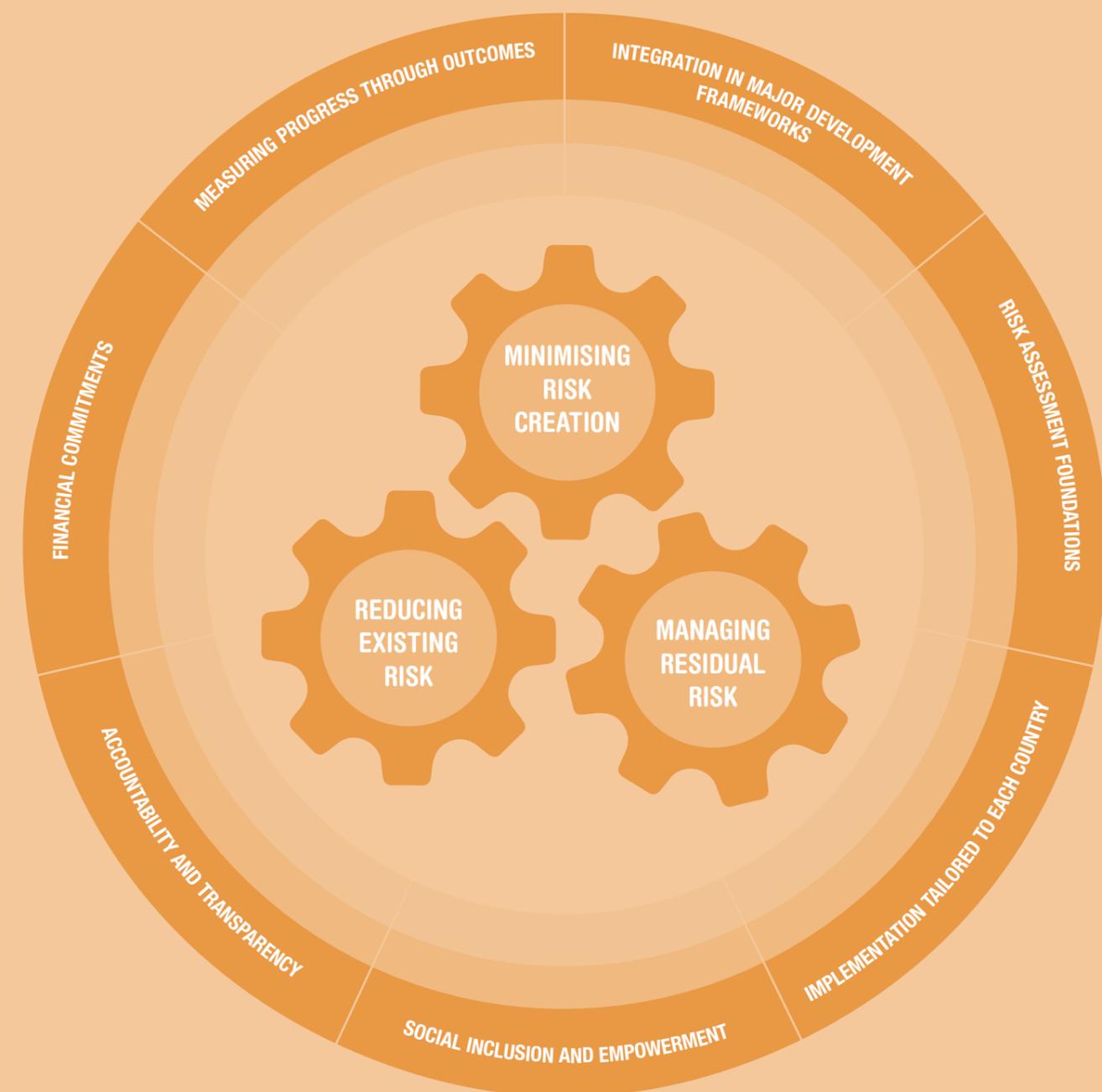


The architecture

The successor to the HFA has to build upon its successes and learn from its weaknesses. Above all else, it has to situate DRR within sustainable development – every aspect of its articulation and implementation should focus upon supporting and improving development. It is through the development process that the reduction of risk will be maximised, and the creation of new risk minimised.

Lead authors: Jan Kellett and Tom Mitchell

The future framework for DRR: avoiding and reducing risk through integration into sustainable development



The component parts

The HFA is divided into five pillars or themes, which have served to create 'silos' when implemented at different scales. This was not the intention. The authors recommend that the successor to the HFA avoid this by presenting its constituent parts as fundamentally interlinked components – a set of three gears, underpinned by seven building blocks. These offer a coherent guide to managing disaster risk in programmes, investments and private decision-making spheres in the context of sustainable development.

Each component, working together, will strengthen disaster resilience for sustainable development:

Component A: Minimising risk creation

DRR must be integrated into all development decisions, programming and practice, with climate change an active component. Central to this is the building of the institutional and enabling environment for risk-sensitive practices, and the involvement of all stakeholders.

Component B: Reducing existing risk

Building on a strengthened institutional environment for risk reduction, dedicated and deliberate attempts must be made to reduce existing risk, through and across all sectors, through both structural and non-structural methods.

Component C: Managing residual risk

A certain level of disaster risk will always remain. The residue must be adequately managed, through preparedness for effective response and relief, financial protection at all levels, coping mechanisms including social protection. Risk reduction must, in addition for recovery and reconstruction efforts.

The building blocks

The measurement of progress should be based on outcomes rather than process: The approach to monitoring the progress of the original HFA focused on a set of process or input indicators (e.g. has a disaster risk assessment been conducted, or does DRR legislation exist?) Its successor must also focus on outcomes – e.g. the actual reduction in disaster losses – as well as on the building blocks of disaster resilience. This is critical for enhancing accountability and understanding how progress is happening. Key to this is the establishment of a set of commitments that governments can endorse, commitments that are underpinned by a rigorous goal, target and indicator infrastructure.

The HFA needs to be an essential, integrated part of key development frameworks: In 2015 there is a unique alignment of global development frameworks under negotiation, with discussions on the successor to the HFA happening at the same time that a likely new set of SDGs and a new climate agreement are being negotiated. To be truly effective, the post-2015 framework on DRR should be integrated into each of these high-profile international frameworks²³ and the commitments made under the post-2015 framework on DRR should be replicated in the other frameworks, with shared language, cross-referencing, goals, targets and indicators as appropriate.

Risk assessments must be the foundational component: 'The starting point for reducing disaster risk ... lies in the knowledge of the hazards and the physical, social, economic and environmental

vulnerabilities ... and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge.'²⁴ Risk assessments should continue to be a founding principle of the international framework for DRR, but with special emphasis on three aspects: how risk assessments inform sustainable development, how the threat from multiple risks (including those not from natural hazards) needs to be understood together, and how risk assessments actually drive action and shape decisions.

The high levels of accountability and transparency required, needs investment: Key to the success of a future framework is a heightened level of accountability and transparency. This will require going beyond the self-reporting HFA monitor and will involve:

- Investing in data and tracking mechanisms for assessing activities, funding and outcomes at a country level, supported by the framework itself, which can assist through standardisation.
- A strong peer review mechanism between countries that allows for learning, progress to be highlighted and gaps to be considered. Such a mechanism has been established in the European Union, with the UK and Finland the first two countries to receive a peer review of their national progress on managing disaster risk by specialists from other countries.
- Internationally, the progress of countries and stakeholder groups against the goals, targets and indicators should be continually monitored, verifying information provided by governments. This will also help in considering the overall success of the post-2015 framework on DRR in reducing disaster losses and achieving risk-sensitive development.

Social inclusion and empowerment are essential to tackle vulnerability:

The post-2015 framework on DRR must pay close attention to the social and cultural dimensions of disaster, ensuring that the framework foregrounds how the most vulnerable, most marginalised communities, are both more likely to be affected by disasters, and more severely. The components of a future framework must understand the particular vulnerability of these communities, and the suitably empowered role they can play in risk reduction should have high priority.

Contextualised implementation, tailored to each country: The post-2015 framework on DRR should support DRR across a wide range of contexts, including in the most fragile states. It has to be sufficiently flexible to support implementation where natural hazards aren't the dominant threat and where government capacities are weak.

Policy developments must be underwritten by financial commitments:

The national financing of DRR should be foregrounded in the post-2015 framework on DRR. It should be underpinned by a targeted commitment to spend, both on stand-alone DRR activities and initiatives and, more importantly, through being embedded into broader development planning and expenditures. International financing of DRR should be targeted to those countries and activities that are most needed, with donors shifting the burden of DRR to their development aid.

How the components are featured in the HFA

The general principles underpinning the HFA are detailed in Para 13:

'In determining appropriate action to achieve the expected outcome and strategic goals, the Conference reaffirms that the following general considerations will be taken into account:

- a. The Principles contained in the Yokohama Strategy retain their full relevance in the current context, which is characterized by increasing commitment to disaster reduction;
- b. Taking into account the importance of international cooperation and partnerships, each State has the primary responsibility for its own sustainable development and for taking effective measures to reduce disaster risk, including for the protection of people on its territory, infrastructure and other national assets from the impact of disasters. At the same time, in the context of increasing global interdependence, concerted international cooperation and an enabling international environment are required to stimulate and contribute to developing the knowledge, capacities and motivation needed for disaster risk reduction at all levels;
- c. An integrated, multi-hazard approach to disaster risk reduction should be factored into policies, planning and programming related to sustainable development, relief, rehabilitation, and recovery activities in post-disaster and post-conflict situations in disaster-prone countries;
- d. A gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training;
- e. Cultural diversity, age, and vulnerable groups should be taken into account when planning for disaster risk reduction, as appropriate;
- f. Both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction;
- g. Disaster-prone developing countries, especially least developed countries and small island developing States, warrant particular attention in view of their higher vulnerability and risk levels, which often greatly exceed their capacity to respond to and recover from disasters;
- h. There is a need to enhance international and regional cooperation and assistance in the field of disaster risk reduction through, inter alia:
- i. The transfer of knowledge, technology and expertise to enhance capacity building for disaster risk reduction
 - The sharing of research findings, lessons learned and best practices
 - The compilation of information on disaster risk and impact for all scales of disasters in a way that can inform sustainable development and disaster risk reduction
 - Appropriate support in order to enhance governance for disaster risk reduction, for awareness-raising initiatives and for capacity-development measures at all levels, in order to improve the disaster resilience of developing countries
 - The full, speedy and effective implementation of the enhanced Heavily Indebted Poor Countries Initiative, taking into account the impact of disasters on the debt sustainability of countries eligible for this programme
 - Financial assistance to reduce existing risks and to avoid the generation of new risks

- j. The promotion of a culture of prevention, including through the mobilization of adequate resources for disaster risk reduction, is an investment for the future with substantial returns. Risk assessment and early warning systems are essential investments that protect and save lives, property and livelihoods, contribute to the sustainability of development, and are far more cost-effective in strengthening coping mechanisms than is primary reliance on post-disaster response and recovery;
- k. There is also a need for proactive measures, bearing in mind that the phases of relief, rehabilitation and reconstruction following a disaster are windows of opportunity for the rebuilding of livelihoods and for the planning and reconstruction of physical and socio-economic structures, in a way that will build community resilience and reduce vulnerability to future disaster risks;
- l. Disaster risk reduction is a cross-cutting issue in the context of sustainable development and therefore an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration. In addition, every effort should be made to use humanitarian assistance in such a way that risks and future vulnerabilities will be lessened as much as possible.'

The structure and operation of the component parts of the HFA are seen throughout the framework agreement (pp. 5–13). Called 'priorities for action', they are as follows:

- Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.
- Identify, assess and monitor disaster risks and enhance early warning.
- Use knowledge, innovation and education to build a culture of safety and resilience at all levels.
- Reduce the underlying risk factors.
- Strengthen disaster preparedness for effective response at all levels.

How the components are included in statements and consultations on the successor to the HFA

Mid-Term Review

- The executive summary notes progress: 'An analysis of government reports, through the HFA Monitor, for the 2005–2007, 2007–2009, and the on-going 2009–2011 cycles, indicates that progress is indeed taking place in disaster risk reduction, especially from an institutional point of view, in the passing of national legislation, in setting up early warning systems, and in strengthening disaster preparedness and response.'
- However, it also suggests that the focus on residual risks has impeded progress: 'Handling what is primarily a developmental issue with largely relief and humanitarian mechanisms and instruments, while helpful at the beginning, needs to be reconsidered to ensure that disaster risk reduction plays the role that it must in enabling and safeguarding development gains.' (p. 10)
- 'Efforts to reduce underlying risk factors account for the least progress in terms of the HFA, but this is hardly surprising given that the underlying risk factors include some of the biggest challenges facing the world today: poverty, rapid urbanisation, and climate change.' (p. 27)
- 'The subsequent reporting cycle, ending in 2009, indicated that many countries had difficulties addressing underlying risk drivers

such as poor urban and local governance, vulnerable rural livelihoods, and ecosystem decline in ways that led to reduced risk of damages and economic loss. Reports also seemed to indicate that governance arrangements for disaster risk reduction did not facilitate the integration of risk considerations into development.' (p. 28)

- 'Initial reports from the 2009–2011 HFA Progress Report seem to indicate that the more governments are coming to understand the challenge of addressing the drivers of risk, the lower the score they assign themselves in this area.' (p. 28)
- 'The integration of risk reduction in infrastructure projects is an area that requires urgent attention, but most of the action on this has been very one-dimensional.' (p. 28)
- 'The link between HFA Priority for Action 4, addressing the underlying risk factors, and Priority for Action 1, setting up of institutional mechanisms, is critical to ensure a holistic and strategic approach to reducing vulnerability and increasing resilience. However ... governance arrangements do not facilitate integrated management of risk drivers, especially when responsibilities for critical issues such as environment policy, social protection mechanisms, disaster risk reduction, climate change adaptation, land tenure and rural development policy, housing, and urban development policy are entrusted to different governmental entities.' (p. 44)

Chair's Summary

- 'Countries and organizations report least progress on Priority 4 of the Hyogo Framework for Action: to "reduce the underlying risk factors" ... participants raised the need to take concrete measures to tackle risk drivers including poverty, hunger, disease, conflict, violence and inadequate health services, education, infrastructure, poor water and sanitation, housing, unemployment, land degradation, displacement, forced migration and discrimination. Several proposed actions included: full reporting of the health burden of disasters and the consequences for community development and the systematic application of the International Health Regulations; promoting education services and systems, and committing to safe, uninterrupted education and other measures identified in the Children's Charter for Disaster Risk Reduction; utilizing established mechanisms for environmental protection such as Environment Impact and Strategic Environmental Assessments, systems for protected areas management and integrated water resource and coastal zone management to address environmental degradation, strengthen livelihoods and address disaster risk; and, leveraging existing social protection mechanisms to target vulnerable households.' (pp. 1–2)
- 'HFA2 to focus on implementation, as a pragmatic, strategic, dynamic and realistic plan for action advancing integrated risk governance, underpinned by a clear set of principles and commitment to addressing the needs of the poorest and most vulnerable. It is expected that the HFA2 will recognize the need to govern disaster risk reduction and resilience through clear responsibilities, strong coordination, enabled local action, appropriate financial instruments and a clear recognition of a central role for science. Specific focus should be placed on addressing the drivers of risk and the recognition of the roles and contributions of self-organized community groups.' (p. 4)

Synthesis Report

- 'Progress is consistently lower in HFA Priority 4, which aims to address directly the underlying drivers of risk.' (p. 5)
- 'Governance systems at the heart of DRR. Risk governance systems need to be strengthened. National platforms need support and roles and importance have to be clarified. Clearer responsibilities across public and private actors and the setting of appropriate accountability mechanisms. Clearer guidance on governance of DRR needed.' (p. 8)
- 'Disaster-focused organisations and systems have little influence on development practice. Should efforts be concentrated on strengthening DRM organisations or systems or should we focus on sector ministries and local governments responsible for regulating and promoting development?' (p. 8)
- 'DRR and prevention should be an obligation under the law. Other approaches encouraged accountability through transparency and access to information by citizens, along with inclusive approaches to decision-making.' (pp. 8–9)
- 'Holistic approaches to DRR and climate risk management are needed. Action plans and strategies for all these should be linked to national development planning exercises.' (p. 10)
- 'Mainstreaming and integrated approaches that address underlying risk factors can be a catalyst for pro-poor development.' (p. 10)
- 'Parliamentarians should play a stronger oversight role to ensure governance of risk reduction including through generating public awareness, monitoring budgets and promoting broader legislation to support decentralisation of DRR.' (p. 20)

Elements Paper

- 'The post-2015 framework for disaster risk reduction cannot be considered as a stand-alone, technical and sector specific agreement. Provisions need to be made to secure an interlinked and mutually supportive implementation.' (p. 4)
- 'Poorly planned and managed urban development, environmental degradation, poverty and inequality and weak governance mechanisms continue to drive rapidly-increasing loss and damage associated with extensive risk.' (p. 2)
- 'Disasters generally continue to be conceptualized as external shocks to normally functioning economies, rather than as manifestations of underlying risk drivers inherent to development policies and practices which generate and accumulate disaster risks ... climate change ... will often magnify the effects of these underlying risk drivers, many of which are trans-boundary in nature.' (p. 2)
- 'Policy and action need to go beyond the reduction of existing risk and prioritize the prevention of new risk accumulation. Risk management must be part of sustainable development policies and practices in order to tackle existing challenges and seize potential opportunities.' (p. 3)
- 'The post-2015 framework for disaster risk reduction needs to embrace three complementary and strategic goals, namely: 1) risk prevention and the pursuit of development pathways that minimise disaster risk generation; 2) risk reduction, i.e. actions to address existing accumulations of disaster risk; and 3) strengthened resilience, i.e. actions that enable nations and communities to absorb loss and damage, minimise impacts and bounce forward.' (p. 7)

- ‘In order to make progress towards the expected outcome and strategic goals, public policies on risk management need to be underpinned by appropriate governance frameworks ... public policies will need to be underpinned by mechanisms for information and knowledge generation and management in order to ensure that relevant information and knowledge on risk and on risk management alternatives is available to policy and decision makers at different levels, from individuals and households to international organisations.’ (p. 7)
- ‘The priority areas of the post-2015 framework for disaster risk reduction need to be defined in terms of critical public policies that address disaster risk in publically owned, managed or regulated services and infrastructures, and in the environment, but also that regulate or provide incentives for actions by households, communities, businesses and individuals.’ (p. 7)

3 Monitoring and accountability

Ensuring that the right arrangements are in place for monitoring progress made by countries on the future framework for disaster risk reduction is key to the success of that framework. This includes the need to provide a basket of indicators, providing clarity on the ‘nuts and bolts’ of monitoring, focusing on data management, improving systems to track and gauge disaster risk and ensuring an alignment between the monitoring systems of the future framework for DRR and the post-2015 framework on sustainable development.

Lead author: Aditya Bahadur

RECOMMENDED READING

The four main documents used to discuss developments over the past 10 years – the Elements Paper, Chair’s Summary, Mid-Term Review and Synthesis Paper – are all useful for a deeper understanding of the structures of past and possible frameworks. In addition, other documents provide a perspective from a different angle:

To see the United Nations plan of action for DRR go to:

United Nations Chief Executives Board for Coordination (2013) *United Nations Plan of Action on Disaster Risk Reduction for Resilience*. United Nations, New York.

To read how the World Bank articulates its own work in DRM, see:

GFDRR/World Bank (2012) *The Sendai Report: Managing Disaster Risks for a Resilient Future*. Global Facility for Disaster Reduction and Recovery, Washington DC.

To read about key challenges in creating a new structure for DRR, see:

Lavell and Maskrey (2014) *The Future of Disaster Risk Management: An Ongoing Discussion*. UNISDR, Geneva.

Propositions for a global monitoring framework for DRR²⁵

The focus on agreeing common targets and indicators for DRR and establishing national and global monitoring systems to track progress.

1

TARGETS SHOULD BE COMBINED WITH A METHODOLOGY THAT ASSESSES LEVELS OF DISASTER RISK

Only then can we adequately track progress. Given the short timeframe between now and 2030, assessing trends in observed disaster losses might give a false impression of success if countries or regions are lucky in avoiding severe disaster events in that period.

2

TARGETS SHOULD BE INCLUDED IN BOTH THE SDGs AND THE POST-2015 FRAMEWORK FOR DRR, USING IDENTICAL LANGUAGE

A single set of goals, targets and indicators spanning the SDGs and the post-2015 framework for DRR would clarify priorities, increase logic and coherence and minimise the work required to develop monitoring and reporting capacity. Such indicators could monitor inputs and outputs, such as the presence of plans or legislation, or the number of people covered by effective early warning systems or of school and health facilities built to hazard-resistant construction codes, linked to the hazard risk in the area.

3

NUMERICAL TARGETS AT A GLOBAL SCALE ACT AS AN EYE-CATCHING REFERENCE POINT AND ALSO HELP DIRECT ACTIONS

Differences between countries in terms of their potential to reduce risks, as a result of previous actions and exposure to certain types of hazard, mean that 'one size fits all' targets – such as halving disaster deaths – are not appropriate. Instead, countries should be encouraged to establish their own targets and to select from a basket of indicators, and then register these as part of the reporting process. This is likely to promote greater ownership and relevance.

SPACE SHOULD BE MADE FOR THE CREATION OF NATIONAL-LEVEL TARGETS

4

A DATA REVOLUTION IS NEEDED, INVOLVING THE SYSTEMATIC COLLECTION OF DATA ON DISASTER RISK AND LOSSES ACROSS COUNTRIES

This revolution can happen only if DRR targets and indicators are included in the SDGs and are treated as part of a wider movement to improve the quality and availability of sustainable development data. Without such data, no country can truly know if it is becoming more or less resilient to the impacts of hazards. Disaster risk data can be used to monitor progress over time, while disaster loss data can improve our understanding of the risk and how best to provide mitigation measures, as well as helping to create hazard maps and models.

5

A MONITORING METHODOLOGY FOR TRACKING NATIONAL PROGRESS ON DRR MUST FOCUS ON THE USE OF DETAILED DISASTER RISK INFORMATION

This should include high-resolution data on national building inventories, population data (including by socioeconomic group), mapped hazard data and DRR plans.

This makes it possible to measure levels of disaster risk using the real experience of disaster losses to validate findings. Although there has been some progress, there will be a need for investment in setting up a technical support programme to address the challenges outlined here.

6

UPGRADES TO POVERTY DATA SHOULD INVOLVE MODULES ON SHOCKS

Where countries begin more comprehensive and regular monitoring of poverty dynamics, potentially by extending household surveys, these or other data collection methods should incorporate modules or questions on the impact of disaster events on poverty and other dimensions of human development, such as health or school attendance.

7

THE SDGs AND THE POST-2015 FRAMEWORK FOR DRR SHOULD INCLUDE DRR TARGETS WITH THE SAME START AND END POINTS AND SYNCHRONOUS REPORTING PERIODS

Any mismatch of timeframes or irregularity of reporting periods will increase the workload for countries, stretching their capacity to monitor progress across a range of targets.

8

TRACKING PROGRESS ON DISASTER LOSSES AND RISKS REQUIRES NORMALISATION OF DATA FOR KEY VARIABLES, TO ALLOW FOR COMPARISONS BETWEEN TIME PERIODS AND THE ESTABLISHMENT OF A BASELINE TO ASSESS PROGRESS

As records of losses from only a few decades typically underestimate the impact of the most extreme disasters, the baseline should be set principally according to the assessed level of risk (or of losses) in that country, based on the use of proxies indicative of casualties and economic losses.

The methodology to define the baseline must be consistent with the way in which progress is measured.

9

THE INSTITUTIONAL ARCHITECTURE FOR DELIVERING A GLOBAL MONITORING SYSTEM NEEDS TO INVOLVE MULTIPLE GROUPS AT DIFFERENT SCALES, EACH SERVING A DISTINCT FUNCTION

While the responsibility for monitoring progress on DRR lies with national governments, a facilitating body at international level, such as the UN Office for Disaster Risk Reduction (UNISDR), is needed to collect data and help strengthen national and local monitoring capacity. Such a body would need to involve national statistical offices and other relevant governmental bodies in order to be able to collect the required data, including census data. This could be supported by regional technical agencies, with data also drawn from the scientific community to establish risk profiles, from technology companies and from other groups recording disaster losses, such as insurance companies. The institutional architecture should span the post-2015 framework for DRR and the SDGs so as not to create duplication.

10

WHILE GOVERNMENTS WILL CONTINUE TO SELF-REPORT ON PROGRESS, TRANSPARENCY AND ACCURACY WILL ONLY BE ACHIEVED IF INDEPENDENT GROUPS AT ALL LEVELS CAN CONTRIBUTE FOR MONITORING PROGRESS TO DRR

The original framework for monitoring progress on the post-2015 framework for DRR – the HFA Monitor – has suffered from being a self-reporting platform, with global and regional institutions unable to check claims or accurately compare reports between countries. An independent international technical group has an important role to play in helping to guide standards, assess data quality and transparency and support other potential processes of accountability, including country-to-country peer review.

How monitoring and accountability are included in the HFA

Para 30: ‘All States should endeavour to undertake the following tasks at the national and local levels, with a strong sense of ownership and in collaboration with civil society and other stakeholders, within the bounds of their financial, human and material capacities, and taking into account their domestic legal requirements and existing international instruments related to disaster risk reduction. States should also contribute actively in the context of regional and international cooperation, in line with paragraphs 33 and 34.’

Para 30 (d): ‘Develop procedures for reviewing national progress against this Framework for Action, which should include systems for cost benefit analysis and ongoing monitoring and assessment of vulnerability and risk, in particular with regards to regions exposed to hydrometeorological and seismic hazards, as appropriate.’

Para 31 (a): ‘Regional organizations with a role related to disaster risk reduction are called upon to undertake the following tasks within their mandates, priorities and resources: Promote regional programmes, including programmes for technical cooperation, capacity development, the development of methodologies and standards for hazard and vulnerability monitoring and assessment, the sharing of information and effective mobilization of resources, in view of supporting national and regional efforts to achieve the objectives of this Framework for Action.’

How monitoring and accountability are included in statements and consultations on the successor to the HFA

Mid-Term Review

‘There must be a senior, over-arching authority at government level where responsibility, and with it accountability, rests for setting policies, driving processes, and ensuring budget allocations for all the different aspects of disaster risk reduction. The effectiveness of National Platforms in informing and supporting this executive level of decision making can be assessed accordingly. The Mid-Term Review also records a call for the inclusion of accountability mechanisms to measure progress or lack thereof. Setting targets can help in accelerating HFA implementation through 2015. Targets can be nationally or regionally set, and self-monitored. There is a clear recognition that guidance alone is not sufficient and that standards to ensure quality in the delivery of the guidance are necessary. Standards can be developed for the implementation of disaster risk reduction at regional and national levels. There is a need for the international community to support governments in the implementation of the Hyogo Framework for Action in a more coherent and integrated fashion. The development of a joint action plan may help generate and crystallize such coherence’ (p. 11).

‘There are few examples of campaigns where enhanced awareness has translated into public action and greater accountability. These include examples from Central America and the Caribbean, where the media played an important role in increasing public awareness, including the use of radio soap-operas’ (p. 25).

‘It is important to recognize that following major disasters, the public becomes naturally more aware of the need to address social vulnerability and usually puts greater pressure on governments to undertake measures. This has led in many cases to improved

governance and accountability by local and national authorities, Colombia and India being two cases in point’ (p. 26).

‘A significant element of concern observed throughout the Review was that in several countries it is not clear who “owns” disaster risk reduction, and therefore it is hard to grasp who is in charge of what at the national level. This in turn leads to serious questions of institutional overlap, coordination, and ultimately accountability’ (p. 43).

‘The Mid-Term Review highlighted the need for governments to identify and develop synergies at national levels to ensure coordinated and coherent action on disaster risk reduction across different sectors of government. As noted above, this would help to clarify who is in charge of driving processes, setting policies, seeking budget allocations, etc. This is also related to the issue of accountability: if nobody is in charge then nobody is effectively responsible for making things happen’ (p. 58).

‘The Advisory Group emphasized the importance ... of generating a local demand for DRR, which in turn may bring about a higher level of accountability for action’ (p. 59).

‘Once a problem is understood and plans developed to address it, accountability mechanisms become a measure of progress in implementing the plans. Reporting and monitoring mechanisms therefore can be viewed as measures to increase government and public awareness of, and support for, implementation of the HFA. Regular reporting, such as that encouraged for the HFA Progress Monitor Report, helps keep disaster risk reduction high on national agendas. In this connection, it was suggested that reporting should be done annually, rather than biannually, as is the case at present. The HFA monitoring system was appreciated because, though based on self-reporting, it offers an opportunity for governments to exercise internal quality control. Workshop discussions held throughout the Mid-Term Review noted that the current reporting system, albeit complex and detailed, generates a consultative process amongst all DRR stakeholders in a given country, which is in and by itself positive. The current HFA monitoring system, however, does not include questions to governments about internal accountability mechanisms. Given the widespread interest during the Mid-Term Review on accountability mechanisms, the time is ripe to include such questions in the HFA Monitor so as to track such mechanisms at national levels as well as – most importantly – encourage governments to establish them in the context of multi-stakeholder strategies for disaster risk reduction’ (p. 60).

DRR law at the national level could help set frameworks for promoting, monitoring and accountability mechanisms (pp. 60–61).

‘The Mid-Term Review found that there is a need to define mechanisms and levels of application for effective accountability in HFA implementation at the international (including regional), national, and local levels. As noted in this section, effective accountability is about transparent and responsible action. Accountability measures that are jointly defined and monitored stand a greater chance of bringing about the action required to raise the level of priority for disaster risk reduction in the national agenda’ (p. 61).

‘The Advisory Group recommended supporting governments in defining and developing appropriate **accountability measures for disaster risk reduction**. An international system for global accountability for disaster risk reduction was also discussed by the Advisory Group, and it was noted that an explicit inclusion

of disaster risk reduction in the Millennium Development Goals would help in making governments accountable to report on action taken in this connection’ (p. 61).

Elements Paper

‘The enhancement of clarity in responsibility, accountability and monitoring of implementation may benefit from moving from a framework based on concepts and activities, as the current HFA, to one structured around specific and strategic public policies, which can be complemented by stakeholders’ commitments’ (p. 6).

Chair’s Summary

‘Accountability systems and effective rules concerning stakeholders’ responsibilities and opportunities for engagement are necessary. Ultimately, risk governance can only be rooted in a strong acceptance of personal responsibility and commitment to behavioural change’ (p. 3).

Synthesis Report

‘Establishment of clearer accountability lines, roles and responsibilities were identified as key related issues to be addressed in the HFA2’ (p. 19).

‘Many countries emphasized that regulation and law at the national level can essentially set out an accountability framework for DRR’ (p. 20).

RECOMMENDED READING

For an argument for common global goals, targets and indicators in relation to reducing disaster risks and losses across the SDGs and the post-2015 framework for DRR, see:

Mitchell, T., Guha-Sapir, D., Hall, J., Lovell, E., Muir-Wood, R., Norris, A., Scott, L. and Wallemacq, P. (2014) *Setting, measuring and monitoring targets for reducing disaster risk: Recommendations for post-2015 international policy frameworks*. London: Overseas Development Institute.

For a proposed new indicator system for monitoring progress on the post-2015 framework for DRR, see:

UNISDR (2013) *Towards the Post-2015 Framework for Disaster Risk Reduction. Indicators of success: a new system of indicators to measure progress in disaster risk management*.

For highlights of a meeting between 21 disaster risk and development specialists on the past and future of disaster risk management, see: Lavell, A. and Maskrey, A. (2013) *The Future of Disaster Risk Management: An On-going Discussion*. UNISDR.

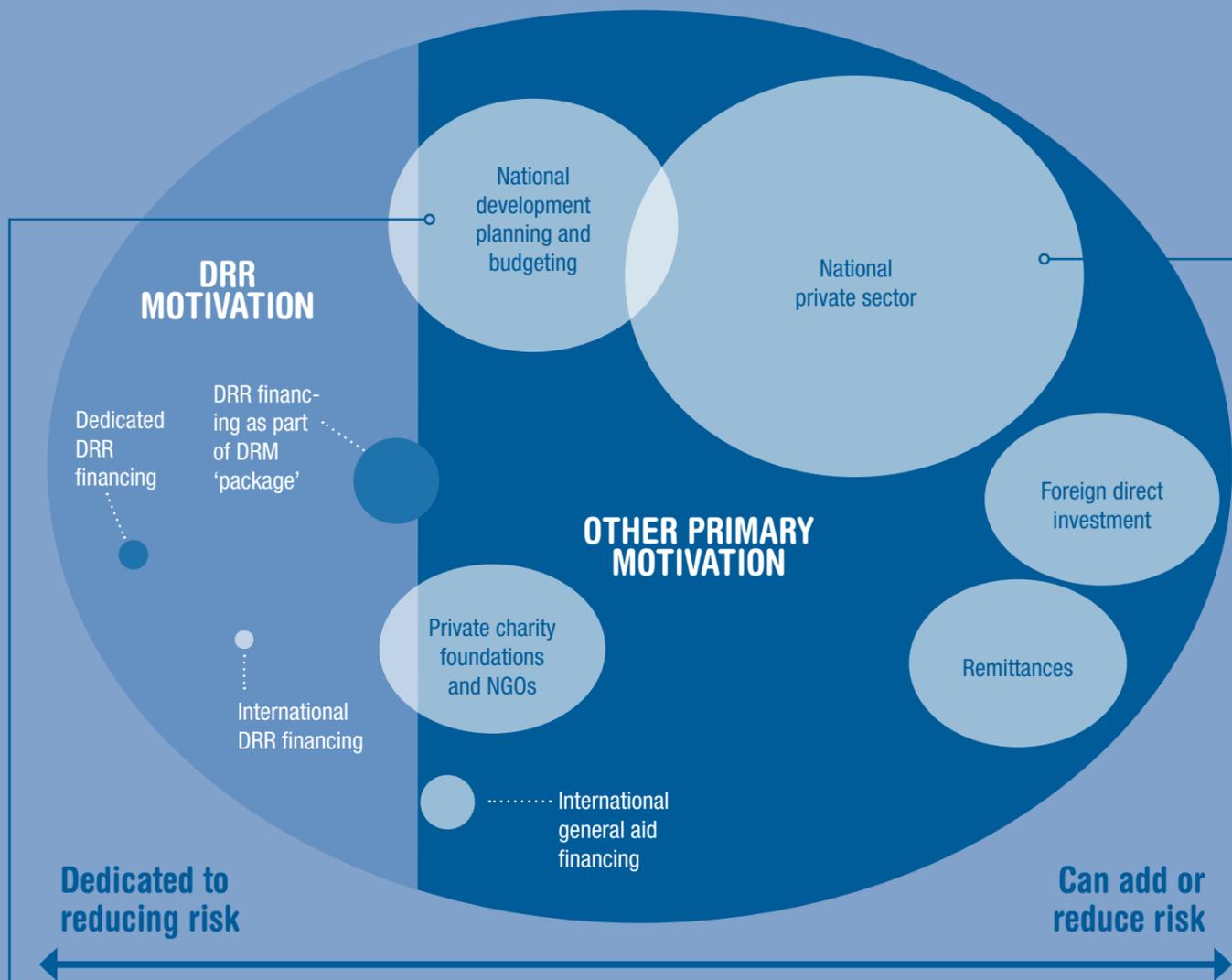
4 Financing disaster risk reduction

Only through the inclusion of specific and dedicated commitments to national financing for DRR (especially when integrated into development investments) can sustained progress be made in reducing disaster losses. International financing of DRR needs to fully complement national financing, and should serve to catalyse action and support engagement with private finance where appropriate.

Lead author: Jan Kelleff

Financing is rarely motivated by risk reduction in any context, and most financing can just as easily add risk as reduce it²⁶

Integrating DRR into national development planning 'pulls' financing towards risk reduction



National development planning and budgeting is key to the successful governance of risk

NATIONAL PLANNING AND BUDGETING IS CENTRAL to a country's commitment to the reduction of disaster risk.

IT DIRECTLY CONTROLS how much or how little of national spending is informed by issues of disaster risk.

IT ALSO SETS THE AGENDA of what element of international aid financing is focused on issues of DRR and management.

HOWEVER, SINCE MUCH OF ALL NEW INVESTMENT GLOBALLY comes from the private sector, robust legislation, adequately enforced, needs to guide private sector investment towards reducing rather than increasing risk.

The role of the private sector in either reducing or increasing risk is crucial

70%–85%

of all global investment is by the private sector.²⁷

The reasons for prioritising the financing of DRR are not always clear

COSTS NOT KNOWN

The cost of disasters in terms of mortality, increased poverty and loss/damage are not well understood.

RISK CONSCIOUSNESS LOW

Most citizens underestimate disaster risks and are unaware of the measures needed to combat them.

RESPONSE FIRST

A good response to a disaster gains politicians considerable support – the action is obvious and visible.

INTERNATIONAL AID DISINCENTIVES

The promise of international aid in the event of disaster distorts political incentives to invest in DRR.

ACCOUNTABILITY FAILURES

DRR is difficult for citizens to track and responsibility for it is spread across ministries, functions and scales.

BENEFITS OF DRR ARE LONG TERM

The benefits of DRR may not materialise for decades, and financing may divert funds away from problems that are of more immediate interest to constituents.

OPPORTUNITY COSTS UNCLEAR

The opportunity costs in financing DRR are not clear, especially in environments where other priorities, even the provision of the most basic of services, remain a challenge.

NO-COST BENEFITS MISUNDERSTOOD

The benefits of including risk considerations in much of development are not understood.

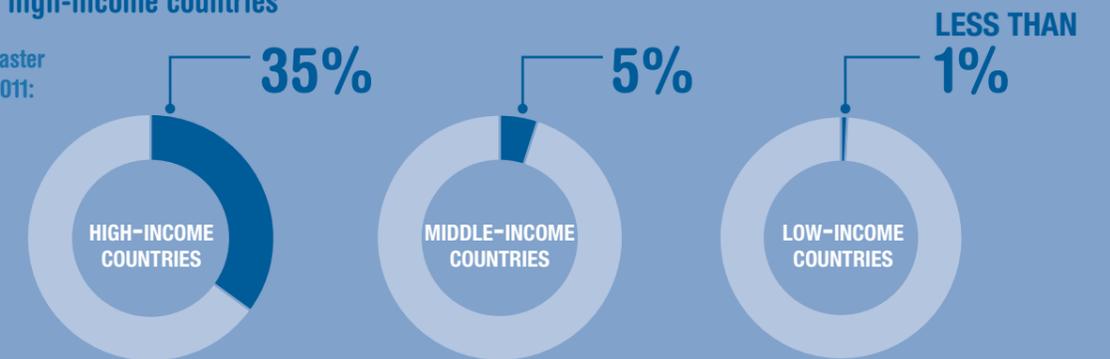
CHALLENGE OF MULTIPLE RISKS

Disaster risk is just one hazard that families, communities and nations must cope with.

Financing is used in and between countries to transfer risk that has not been reduced

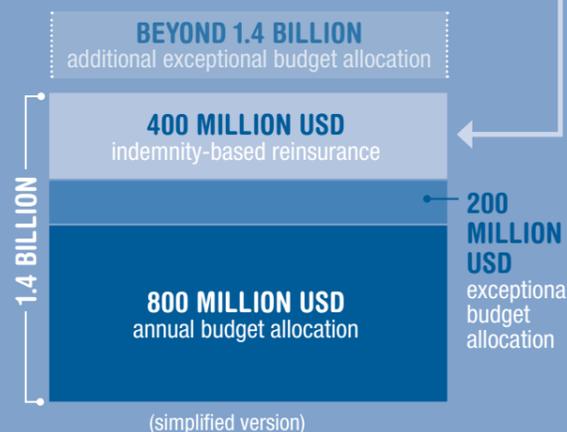
Personal and public property insurance protects assets, but largely only in high-income countries

Coverage of natural disaster losses between 1980–2011:



Some governments use specific financial tools to manage and reduce the fiscal impacts of disasters²⁸

Mexico's Ministries of Finance and Interior have developed a layered approach to financial protection which involves transferring some risk to the private sector.



Some countries work regionally to pool their disaster risk

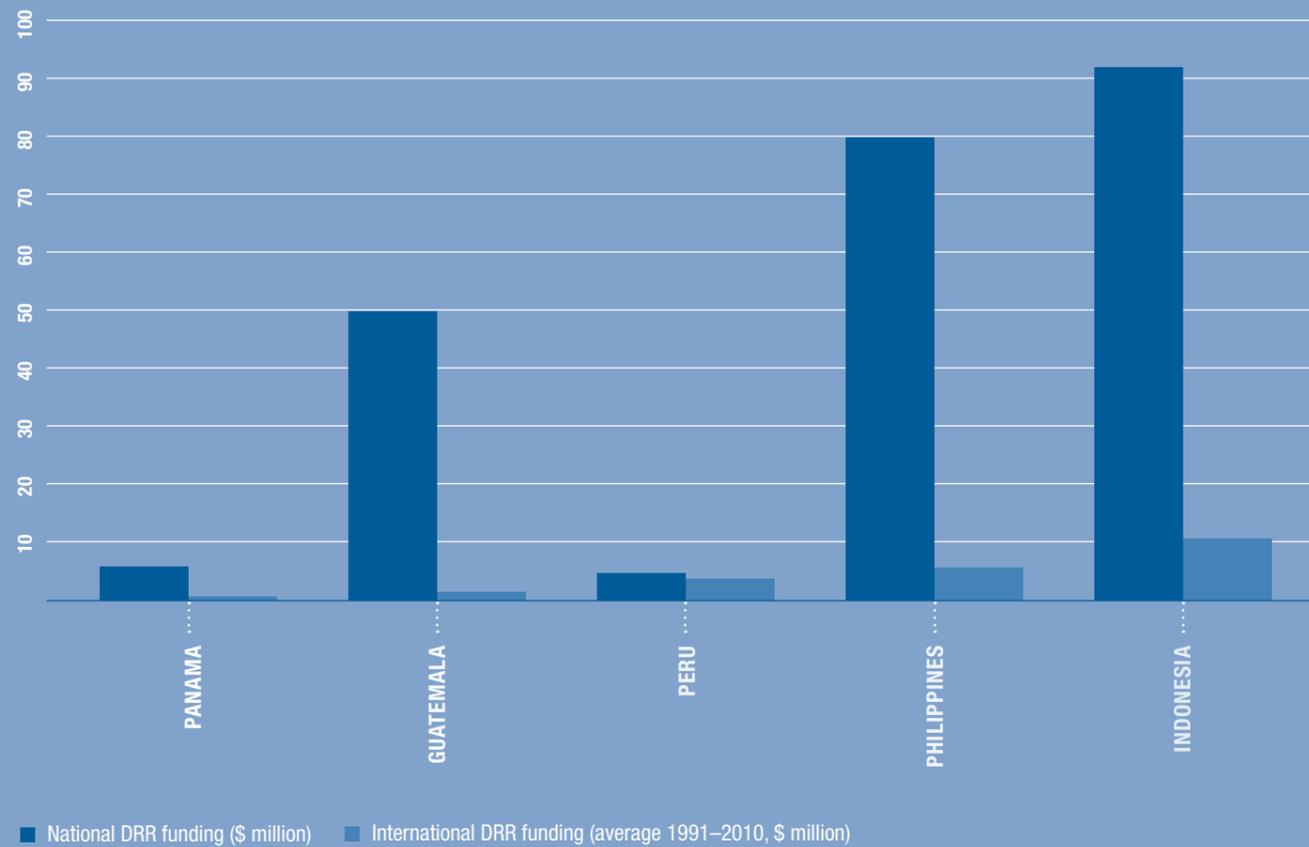


CARIBBEAN
16 COUNTRIES
Caribbean Catastrophe Risk Insurance Facility

AFRICA
24 COUNTRIES
African Risk Capacity

PACIFIC
15 COUNTRIES
Pacific Catastrophe Risk Assessment and Financing Initiative

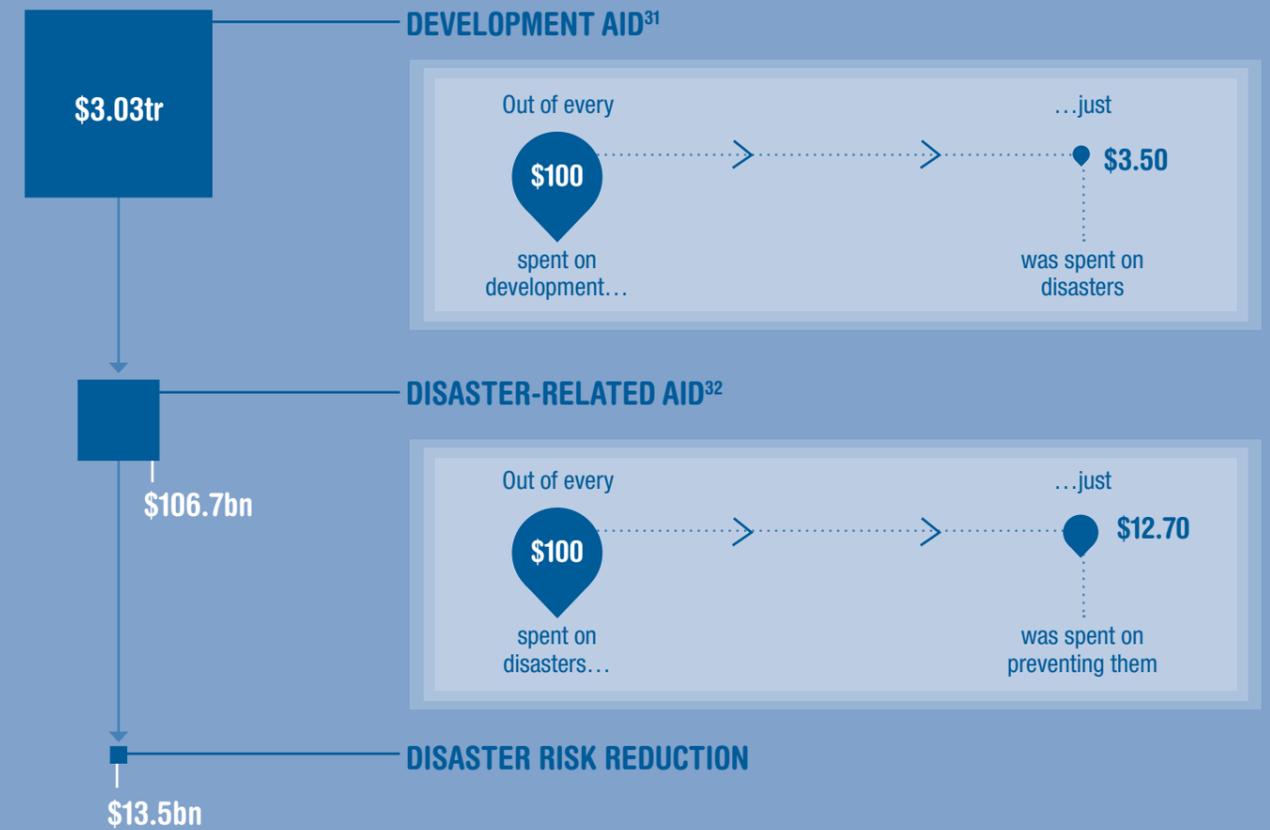
Some developing countries have, however, invested heavily in DRR, sometimes much more than the international community²⁹



But even in these contexts weaknesses remain

- 1** Incoherence of financing models
- 2** Poor local-level financing
- 3** Lack of goals and targets
- 4** Accountability and transparency of financing inadequate
- 5** Minimal integration of non-government financial flows.³⁰

The international community has a long way to go before it is seen as prioritising the financing of DRR
Over 20 years (1991–2010)



POOREST COUNTRIES RECEIVE THE LEAST³³

OVER 20 YEARS, 12 OF THE POOREST COUNTRIES RECEIVED



SUMMARY OF RECOMMENDATIONS

The financing of the HFA must be aligned with the financing of the SDGs and climate change, with the larger part of the burden falling upon national governments, with a commitment to finance the integration of risk as part of delivering sustainable development. Specific elements of this commitment should be enshrined in the HFA as follows:

- National commitments to reduce risk must be underpinned by a targeted commitment to spend, especially at a local level.
- These commitments must include both stand-alone financing of DRR as well as DRR embedded into broader development planning and expenditures.
- The post-2015 framework on DRR must prioritise the provision of very specific tools and guidance on financing for national governments.

- International DRR financing must be targeted to those countries most in need and the activities that are most needed.
- Donors must shift the burden of DRR to their development aid budgets.
- The DRR community has to do much more to communicate the many incentives for investing in DRR, focusing first on the need to integrate risk concerns into development.
- The private sector must become a key stakeholder in future DRR policies, programmes and platforms, with its financing leveraged to reduce rather than increase disaster risk.

How DRR finance is featured in the HFA

Para 8: The review of the Yokohama Strategy ‘highlights the scarcity of resources allocated specifically from development budgets for the realization of risk reduction objectives, either at the national or the regional level or through international cooperation and financial mechanisms, while noting the significant potential to better exploit existing resources and established practices for more effective disaster risk reduction’.

Para 34: ‘States, within the bounds of their financial capabilities, regional and international organizations, through appropriate multilateral, regional and bilateral coordination mechanisms, should undertake the following tasks to mobilize the necessary resources to support implementation of this Framework for Action:

- a. Mobilize the appropriate resources and capabilities of relevant national, regional and international bodies, including the United Nations system;
- b. Provide for and support, through bilateral and multilateral channels, the implementation of this Framework for Action in disaster-prone developing countries, including through financial and technical assistance, addressing debt sustainability, technology transfer on mutually agreed terms, and public–private partnerships, and encourage North–South and South–South cooperation.
- c. Mainstream disaster risk reduction measures appropriately into multilateral and bilateral development assistance programmes including those related to poverty reduction, natural resource management, urban development and adaptation to climate change;
- d. Provide adequate voluntary financial contributions to the United Nations Trust Fund for Disaster Reduction, in the effort to ensure the adequate support for the follow-up activities to this Framework for Action. Review the current usage and feasibility for the expansion of this fund, inter alia, to assist disaster-prone developing countries to set up national strategies for disaster risk reduction.
- e. Develop partnerships to implement schemes that spread out risks, reduce insurance premiums, expand insurance coverage and thereby increase financing for post disaster reconstruction and rehabilitation, including through public and private partnerships, as appropriate. Promote an environment that encourages a culture of insurance in developing countries, as appropriate.’

How DRR finance is included in statements and consultations on the successor to the HFA

Elements Paper

Para 42: ‘This family [of indicators] will also measure fiscal resilience by comparing the risk that governments are responsible for with fiscal capacity and the availability of risk financing, including but not restricted to insurance.’

Chair’s Summary

‘Development and financing of resilience plans were identified as a means of promoting “whole of society” approaches. Policies for investment, improved tracking of financing for DRR across sectors and funding streams, and the introduction of special markers in global aid reporting were recommended and the role of supreme

audit institutions in providing impartial information on the legality, efficiency and effectiveness of public spending was noted.’ (p. 3)

Synthesis Report

Key references to financing in the synthesis report include: (i) need for more funding and more reliable funding; (ii) DRR in national budget allocations and public financial management systems; (iii) ways of financing DRR, creation of a dedicated funding window, greater global political commitment to invest resources. (pp. 22–23)

From Kellett, Caravani and Pichon (2014)³⁴

The importance of dedicated financing for the reduction of disaster risk may appear self-evident. Without committing funding, national governments will not be able to reduce risk. However, it has become increasingly evident that national governments are struggling to invest in risk reduction – for many, inter-related reasons, a few of which are indicated here.

- Complexity of financing DRR in public expenditure: ‘Structural features of public expenditure management and of state governance make it difficult for cross-cutting issues like DRR to be effectively financed, despite the apparent fiscal savings from doing so.’³⁵
- The inadequacy of available funds in general: ‘Countries persistently identify the lack of resources over the long term as a major impediment to effectively reducing disaster risk in public investment.’³⁶
- An inadequacy of funds to implement developed policy: ‘Even countries with strong DRR mechanisms and political commitment towards integrated [DRR/CCA] lack financial support.’³⁷
- A stubborn adherence to post-crisis reflection on risk: ‘DRR and climate change adaptation are like “airbags” or “cushions” that inflate (often too late) when there is a crisis but under other circumstances receive very little attention or finance.’³⁸

RECOMMENDED READING

To understand the challenges of tracking national investments in DRR, see:

Gordon, M. (2013) *Exploring Existing Methodologies for Allocating and Tracking Disaster Risk Reduction in National Public Investment*. Geneva: UNISDR.

To understand aspects of progress and challenges in national financing of DRR, see:

Jackson, D. (2011) *Effective Financial Mechanisms at the National and Local Level for Disaster Risk Reduction*. Geneva: UNISDR.

Kellett, J., Caravani, A. and Pichon, F. (2014) *Financing Disaster Risk Reduction: Towards a coherent and comprehensive approach*. London: ODI.

To understand international financing of DRR, see:

Kellett, J. and Caravani, A. (2013) *Financing Disaster Risk Reduction: A 20 Year Story of International Aid*. London: ODI.

Kellett, J. and Sparks, D. (2012) *Disaster risk reduction: Spending where it should count*. Wells: Development Initiatives.

Vulnerability and inclusion

Poor living conditions, inadequate infrastructure, a lack of income diversification and limited access to basic services, especially education and information, ensure that the poorest and most marginalised people are disproportionately affected by disasters. The equal participation of all groups in DRR decisions and a commitment to address the root causes of disasters will help to address their underlying vulnerability, increase capacities to cope with the effects of natural hazards and facilitate empowerment. The post-2015 framework on DRR must recognise and build upon the strengths of such vulnerable groups.³⁹

Lead authors: Emma Lovell and Virginie le Masson

Marginalised groups are more likely to suffer the effects of disasters



POVERTY

The poorest suffer disproportionately from disasters



NEPAL 1993
GDP PER CAPITA \$608
The homes of poor people were more than

5 times

as likely to wash away as the homes of the rich; those whose homes were swept away were 57 times more likely to die.⁴⁷



THE PHILIPPINES, LUZON TYPHOON 2004

The majority of the **1,000 people**

who died in landslides and floods were formerly lowlands farmers, who had migrated to high-risk land to secure livelihoods.⁴⁸



GENDER

Disasters usually mean higher mortality for women than for men



% of population killed who were women

59%

BANGLADESH CYCLONE 1991⁴⁹

55%

INDIA EARTHQUAKE 1993⁵⁰

57%

JAPAN EARTHQUAKE 1995⁵¹

77%

NORTH ACEH, INDONESIA TSUNAMI 2004⁵²

61%

MYANMAR CYCLONE NARGIS 2008⁵³

Millions live in poverty and with disaster risk

Up to **325m**

extremely poor people will be living in the 49 most hazard-prone countries in 2030, the majority in South Asia and sub-Saharan Africa.⁴⁰



Some of the countries with the highest hazard risks also have the largest numbers of people living below the

\$1.25 -a-day threshold.⁴¹

Developing countries compared to rich ones:

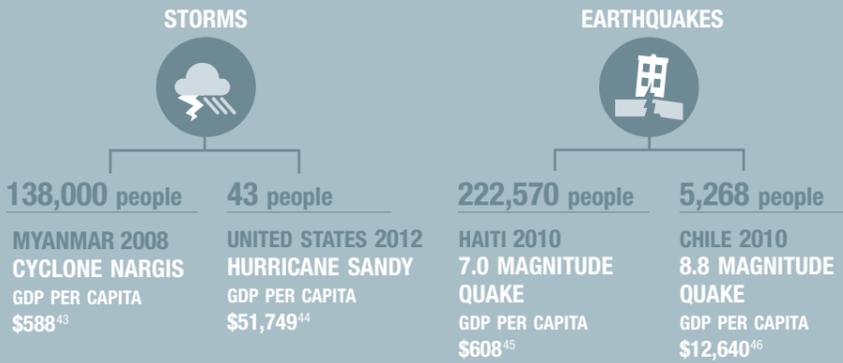
4 times

the population.

150 times

more likely to be affected by disaster.⁴²

Disaster-related mortality is worse in poor countries



Inequality exacerbates vulnerability, affecting capacity to cope with disaster

- **Food security:** It is estimated that women and girls make up 60% of the chronically hungry globally.⁵⁴
- **Livelihoods:** In South Asia and sub-Saharan Africa, more than 80% of women work in informal employment.⁵⁵
- **Burden of workload:** Women in sub-Saharan African spend 3–5 times longer than men on domestic activities.⁵⁶
- **Wage inequality:** In the majority of countries, women earn 70–90% of men's wages, with even lower ratios observed in Latin America.⁵⁷

Pregnant women and those with young children account for a high proportion of affected populations

HAITI EARTHQUAKE, 2010:
494,600 children under five and 197,840 pregnant and lactating women were affected.⁵⁸

- **PAKISTAN, EARTHQUAKE, 2005:** The estimated number of pregnant women in the affected areas was 40,000.⁵⁹
- **SOUTHEAST ASIA, TYPHOON HAIYAN, 2013:** 14.1 million people were affected; 250,000 were pregnant women and nearly 170,000 were lactating women.⁶⁰



AGE

Children are at high risk of hunger and malnutrition, which is often exacerbated during disasters, particularly drought

20%

of chronically hungry people are children under five years old.⁶¹

SAHEL IN 2014 AN ESTIMATED

1.5m under-fives are at risk of severe acute malnutrition.
3.3m are at risk of moderate acute malnutrition.⁶²



DISABILITY



An estimated **15%** of the world's population (600 million people) live with some form of disability.⁶⁹

Children, young people and the elderly make up a large proportion of those affected

FLOOD FATALITIES, NEPAL 1993:
Pre-school girls were five times more likely to die than adult men.⁶³

GREAT EAST JAPAN EARTHQUAKE 2011

+65YR **56%** of those who died, and **89%** 89% of post-disaster related deaths, were people aged 65 years and over.⁶⁴

NUMBERS OF CHILDREN AFFECTED

1990s **2000s**
65m **175m**
annually⁶⁵ annually⁶⁶

SRI LANKA POST-TSUNAMI, 2004

Mortality among children living in evacuation camps was 3–4 times greater than among young adults; mortality for children under five was double that for adults over 50; and mortality for females of all ages was double that for males.⁶⁷

GREAT EAST JAPAN EARTHQUAKE, 2011

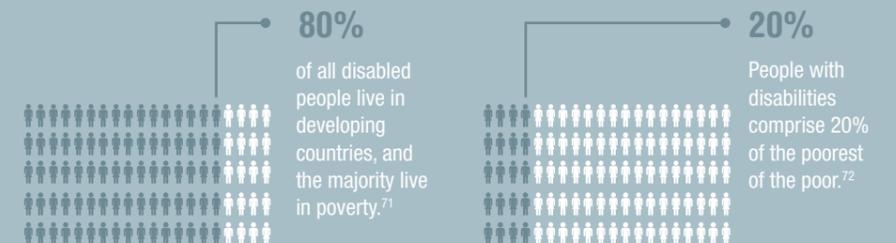
The death rate amongst the total population of Miyagi prefecture was 0.8%, while amongst registered disabled persons it was 3.5%.⁶⁸

HURRICANE KATRINA, 2004

21.3–27.1%

of the affected population had a disability.⁷⁰

DISABILITY INTERSECTS WITH POVERTY



Disasters exacerbate vulnerabilities and social inequalities



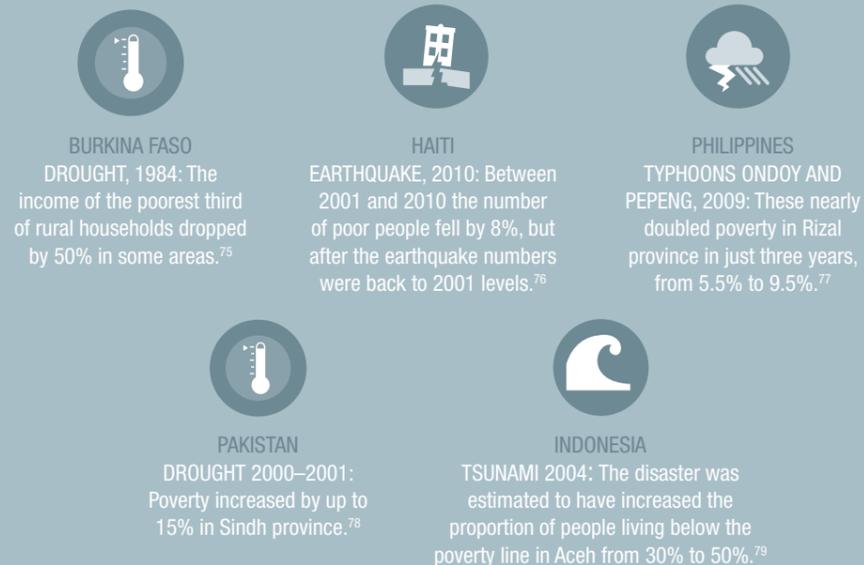
POVERTY

The poorest countries suffer the most

20x

Economic losses due to 'natural' disasters can be 20 times greater (as a percentage of GDP) in developing countries than in developed countries.⁷³

Disasters trap people in poverty⁷⁴



Development is set back by disasters

DURING THE 1991–1992 DROUGHT in Africa, Zimbabwe's GDP declined by⁸⁰

9.5%

HURRICANE MITCH (1998) SET BACK DEVELOPMENT

20 years

across the Central American countries it affected.⁸¹



GENDER

The economic divide can widen

WOMEN'S AVERAGE INCOMES increased by 3.7% from 2005 to 2007, after Hurricane Katrina hit New Orleans in 2005, while men's incomes increased by 19%.⁸²

THE RATIO of women's earnings to men's in New Orleans declined from 81.6% prior to the hurricane to 61.8% in 2006.⁸³



Levels of gender-based violence (GBV) can increase



HAITI
EARTHQUAKE, 2010: 242 cases of rape against women were recorded in relief camps in the first 150 days following the earthquake.⁸⁴



MIAMI, UNITED STATES
HURRICANE ANDREW, 1992: Spousal abuse calls to the local community helpline increased by 50%.⁸⁵

NEW ORLEANS, UNITED STATES
HURRICANE KATRINA, 2005: The rape rate amongst women displaced to trailer parks was 53.6 times higher than the highest baseline rate for Mississippi in 2004; the incidence of partner rape was 16 times higher than the US yearly rate.⁸⁶

There are differentiated health impacts



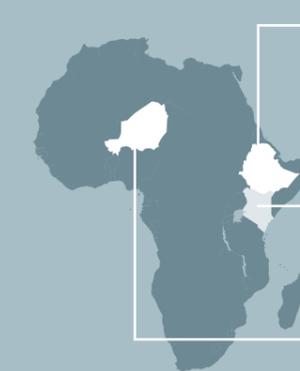
Following **NEW ORLEANS, UNITED STATES**
HURRICANE KATRINA, 2005: Women living in New Orleans were found to be 2.7 times more likely than men to have post-traumatic stress disorder (PTSD).⁸⁷

AHMEDABAD, INDIA
HEATWAVE, 2010: Of the excess deaths recorded, 881 were women and 287 were men.⁸⁸



AGE

Drought seriously affects children's growth and nourishment⁹⁰



Children who are separated from their parents after a disaster are more prone to illness, malnutrition and abuse, and may suffer life-threatening consequences due to deprivation.⁸⁹

ETHIOPIA: Children aged five or younger are 36% more likely to be malnourished and 41% more likely to be stunted.

KENYA: The likelihood of children being malnourished increases by 50%.

NIGER: Children aged two or under are 72% more likely to be stunted.

THE 2005–2006 DROUGHT IN THE HORN OF AFRICA

increased child wasting by up to 8%, and by up to 25% in pastoralist communities.⁹¹

Disasters prevent children from going to school, affecting their education and exacerbating their vulnerability



CHINA, SICHUAN EARTHQUAKE, 2008
7,000 classrooms were destroyed.⁹²

MYANMAR, CYCLONE NARGIS, 2008
More than 4,000 schools (over 50% of the total) in affected areas were destroyed or badly damaged, with many more losing learning materials, latrines and furniture.⁹³

HAITI, EARTHQUAKE, 2010
4,992 schools (23% of the total) were affected. Of these, 3,978 (80%) were damaged or destroyed, and were closed after the quake.⁹⁴



DISABILITY

Disasters disable

200,000
HAITI EARTHQUAKE, 2010
Approximately 200,000 people are expected to live with long-term disabilities as a result of their injuries.⁹⁵

20%
INDIAN OCEAN TSUNAMI, 2004
There was an estimated 20% increase in the number of persons with disabilities in affected areas.⁹⁶

Lack of adequate support, information and protection limits post-disaster services and resources for people with disabilities



ORISSA, INDIA, 1990, SUPER-CYCLONE
MORE THAN **80%**

of disabled persons faced food shortages post-disaster, due to a lack of clear information on the location of relief supplies and how to access them.⁹⁷



BANGLADESH, CYCLONES
55%

of people with disabilities (in particular women and girls) avoided shelters because of a lack of accessibility and safety.⁹⁸



BANGLADESH, FLOODING
AT LEAST **96%**

of people with disabilities interviewed reported facing difficulties in accessing safe drinking water and particularly latrines during floods.⁹⁹

Vulnerable groups tend to be excluded from DRR decision-making, thus making them even more vulnerable to the impacts of disaster

Gender equality in DRR does not receive adequate attention

HFA progress reports demonstrate that the two gender equality indicators are the lowest-performing.¹⁰⁰



ONLY **6 of 62**

Government statements to the 2013 Global Platform for DRR explicitly mentioned the need to further integrate women, as well as children, into DRR (Canada, Finland, the Republic of Korea, Nigeria, Norway and Sweden).¹⁰¹

Marginalised groups are not systematically involved in DRR decision-making



WOMEN report that they are excluded from emergency preparedness and response programmes.¹⁰⁴



ENGAGING CHILDREN directly in the design and delivery of DRR activities is not yet understood or mainstreamed within DRR policy and practice.¹⁰⁵

IN POST-TSUNAMI RECONSTRUCTION

in 2004, the exclusion of people with disabilities from disaster management processes in affected areas led to their further exclusion, resulting in slow, ineffective or non-existent relief.¹⁰⁶

Disaster planning does not systematically address the different needs of those disproportionately affected



CHILDREN REMAIN AT THE MARGINS
The heightened vulnerability of children is not planned for in emergencies; the HFA does not specifically refer to child protection before, during or after emergencies.¹⁰²

DISABLED PEOPLE ARE FORGOTTEN

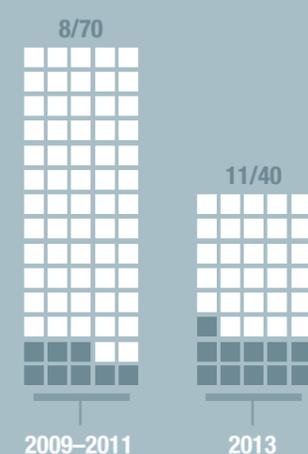
People living with disabilities report that they are rarely consulted about their needs. Evacuation in the event of a sudden disaster is a prime example:



60%

of disabled persons in Bangladesh are overlooked during disaster situations.¹⁰³

DRR monitoring and evaluation processes lack information based on data disaggregated by sex, age and disability



REPORTING SHOWS LITTLE IMPROVEMENT

In 2009-2011, eight out of 70 countries reported collecting gender-disaggregated vulnerability and capacity information; in 2013, the figure was 11 out of 40 countries.¹⁰⁷



FOLLOWING THE 2004 INDIAN OCEAN TSUNAMI, a lack of data on people with disabilities prevented an accurate assessment of numbers affected. People with disabilities also tended to be treated as a group, rather than taking into account the myriad barriers faced by individuals or sub-groups of individuals.¹⁰⁸

Vulnerable groups should be included in DRR as active agents of change if resilience is to be effective and equitable

Vulnerable groups have capacities that DRR planners should recognise, build upon and strengthen



YOUNG PEOPLE ACT AS KEY INFORMANTS, challenging notions of fatalism and educating their households.¹⁰⁹ In El Salvador and the Philippines, children are effective voices within campaigns, particularly when leveraged through the media.¹¹⁰

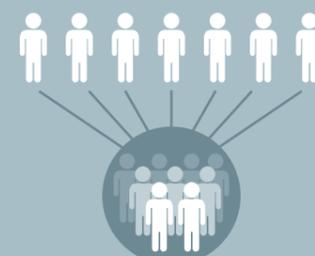


OLDER PEOPLE CONTRIBUTE to household security through accumulated knowledge of disasters, traditional knowledge of natural resources and provision of childcare. In Darfur, 29% of 4,000 older people surveyed looked after orphans – most caring for two or more children.¹¹¹



PEOPLE WITH DISABILITIES ARE BEST PLACED TO ASSESS their own needs and to plan how to meet them during and after emergencies. Their skills and experience to negotiate with altered and difficult physical and environmental limitations are crucial, and should be utilised.¹¹²

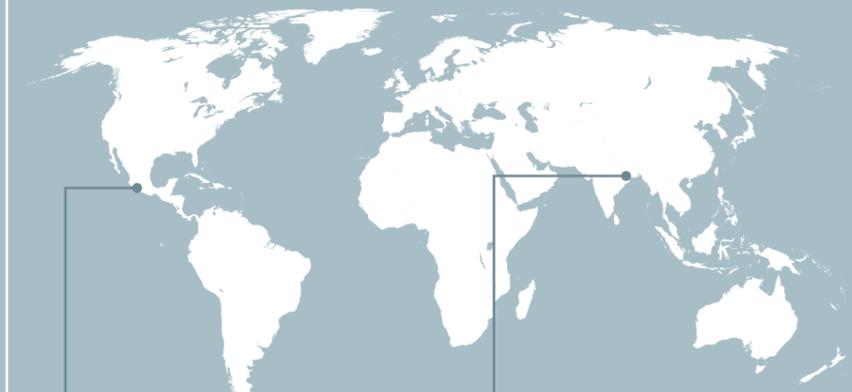
Local, traditional and indigenous knowledge helps save lives



Only seven people out of a population of 78,000

of the Indonesian island of Simeulue were killed by the Indian Ocean tsunami in 2004, despite the island's location only 40km from the epicentre of the earthquake. The story of a previous devastating tsunami in 1907 had been passed down through generations, helping islanders to recognise warning signs and to know what to do to survive.¹¹³

Gender-sensitive DRR enhances community capacity and resilience and tackles gender-based inequalities



MEXICO
Following Hurricane Isidore (2002) in Mexico, Community-based organisations in more than 500 villages, developed gender-sensitive risk analysis, emergency plans, damage evaluations and reconstruction proposals. Data was differentiated, gender conditions analysed, and gender issues addressed (including violence and illiteracy). Women now get better information about prevention, preparedness, response and reconstruction, and have increased decision-making power through occupying positions in local risk management structures.¹¹⁴



NEPAL
A flood awareness and preparedness project in Samadhan, Nepal consulted with women and men, promoted girls' leadership and designed training so that women could be more involved. According to UNISDR, 'The project set up family friendly scheduling, childcare, and female role models. When floods occurred, the communities showed a new collective strength that saved lives and assets.'¹¹⁵

Child-centred initiatives can strengthen adaptive capacity and empower children as agents of change¹¹⁶



GAMES IN MOZAMBIQUE

A child-focused programme called the 'River Game' enabled children to navigate their way down the Zambezi River, looking for hazards and assessing how they would deal with them. They then went home and taught their families what they had learned. Following floods in early 2008, communities along the Zambezi demonstrated better risk-avoiding behaviour.¹¹⁷



THEATRE IN THE PHILIPPINES

Street theatre written and performed by children has been used to communicate the importance of DRR and the right to protection. Stories have acted as a form of recovery and stress release for many children who have suffered from disaster, and have also been shared with the wider community through discussion groups, press conferences and the media.¹¹⁸

Disability-inclusive DRR helps make action more equitable and more responsive to the needs of people with disabilities



LEARNING FROM OTHER RISKS

The Associated Blind Organisation, based on the ninth floor of the World Trade Center in New York, developed an evacuation plan and drill for all staff, including those who were visually impaired or blind. This helped to save their lives during the 2001 attack.¹¹⁹

VILLAGE RISK MANAGEMENT IN VIETNAM

Disability-inclusive plans have been implemented in 50 villages, involving tailored early warning and priority evacuation assistance. Activities and training have been adjusted to the needs of people with disabilities and care-givers, and this has improved the communities' understanding of their capacities and limitations.¹²⁰

SUMMARY OF RECOMMENDATIONS

The lack of attention to social and cultural dimensions, including gender, age, disability and other factors of social marginalisation, undermines the effectiveness and sustainability of DRR. The post-2015 framework on DRR needs to 'incorporate activities and outcomes that are based on context-specific analysis of the different needs, vulnerabilities, expectations and existing capacities of all population groups'.¹²¹ The contribution and participation of these groups remain 'largely isolated from government, private sector and multi-stakeholder decision-making' in DRR,¹²² making it essential that these aspects are considered in the successor to the HFA.

- DRR practices must promote and monitor activities and outcomes that are based on context-specific analysis of the differential needs, vulnerabilities, expectations and existing capacities of all groups.
- The post-2015 framework on DRR must advocate for DRR practices that reduce people's vulnerability to shocks and stresses, by promoting human rights, fostering community participation, valuing local and indigenous knowledge and ensuring equitable access to assets and resources.

- DRR practices should also acknowledge and strengthen people's capacities, draw upon their self-identified and prioritised needs and empower socially marginalised groups to participate as active agents of change to prepare for and respond to disasters.
- The post-2015 framework on DRR must promote gender equality as well as social and cultural diversity as fundamental goals to be achieved in their own rights and as key aspects of resilience to disasters.
- Governments must create an enabling environment for socially marginalised people and grassroots organisations to engage in and/or lead decision-making processes and DRR programme design.
- The post-2015 framework on DRR monitoring process must incorporate a social vulnerability dimension in the design of the new set of indicators. Data collection, assessments and analysis should be disaggregated according not only to gender but also to other aspects of social vulnerability, where appropriate, including age, disability, ethnicity and socioeconomic status.

How vulnerability and empowerment are featured in the HFA

Para 13 (d): 'A gender perspective should be integrated into all DRM policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training.'

Para 13 (e): 'Cultural diversity, age, and vulnerable groups should be taken into account when planning for disaster risk reduction, as appropriate.'

Para 13 (f): 'Both communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction.'

Para 16 (iii) (h): 'Promote community participation in DRR through the adoption of specific policies, the promotion of networking, the strategic management of volunteer resources, the attribution of roles and responsibilities, and the delegation and provision of the necessary authority and resources.'

Para 17 (ii) (d): 'Develop early warning systems that are people-centered, in particular systems whose warnings are timely and understandable to those at risk, which take into account the demographic, gender, cultural and livelihood characteristics of the target audiences, including guidance on how to act upon warnings.'

Para 18 (i) (a): 'Provide easily understandable information on disaster risks and protection options, especially to citizens in high-risk areas, to encourage and enable people to take action to reduce risks and build resilience. The information should incorporate relevant traditional and indigenous knowledge and culture heritage and be tailored to different target audiences, taking into account cultural and social factors.'

Para 18 (ii) (h): 'Promote the inclusion of disaster risk reduction knowledge in relevant sections of school curricula at all levels and the use of other formal and informal channels to reach youth and children with information.'

Para 18 (ii) (m): 'Ensure equal access to appropriate training and educational opportunities for women and vulnerable constituencies; promote gender and cultural sensitivity training as integral components of education and training for disaster risk reduction.'

Para 18 (iv) (p): 'Promote the engagement of the media in order to stimulate a culture of disaster resilience and strong community involvement in sustained public education campaigns and public consultations at all levels of society.'

Social and economic development practices – Para 19 (ii) (g): 'Strengthen the implementation of social safety-net mechanisms to assist the poor, the elderly and the disabled, and other populations affected by disasters. Enhance recovery schemes including psychosocial training programmes in order to mitigate the psychological damage of vulnerable populations, particularly children, in the aftermath of disasters.'

Para 19 (ii) (i): 'Endeavor to ensure, as appropriate, that programmes for displaced persons do not increase risk and vulnerability to hazards.'

Para 20 (f): 'Develop specific mechanisms to engage the active participation and ownership of relevant stakeholders, including communities, in disaster risk reduction, in particular building on the spirit of volunteerism.'

How vulnerability and empowerment are included in statements and consultations on the successor to the HFA

Mid-Term Review

- 'The idea of incorporating disaster reduction in school curricula has been pursued with great enthusiasm over the past decade. A perception survey of children and young people undertaken in 10 countries indicates that these groups think that most progress has been made in this area. However, there is little evidence in the literature to suggest that this has been done within the framework of strategic educational planning at national levels. The complexity of incorporating new material in school curricula is often underestimated.' (p. 26)
- Another element where progress was noted as still lagging is on the implementation of cross-cutting issues in the HFA: multi-hazard approach, gender perspective and cultural diversity, community and volunteer participation [...] Inclusion of a gender perspective and effective community participation are the areas where the least progress seems to have been made. Both these points were discussed in the in-depth study commissioned by the Mid-Term Review on the Role of Women as Factor of Change in Disaster Risk Reduction [...] Initial data from the 2009–2011 HFA Monitor indicate that an impressively high number of countries (62 out of 70) do not collect gender disaggregated vulnerability and capacity information.' (p. 44)

Synthesis Report

- 'Addressing risk beyond 2015 also calls for attention to societal change and anticipating the influence of the changing role of women, the pressure and demographics of youth as change agents, the dynamics of new family and community structures that underpin resilience, and the role of social networks for sharing information and increasing accountability.' (p. 6)
- 'Building Women's Leadership: Large numbers of women are working collectively to combat the adverse effects of disasters and build resilience in urban and rural areas. However, family and income-generated responsibilities, coupled with, limited access to basic services, property rights, and quality employment, are still in many countries, constraining women and girls from participating in public decision-making processes such as framing priorities and investments in disaster risk reduction.' (p. 11)
- 'Consultations reaffirmed [...] the determination of women to assume leadership in promoting disaster risk reduction locally and nationally. Specific actions recommended through the International Day for Disaster Reduction and the HFA2 meetings include recognizing the potential and current contributions of women's organizations, strengthening their capacities and coordination and promoting institutional commitments and accountability to gender-equitable risk reduction and sustainable development.' (p. 12)
- 'Related issues of community participation were repeatedly highlighted. Specific attention was given to the importance of ensuring community involvement in decision-making processes

and building partnerships with community-based or grassroots associations of youth, women, informal settlers, farmers, pastoralists, fisher-folk, indigenous peoples, local religious groups, among others. Stakeholders urged more support for capacity-building and awareness at the local level for the HFA2 [...]. Others emphasized the importance of engaging communities and facilitating their participation.’ (p. 13)

- ‘Inclusive approaches to disaster reduction were encouraged [...] with an emphasis on empowering women and youth to participate and lead. In particular, concern with children’s survival, well-being and protection emerged in many of the consultations. Emphasis was placed on school safety, education, and ensuring children and youth’s participation in risk analysis and resilience-building initiatives.’ (p. 13)
- ‘Disability was recognized as an issue that has received far too little attention with the consequence of increasing exposure of the people with disabilities and missing the opportunity to draw on their unique capacities, including the physically disabled, the blind and deaf. This has been identified as a priority for concerted action in the HFA2 with calls for their necessary participation in decision-making processes for disaster risk management.’ (pp. 13–14)
- ‘Specific actions recommended [...] included the provision of demographic and sex-disaggregated data assessments of disaster risk and losses and clarifying responsibility for implementing and monitoring sex-disaggregated indicators.’ (p. 16)

Chair’s Summary

‘Focus was placed on efforts to ensure that all schools and hospitals are built to resilient standards, that all necessary school and hospital preparedness measures are in place and that attention has been given to the needs of persons with disabilities.’ (p. 2)

‘Engaging communities achieves results: Approaches that are culturally sensitive and based on the principles of inclusiveness, participation and empowerment have been identified as a means of ensuring sustained impact in building resilience. Women are a driving force for resilient societies. Indigenous peoples, displaced persons, youth and children’s groups, elderly, persons with disabilities and the vast array of voluntary associations each demonstrated how they have taken action to reduce disaster risk. Respecting local cultural heritage can build community resilience. [...] Systematic and meaningful inclusion of communities in planning, decision-making and policy implementation is a must.’ (pp. 2–3)

‘There is strong evidence that empowerment of communities and local governments to identify and manage their everyday risks, and to engage in the development of disaster risk reduction strategies, programmes and budgets provides a sound basis for building resilience.’ (p. 3)

Elements Paper

Despite previous recommendations as detailed above, there is no mention of gender aspects or of any other social aspects of vulnerability in the Elements Paper. There is no reference to the importance of gender-disaggregated information in the proposed set of indicators either.



Climate change and disaster risk

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

Lead author: Lindsey Jones

RECOMMENDED READING

Learning from the local level for effective DRR:

Huairou Commission (2013) *What communities want: putting community resilience priorities on the agenda for 2015*. Huairou Commission.

For a brief synthesis of recommendations to make resilience gender-sensitive:

GenCap Advisers, IASC GSWG and OCHA (2013) *Key messages on a gender perspective of resilience*.

Research commissioned by UNISDR on the Role of Women as Factor of Change in Disaster Risk Reduction:

Gupta, S. and Leung, I. (2011) *Turning Good Practice into Institutional Mechanisms: Investing in Grassroots Women’s Leadership to Scale Up Local Implementation of the Hyogo Framework for Action. An in-depth study for the HFA Mid-Term Review*. United Nations Strategy for Disaster Reduction, Geneva.

A useful resource to explain disability-inclusive DRR:

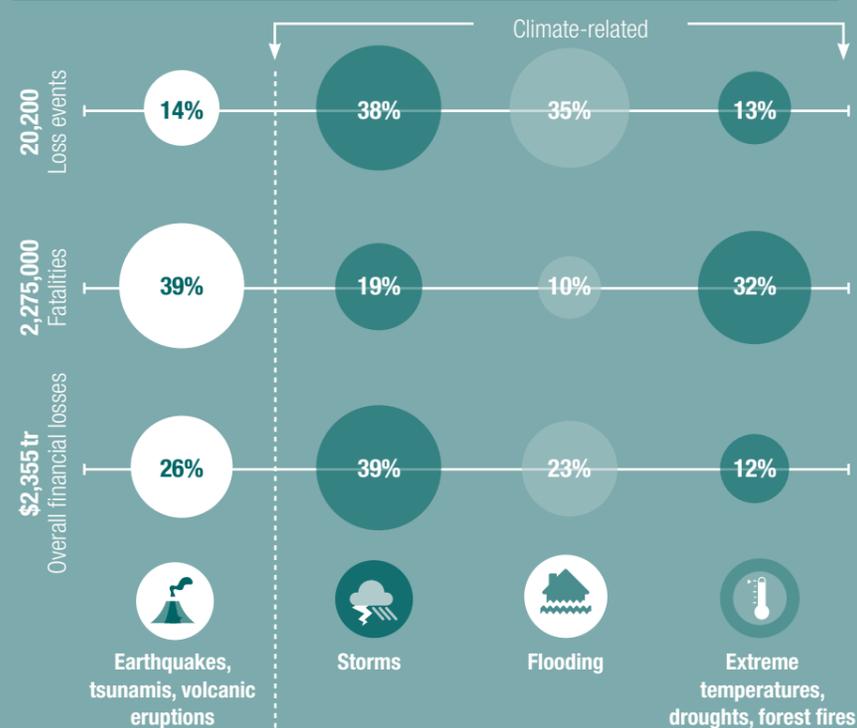
Handicap International (2008) *Mainstreaming Disability in Community Based Disaster Risk Reduction. A Training Manual for Trainers and Field Practitioners*. Handicap International India, New Delhi.

For an exhaustive compilation of articles addressing the social vulnerability and capacity dimension of DRR:

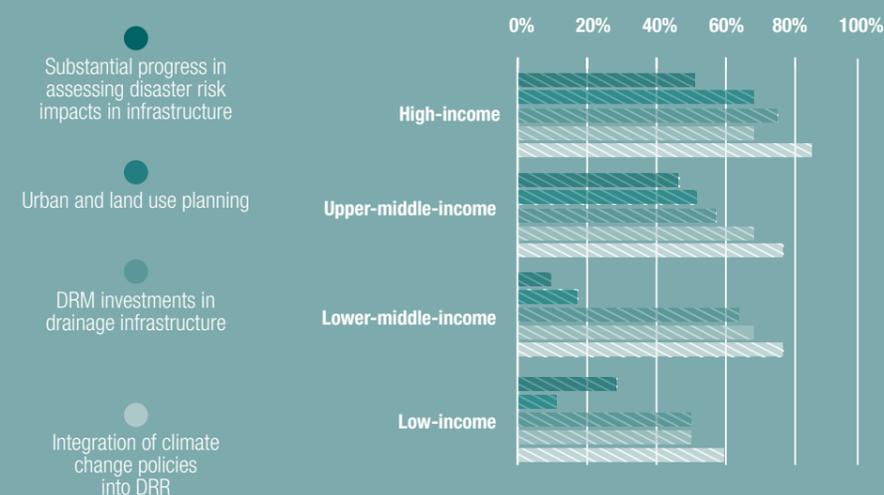
Wisner, B., Gaillard, J-C. and Kelman, I. (2012) *The Routledge handbook of hazards and disaster risk reduction*. London: Routledge.

Climate-related events constitute a large proportion of impacts from 'natural' disasters¹²³

CUMULATIVE DISASTER EVENTS, 1980–2011



Progress is being made in integrating adaptation and DRR, though gains are uneven across income levels and regions¹²⁶



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

Investments to reduce vulnerable urban settlements¹²⁷

The financial implications of climate-related disasters will be large¹²⁴

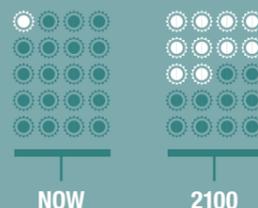
\$100bn
per year

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

0.2%
of GDP

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

Climate change is likely to change the rate and intensity of extreme events¹²⁸



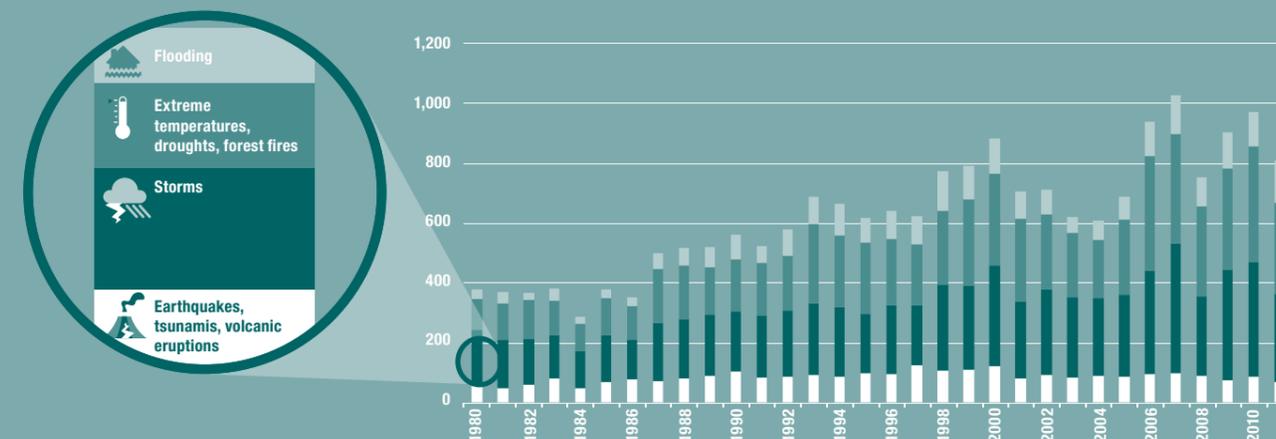
A 1-in-20-year hottest day now is likely to become a 1-in-2-year event in most regions.



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

The impacts of climate-related disasters are increasing¹²⁹

Trends in types of disaster event, 1980–2011



Climate-related disasters will affect poor people in developing countries the most, particularly in Africa and South Asia¹³⁰

180 million

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

\$1.25/day (million)

INDIA 126.5	DR CONGO 29.96	MADAGASCAR 27.24	NIGERIA 21.75	NEPAL 18.45
PAKISTAN 57.56	TANZANIA 27.43	ETHIOPIA 21.76	BANGLADESH 20.93	SUDAN 18.24

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

\$1.25/day (population)

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

SUMMARY OF RECOMMENDATIONS

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

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

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

How climate change is featured in the HFA

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

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

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

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

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

Elements Paper

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

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

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

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

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

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

Chair’s Summary

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

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

Mid-Term Review

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

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

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

RECOMMENDED READING

For future projections of climate and poverty, see:

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

For implications of climate change on extreme events, see:

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

To understand the links between DRR and CCA, see:

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

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

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

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

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

7 Environment and ecosystems

The relationship between disasters and the environment is highly complex. There is growing evidence of disasters impacting on natural resources and ecosystems, and of environmental degradation increasing disaster risk. However, there are also opportunities to harness the linkages between disasters and environment to reduce risk, at the same time as providing ‘no regrets’ development and climate change adaptation co-benefits. The successor to the HFA must recognise the potential of environment to build resilience to disasters.

Lead author: Elizabeth Carabine

Disasters cause environmental degradation

During the 1997–98 El Niño event (a climatic phenomenon of periodic warming), a spike in sea surface temperatures led to the loss of 16% of the world’s coral, and some countries, such as the Maldives, lost up to 90% of their reef coverage.¹³¹

Environmental impacts of the Deepwater Horizon oil spill in the Gulf of Mexico – one year on:¹³²



Between 1973 and 2009, salt intrusion caused by cyclone and storm surges contributed to a 27% increase in the area of Bangladesh affected by salinity.¹³³



During the 2010 Russian heatwave, drought, high temperatures and fires destroyed one-third of the national grain crop, caused widespread destruction of wildlife habitats and altered the make-up of Central Russia’s forests for several generations into the future.¹³⁴

Environmental degradation increases disaster risk

Floods are among the most frequently occurring natural hazards. Environmental degradation is widely recognised to be an important cause.

Hydrological disasters by continent in the past 10 years:¹³⁵

	Number of events	Number of people killed	Total number of people affected	Damage (\$ 000)
Africa	420	7,637	28,967,375	3,377,868
Americas	343	7,104	37,862,402	46,244,765
Asia	762	49,259	743,314,531	170,018,808
Europe	192	892	2,741,691	46,059,670
Oceania	48	248	687,530	11,865,747
TOTAL	1,765	65,140	813,573,529	277,566,858

In 2011 floods accounted for 44% of all disasters in Asia and were responsible for 54% of all disaster-related deaths.¹³⁶ In the Mekong Delta, over 20 million people access groundwater aquifers via more than 1 million wells. Over-exploitation is exposing a dense population to a range of hazards, including arsenic contamination,

saline intrusion, land subsidence and potential damage to infrastructure.¹³⁷

The impacts of Hurricane Katrina were exacerbated by the loss of Louisiana’s wetlands, at a rate estimated to be 6,600 acres per year.¹³⁸

Sustainable environmental management can reduce disaster risk

Coral reefs absorb more than 85% of incoming wave energy, benefiting 200 million people living in low-lying coastal zones.¹³⁹ By one estimate, the total net benefit of the world’s coral reefs in terms of coastal protection is \$9 billion per year.¹⁴⁰



Coral reefs and sea grass habitats provide

up to 40%

of coastal protection against storm surges in Jamaica.¹⁴¹

Number of people protected by coral reefs around the world:¹⁴²

KEY



Reefs at high or very high risk based on number of threats



Number of people living at low elevation (<10m) and near reefs (<50km)

ASIA

37% 127.2 million



NORTH AND CENTRAL AMERICA AND THE CARIBBEAN

29% 15 million



SOUTH AMERICA

23% 8 million



AFRICA

37% 7.4 million



OCEANIA

11% 1.9 million



CYCLONE NARGIS caused over 135,000 deaths in Myanmar in 2008. The affected area had experienced a

50%

loss of its mangrove forests and serious degradation of its remaining cover since the 1970s.¹⁴³



IN 2004, the Asian tsunami hit Sri Lanka’s southern coast

KAPUHENWALA VILLAGE



2 deaths



200 hectares of mangrove habitat

WANDURUPPA VILLAGE



5,000–6,000 deaths



degraded mangrove habitat¹⁴⁴

Substantial investments are being made in the environment to reduce disaster risk



AMOUNT THE GOVERNMENT OF THE PHILIPPINES

has pledged for mangrove restoration after Typhoon Haiyan:

PHP 1 billion¹⁴⁵



IN VIETNAM, THE PLANTING AND PROTECTION

of 12,000 hectares of mangroves by the Red Cross cost around \$1.1 million, but helped to reduce the cost of sea dyke maintenance by:

\$7.3 million per year¹⁴⁶



TO TRANSFORM THE SAHARA AND SAHEL

into a stable, sustainable and resilient region, the World Bank and the Global Environment Facility are investing to support the Great Green Wall initiative.¹⁴⁷

\$1.1 billion

SUMMARY OF RECOMMENDATIONS

- The environment needs to be strengthened as a key consideration in the post-2015 framework for DRR, as well as in the post-2015 development goals and the UNFCCC negotiations. The opportunity for closely aligning these frameworks must not be missed, in order to ensure coherence but also to realise the potential co-benefits of sound environmental management for sustainable, climate-compatible development.
- The HFA does not adequately acknowledge the cross-cutting nature of environment or the different dimensions of the relationship with disaster risk. Its successor must move beyond simple consideration of environment as a risk factor and incorporate it into all aspects of the framework.
- Environmental factors need to be fully integrated into risk assessment and monitoring processes.
- More detailed measures for 'soft' engineering solutions for DRR, such as restoration of coastal ecosystems or reforestation of watersheds, should be acknowledged in the successor to the HFA.
- Adequate financial, technological and knowledge resources will be needed to build capacity for integrating environmental management into national and international institutions. This should be explicitly recognised in the post-2015 framework on DRR's approach to implementing and financing DRR.

How environment is featured in the HFA

Para 3: '[...] Disaster risk arises when hazards interact with physical, social, economic and environmental vulnerabilities.'

Para 17: 'The starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge. Key activities: [...] Develop systems of indicators of disaster risk and vulnerability at national and sub-national scales that will enable decision-makers to assess the impact of disasters on social, economic and environmental conditions [...].'

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

Para 19 (i): 'Environmental and natural resource management (a) Encourage the sustainable use and management of ecosystems, including through better land-use planning and development activities to reduce risk and vulnerabilities. (b) Implement integrated environmental and natural resource management approaches that incorporate disaster risk reduction, including structural and non-structural measures, such as integrated flood management and appropriate management of fragile ecosystems [...].'

Para 19 (o): 'Mainstream disaster risk considerations into planning procedures for major infrastructure projects, including the criteria for design, approval and implementation of such projects and considerations based on social, economic and environmental impact assessments.'

How environment is included in statements and consultations on the successor to the HFA

Elements Paper

Para 8: '[...] poorly planned and managed urban development, environmental degradation, poverty and inequality and weak governance mechanisms continue to drive rapidly-increasing loss and damage associated with extensive risk.'

Para 9: 'Unless these drivers [of disaster risk] are addressed, in coming decades [...] food security and environmental health will threaten the viability and sustainability of nations, enterprises and communities.'

Para 12: 'The creation of a more resilient humanity and environment requires strong international and local commitment, and goodwill to engineer the necessary changes to current development practices, processes and patterns.'

Para 14: '[A harmonised post-2015 paradigm] should enable the management of the risks inherent to development and that manifest through disasters, climate change and variability, financial and economic crises, and other consequences for the economy, society and the environment.'

Para 32: '[...] The sustainability of development and resilience of people, nations and the environment depend on sound

risk management, which needs to guide private and public planning investments.'

Para 35: '[...] the priority areas of the post-2015 framework for disaster risk reduction need to be defined in terms of critical public policies that address disaster risk in publically owned, managed or regulated services and infrastructures, and in the environment [...].'

Para 39: 'The success of these policies will determine the level of disaster loss and damage a country faces and the longer term impacts on the economy, the environment and social welfare.'

Para 43: 'Indicators will be developed in some categories, including: economic and fiscal structure; poverty and social vulnerability; environmental and ecosystem services degradation and climate change; urbanization; coping capacity.'

Para 53: 'Proposed substantive elements for consideration in the political declaration include: [...] a recognition of the need to focus explicitly on risk management, encompassing the reduction of existing risk and the avoidance of new risk accumulation, to achieve resilience of people, nations and environment.'

Chair's Summary

'Several proposed actions included: [...] utilizing established mechanisms for environmental protection such as Environment Impact and Strategic Environmental Assessments, systems for protected areas management and integrated water resource and coastal zone management to address environmental degradation, strengthen livelihoods and address disaster risk [...].' (pp. 1–2).

'Both the accumulation and reduction of disaster risk are closely intertwined with the fields of sustainable development, environmental protection and climate change as well as human mobility. It is important that policies in these areas are designed to be mutually reinforcing, whether at the local, national or international levels' (p. 2).

Mid-Term Review

'Progress reported in 2007 on reducing underlying risk factors was limited [...] There was also little mention of successfully reducing risk through sustainable natural resource management and the incorporation of disaster risk reduction measures into environment planning and management' (pp. 27–28).

'The subsequent reporting cycle, ending in 2009, indicated that many countries had difficulties addressing underlying risk drivers such as [...] ecosystem decline in ways that led to reduced risk of damages and economic loss' (p. 28).

'At the local level there is an increasing recognition of links between natural resource management and disaster risk reduction issues' (p. 28).

'Additional guidelines have been produced by UNISDR partners and thematic platforms, including [...] a guidance note on environment and risk reduction [...].' (p. 36).

'[...] However, the study highlighted a common misconception about disaster risk reduction being a technical issue as opposed to an approach to the survival of human beings, livelihoods, and assets underpinning development, environment, and human rights' (p. 37).

'[...] the study suggested considering the possibility of having higher-level representation for UNISDR in New York to facilitate higher visibility and improve its ability to participate in discussions

bridging humanitarian, development, and environmental perspectives’ (p. 38).

‘[...] governance arrangements do not facilitate integrated management of risk drivers, especially when responsibilities for critical issues such as environment policy, social protection mechanisms, disaster risk reduction, climate change adaptation, land tenure and rural development policy, housing, and urban development policy are entrusted to different governmental entities’ (p. 44).

‘The General Assembly has regularly called for a more effective integration and, by acknowledging the significant impacts of disaster risk reduction on social, economic, cultural, and environmental systems, underlined the need for a close interrelation of disaster risk reduction with development’ (p. 56).

‘[...] the Mid-Term Review Advisory Group advocated for full integration and reflection of disaster risk reduction in the development, humanitarian and environmental work of the UN, including in its Strategic Framework and Programme Budget documents’ (p. 57).

‘A significant role identified for the international community, especially bilateral and multilateral aid organizations and NGOs, was support of national level mechanisms for the implementation of integrated and more flexible humanitarian, environmental, disaster risk reduction, and development programmes’ (p. 64).

‘National and international institutions, including bilateral aid organizations and the United Nations, must integrate disaster risk reduction in their development, climate change adaptation, environmental and humanitarian planning, execution and accountability frameworks to safeguard development gains and investments’ (p. 69).

8

Science and technology

A resilient planet needs robust science for disaster risk reduction. It is clear from any review of the disaster risk landscape that progress can be made in saving lives, jobs and critical infrastructure, but only by integrating science into both policy-making and best practice for disaster management. An international science advisory mechanism is urgently required to lead the process of this integration.

Lead author: Virginia Murray

RECOMMENDED READING

For more on environmental impacts of disasters:

IPCC (2012b) *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX). A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York.

IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK and New York, USA: Cambridge University Press (<http://ipcc-wg2.gov/AR5/report/final-drafts/>)

To understand the role of ecosystem services in building resilience, see:

Carabine, E., Cabot Venton, C., Tanner, T. and Bahadur, A. (2014) *The contribution of ecosystem services to human resilience: a rapid review*. London: Overseas Development Institute.

Renaud, F., Sudmeier-Rieux, K. and Estrella, M. (eds) (2013) *The role of ecosystems in disaster risk reduction*. Tokyo: United Nations University Press.

For more on how to integrate environment into development practice, see:

Wilkinson, E., Carabine, E., Harris, K., Brickell, E., Scott, A., Allinson, C., Jones, L. and Bahadur, A. (2014) *Integrating disaster risk reduction, environmental sustainability, climate change adaptation and mitigation into development practice: experiences, challenges and benefits*. Advancing Integration Series. Working Paper. London: Overseas Development Institute.

The role of science in disaster risk reduction¹⁴⁸

- For DRR, scientific capacities must be interpreted broadly to include all relevant matters of a scientific and technical nature, to include the natural, environmental, social, economic, health and engineering sectors. Similarly, the term ‘technical’ includes relevant matters of technology, engineering practice and implementation.
- Scientific and technical work often requires the participation of practitioners and other intermediaries in addition to scholars and scientists.

Science needs to inform policy and practice for DRR¹⁴⁹

- Currently 107 national scientific academies/institutions exist, but it is unclear if and to what extent they contribute towards informing policy-makers on disaster risk reduction or management.
- A recent review revealed that only 11 countries have a government chief scientific advisor; scientists in these roles are positioned to inform and support decision-makers.¹⁵⁰

Using science for DRR: Examples of Evidence¹⁵¹



MAPPING HAZARDS AND DISASTER RISKS IN CHINA

Over the past 30 years China has promoted and implemented DRR measures using scientific evidence communicated through an atlas. Published in 1992, and updated and improved in 2003, the *Atlas of Natural Disaster System of China* and the *Atlas of Natural Disaster Risk of China*, published in 2010, have increased the emphasis on evidence-based risk assessment and regional variations, significantly increasing regional capacity in disaster prevention and risk mitigation. This work is believed to be a contributing factor to the general decrease in annual deaths and the reduction in relative economic losses seen in the past two decades.



WATCHING THE RAINS TO BUILD RESILIENCE IN THE AFRICAN SAHEL

In 2011, user-friendly Rainwatch products were provided directly to the Office of the President and the Direction de la Météorologie Nationale du Niger (DMN), to help them assess the monsoon. The DMN provides climate information to the Ministry of Agriculture, which then combines it with in-field phenological data to assess the growing season. This information is used by the Council of Ministers to issue early warnings to the people of Niger.



TSUNAMI WARNING AND MITIGATION FOR THE INDIAN OCEAN

The Indian Ocean Tsunami Warning and Mitigation System now provides warnings to all Indian Ocean countries, reaching millions of people who had no warnings in 2004.



BUILDING RESILIENCE TO EARTHQUAKES IN CHILE

An earthquake with a magnitude of 8.8 struck central Chile on 27 February 2010. Around 300 people lost their lives due to collapsed buildings, but well-enforced, science-based seismic building codes are believed to have been a major reason for the relatively low number of casualties. It is estimated that only about 1% of the total building stock in the affected area was damaged, demonstrating that integration of science into building practice can and does save lives and livelihoods.



PREVENTING CONGENITAL RUBELLA SYNDROME

Rubella has been eliminated in the Americas; this means less than one case per 100,000 births. Experiences here have been turned into guidance to support elimination of the disease in other regions of the world. Lessons identified include: high-level commitment and partnerships are essential; political commitment must be linked with technical strategies; proven surveillance tools must be used; outstanding performances by individual countries should be recognised; and ongoing training should be provided for surveillance staff. The number of World Health Organization (WHO) member states using rubella vaccine in their national immunisation programmes is continuing to grow, increasing from 83 out of 190 member states (44%) in 1996 to 130 out of 194 (67%) in 2009.



ASSESSING VULNERABILITY TO IMPROVE RISK REDUCTION

In the United States, the Social Vulnerability Index (SOVI) has helped to improve long-term recovery efforts from Hurricane Sandy in 2012. The Federal Emergency Management Agency (FEMA) integrated a social vulnerability index into its planning and decision support metrics to assess the likely capacity of affected communities to respond and recover from the hurricane. This has allowed more targeted allocation of resources for recovery.



FLOOD EARLY WARNING IN BANGLADESH

Since 2004, Bangladesh's Flood Forecasting and Warning Centre (FFWC) has been using its model to produce daily flood forecasts for 7–10 days ahead. Bangladesh experienced three major floods in 2007 and 2008: each was forecast successfully 10 days in advance and action was taken to mitigate their effects. Communities moved to evacuation points in advance, nets protected fisheries, crops were harvested early, households were warned to store food and drink and mechanised boats were readied in case of evacuation.



EARTHQUAKE EARLY WARNING FOR JAPANESE BULLET TRAINS

On the afternoon of 11 March 2011, a seismometer on Kinkazan Island on the northeast coast of Japan detected seismic P-waves and sent an automatic stop signal to the Shinkansen network's electric power transmission system, triggering emergency brakes on 27 bullet trains. Ten seconds after the warning signal went out, a massive 8.9 magnitude earthquake hit mainland Japan. Although the Great East Japan Earthquake and the tsunami that followed it caused immense destruction and loss of life, none of the 19 trains running through the affected area was derailed and no casualties were sustained on them.



FLOOD RISK REDUCTION IN THE NETHERLANDS

The ‘Room for the River’ plan in Nijmegen, the Netherlands, has turned the threat of river flooding into an opportunity to create a whole new waterfront and an urban island in the River Waal. This was a difficult decision to make as relocation of a dyke would result in the demolition of 50 houses and a number of businesses; however, this was seen as the best and safest option to protect Nijmegen from floods now and in the future.

SUMMARY OF RECOMMENDATIONS

Science needs to be thoroughly integrated into the post-2015 framework for DRR. In particular:

- The scientific community must demonstrate that science can inform policy and practice. Evidence must be shown of the added value of a science-based approach to DRR.
- A problem-solving approach to research should be encouraged, one that integrates science into all hazards and disciplines.
- Knowledge should be promoted as a key feature of action, with key activities underpinned by evidence.
- An international science advisory mechanism for DRR needs to be created.

An agenda to establish and promote an international science advisory mechanism for DRR in the post-2015 framework is needed to:

- champion and reinforce existing and future programmes and initiatives for integrated research and the scientific assessment of disaster risk

- strengthen the evidence base to effectively reduce disaster risk and enhance resilience, using scientific information and evidence to support implementation.

The mechanism should draw on existing programmes, initiatives and resources and should introduce new elements where appropriate. These could include, but not necessarily be limited to:

- producing periodic reports on current and future disaster risks and on the status of efforts to manage such risks
- monitoring progress towards internationally agreed targets for reducing disaster losses
- providing guidance on terminology, methodologies and standards for risk assessments, risk modelling, taxonomies and the use of data
- convening stakeholders to identify and address demands for scientific research, information and evidence
- Enhancing the communication of complex scientific information and evidence to support the decision-making of policy-makers and other stakeholders.

How science and technology are featured in the HFA

The General Assembly in its resolution 44/236 of 22 December 1989 (www.un.org/documents/ga/res/44/a44r236.htm) stated:

‘The Secretary-General is requested to establish, with due regard to equitable geographical representation and covering the diversity of disaster mitigation issues, a scientific and technical committee on the International Decade for Natural Disaster Reduction, consisting of 20–25 scientific and technical experts selected in consultation with their governments on the basis of their personal capacities and qualifications, including experts from the organs, organisations and bodies of the United Nations system.

The role of the committee shall be to develop overall programmes to be taken into account in bilateral and multilateral cooperation for the decade, paying attention to priorities and gaps in technical knowledge identified at the national level, in particular by national committees, as well as to assess and evaluate the activities carried out in the course of the decade and to make recommendations on the overall programmes in an annual report to the Secretary-General.’

However, in the HFA 2005–2015 this committee was not continued in the same way and was more generally required to support the development and sustainability of the infrastructure and scientific, technological, technical and institutional capacities needed to research, observe, analyse, map and where possible forecast natural and related hazards, vulnerabilities and disaster impacts.¹⁵²

As a consequence of this concern, UNISDR set up the Scientific and Technical Advisory Group (STAG) to provide substantive technical advice and support in the formulation and implementation of activities carried out by the broad International Strategy for Disaster Risk Reduction (UNISDR) community. It was formed in 2012, succeeding the Scientific and Technical Committee (STC) which started work in 2008. The members of the STAG are drawn from across the globe and from different scientific disciplines.¹⁵³

How science and technology are featured in statements and consultations on the successor to the HFA

Chair’s Summary

‘It is expected that the HFA2 will recognize the need to govern disaster risk reduction and resilience through clear responsibilities, strong coordination, enabled local action, appropriate financial instruments and a **clear recognition of a central role for science**’ (p. 4).

Mid-Term Review

‘Recognising the importance of scientific and technical information for disaster risk reduction UNISDR established a **Scientific and Technical Committee in 2008** to address policy matters of a scientific and technical nature, where science is considered in its widest sense to include the natural, environmental, social, economic, health and engineering sciences, and the term ‘technical’ includes relevant matters of technology, engineering practice and implementation. In its report – *Reducing Disaster Risks through Science – issues and actions*, to the Global Platform 2009, the committee concentrated on addressing: climate change; changing institutional and public behaviour to early warnings; incorporating knowledge of the wide health impacts of disasters; improving resilience to disasters through social and economic understanding. The Scientific and Technical Committee made the following recommendations: promote knowledge into action; use a problem-solving approach that integrates all hazards and disciplines; Support systematic science programmes; guide good practice in scientific and technical aspects of disaster risk reduction’ (p. 35).

‘A new instrument would find new opportunities: the economic case for greater investment in disaster risk reduction is getting stronger, and **scientific innovation and technological progress** will open up better and more cost-effective means to tackle disaster risk’ (p. 65).

Elements Paper

‘The availability of open source and open access science-based risk information and knowledge is instrumental to cost-benefit analysis, transparent transactions, accountability, and the development of partnerships across public, private and other stakeholders’ (p. 7).

In order to make progress towards the expected outcome and strategic goals, public policies on risk management need to be underpinned by appropriate governance frameworks that incorporate actions not only by national and local governments but also by civil society, the private sector, the science and academic sector and others. Such a governance approach would reflect the increasing prevalence of innovative and networked partnerships and alliances between different sectors, as effective means to address development challenges. Similarly, the public policies will need to be underpinned by mechanisms for information and knowledge generation and management in order to ensure that relevant information and knowledge on risk and on risk management alternatives is available to policy and decision makers at different levels, from individuals and households to international organisations (p. 7).

The consultations have called for a strong participation by civil society, science, local authorities, local communities, media, business, and others in the development and implementation of the post-2015 framework for disaster risk reduction. Moreover, the implementation of the HFA has been enriched, enhanced and accelerated (p. 10).

9 Conflict and fragility

Fragile and conflict-affected states experience shocks and stresses related to natural hazards simultaneously with the challenges of conflict and fragility. Much can be done to reduce, manage and prepare for 'natural' disasters in more appropriate – or in some cases more interconnected – ways. The successor to the HFA must do more to support effective DRR in these complex contexts by being explicit about the need to support governance strengthening as a starting point to building disaster resilience.

Lead author: Katie Peters

RECOMMENDED READING

Scientific enterprise is important not just for supporting mitigation, preparedness and response measures but also for the development of policy at the highest levels:

Southgate, R.J., Roth, C., Schneider, J., Shi, P., Onishi, T., Wenger, D., Amman, W., Ogallo, L., Beddington, J., Murray, V. (2013) *Using Science for Disaster Risk Reduction*. Report of the UNISDR Scientific and Technical Advisory Group.

Climate change, changing institutional and public behaviour to early warnings, incorporating knowledge of the wide health impacts of disasters and improving resilience through social and economic understanding:

UNISDR (2009) *Reducing Disaster Risks, through Science: Issues and Actions. The full report of the ISDR Scientific and Technical Committee 2009*. Science and Technical Committee report on *Reducing Disaster Risks through Science: Issues and Actions* for the second session of the Global Platform for Disaster Risk Reduction in Geneva on 16 June 2009.

Social as well as physical dimensions of weather- and climate-related disasters, considering opportunities for managing risks at local to international scales:

IPCC (2012b) *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation (SREX). A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change* [Field, C.B., V. Barros, T.F. Stocker, D. Qin, D.J. Dokken, K.L. Ebi, M.D. Mastrandrea, K.J. Mach, G.-K. Plattner, S.K. Allen, M. Tignor, and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, UK, and New York.

IPCC (2014) *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*. Cambridge, UK and New York, USA: Cambridge University Press (<http://ipcc-wg2.gov/AR5/report/final-drafts/>)

Providing advice to decision-makers on how science can inform the difficult choices and priorities in DRR:

Foresight (2012) *Reducing Risks of Future Disasters: Priorities for Decision Makers*. Final Project Report. London: Government Office for Science.

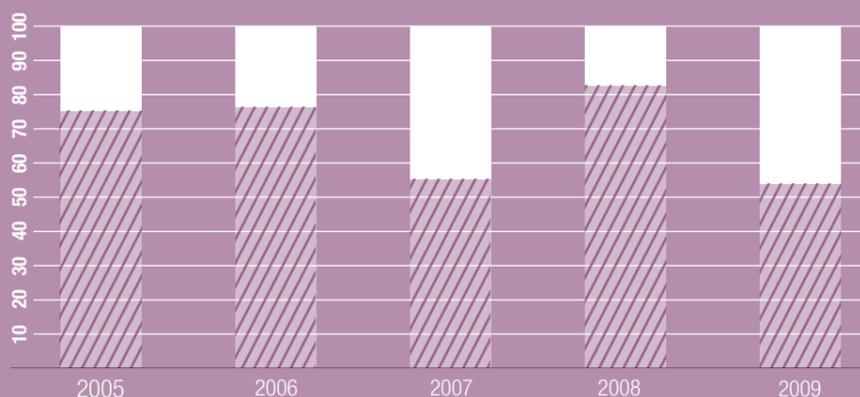
Many disasters occur in fragile and conflict-affected states, accounting for a high proportion of disaster-affected populations each year¹⁵⁴

50%

Between 2005 and 2009, more than 50% of people impacted by natural hazard-related disasters lived in fragile and conflict-affected states.

80%

In some years the figure was more than 80%.



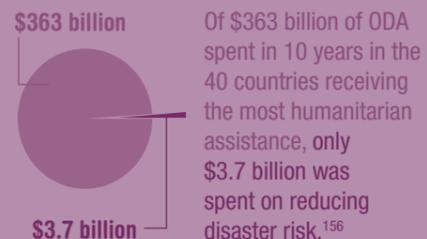
■ Non-conflict-affected (excl. China) ■ Conflict-affected

Recorded data shows that between 1999 and 2004

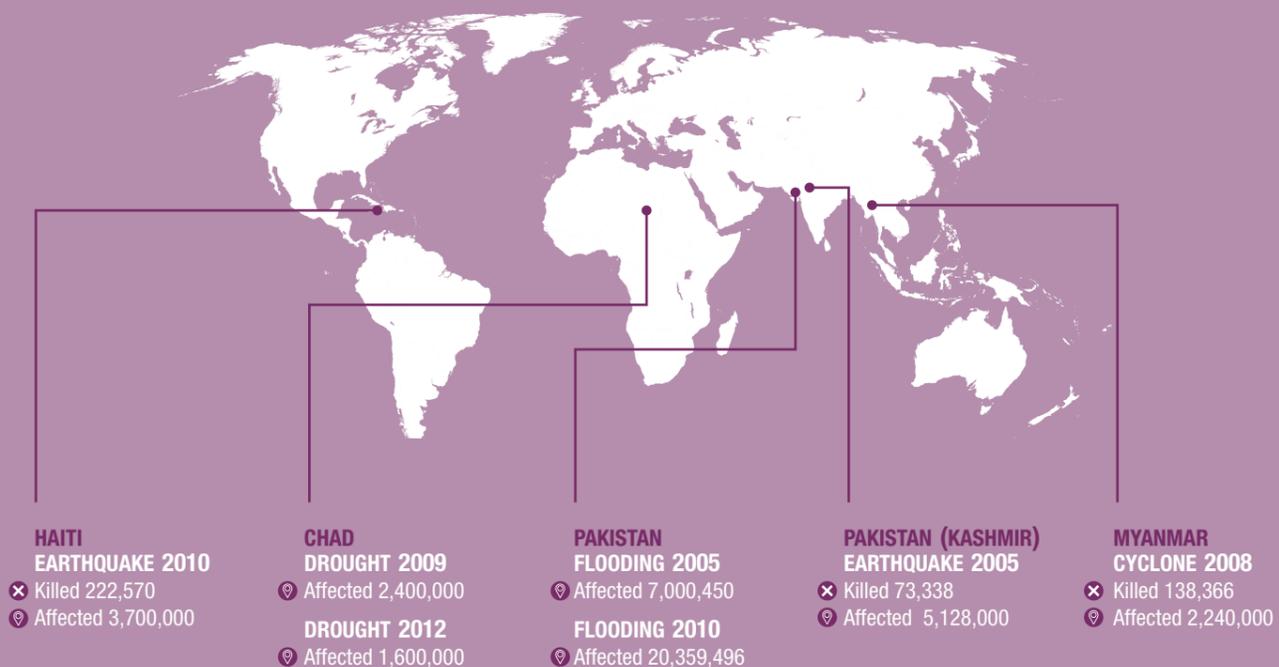
140

disasters associated with natural hazards were in contexts affected by complex political emergencies.¹⁵⁵ But the gaps in evidence are immense – the numbers of people affected and killed by disasters in fragile and conflict-affected contexts are likely to be considerably underestimated because of the difficulty of undertaking accurate research in affected areas.

Investments in DRR are very low in conflict and post-conflict countries



Some of the largest disasters on record have occurred in challenging contexts¹⁵⁷



Future projections show that climate-related disaster vulnerability will be felt most in fragile and conflict-affected states¹⁵⁸

The latest IPCC report tells us that:



The future will almost certainly see an increase in climate-related disasters.

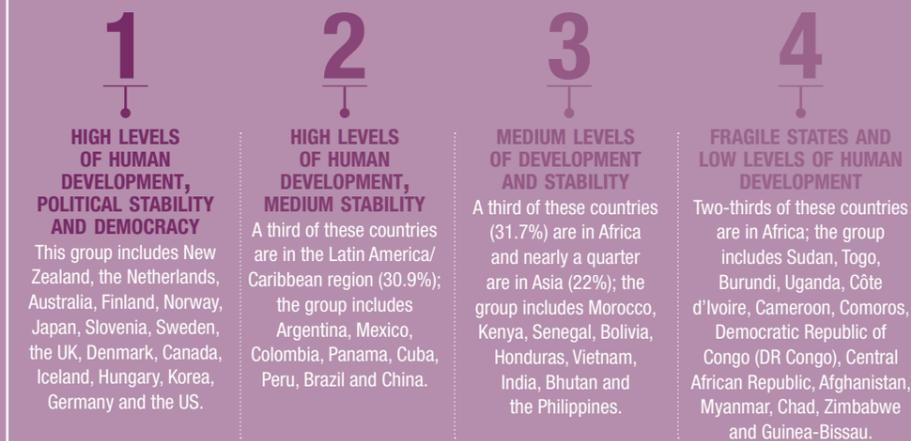


Countries experiencing conflict or governance difficulties are least likely to be able to support communities to manage vulnerability to climate impacts or adapt to climate change.¹⁵⁹

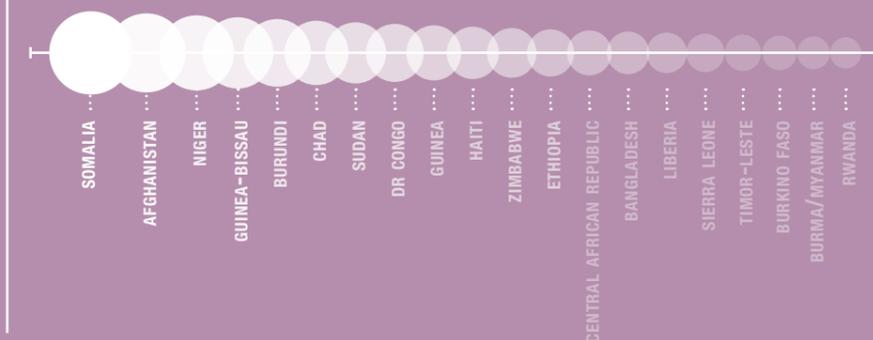


Poorly designed risk reduction, adaptation and mitigation strategies can increase the risk of conflict.¹⁶⁰

Effectively dealing with disaster risk requires stable political conditions, inclusive risk governance and risk-informed development. An index of the necessary elements of disaster risk management groups countries into four categories¹⁶¹



The 20 countries ranked most at risk due to high levels of fragility, disaster, poverty and climate change vulnerability, combined¹⁶²



SUMMARY OF RECOMMENDATIONS

The post-2015 framework on DRR should explicitly recognise the need for and value of building DRM institutions as a means to strengthen disaster risk governance.

- For contexts where formal government structures are in place, disaster management should be seen as a means of strengthening policy formulation processes, national fiscal and budgetary arrangements and institution building.
- For vulnerable populations living in areas where the state and/or governance structures are lacking, or where those in power are a party to conflict, international support should be provided to enhance DRM through local action, through governance arrangements at the sub-national level and through informal institutions.
- Investments in DRR and DRM should not only be sensitive towards contexts of conflict, but should actively encourage, support and be integrated into the management and reduction of conflict risk.

- Building disaster resilience should be a vital part of long-term stability and national security, and adequate investment in disaster resilience needs to be part of those strategies.

The successor framework should include action and indicators on:

- Complexity of risk: Including the relationship between natural hazards, climate change, conflict and fragility in risk and vulnerability assessments.
- Dual benefits: Seeking opportunities for co-benefits for peace-building and state-building as well as risk-informed development progress; at a bare minimum, climate- and conflict-sensitive approaches to DRM should be adopted.
- Inclusive governance: Adopting inclusive decision-making processes, with appropriate mechanisms in participation, accountability and transparency.

How the link between disasters and conflict is featured in the HFA

Para 4: ‘Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such an approach is to be recognized as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.’

Para 13 (c): ‘An integrated, multi-hazard approach to disaster risk reduction should be factored into policies, planning and programming related to sustainable development, relief, rehabilitation, and recovery activities in post-disaster and post-conflict situations in disaster-prone countries.’

Para 13 (h): ‘[...] Appropriate support in order to enhance governance for disaster risk reduction, for awareness-raising initiatives and for capacity-development measures at all levels, in order to improve the disaster resilience of developing countries.’

Note

- Support to good governance is noted in the HFA – including its contribution to achieving the MDGs – but the lack of concerted attention to dealing with conflict and fragility has been a major criticism.
- The definition of the ‘integrated multi-hazard approach’ thus does not include violence, conflict or fragility.
- The HFA appears to promote the pursuit of DRR only in post-conflict situations.

How the link between disasters and conflict is included in statements and consultations on the successor to the HFA

Chair’s Summary

The Summary notes that targeting the root cause of risk (Priority 4) has shown the least action, but that:

‘Throughout the session, participants raised the need to take concrete measures to tackle risk drivers including poverty, hunger, disease, conflict, violence and inadequate health services, education, infrastructure, poor water and sanitation, housing, unemployment, land degradation, displacement, forced migration and discrimination’ (p. 1).

Mid-Term Review

Oxfam’s approach to DRR includes: ‘Ensuring that political and social conflict is included in risk analysis as a potential factor of vulnerability’ (p. 41).

DRR in Africa

The 3rd African Ministerial Meeting for DRR includes in the declaration express statement that the African Ministers and Heads of Delegation (page 4, IX):

‘Express deep concern at the magnitude and intensity of disasters, aggravated by terrorism and armed conflicts, and their increasing impact in recent years in Africa, which have resulted in massive loss of life and long-term negative social, economic, environmental and humanitarian consequences for vulnerable societies which hamper the achievement of sustainable development.’

The summary statement of the 5th Africa Regional Platform for Disaster Risk Reduction includes the following:

‘Violent conflict is closely associated with disaster risk and related efforts to prevent conflict need to be considered as part of overall efforts to build resilience to disasters.’

‘Disasters are not constrained by administrative boundaries and require trans-boundary policies and programmes. Population movements induced by disasters (fast- and slow-onset) and long-term violent conflicts call for cross-border cooperation. The development and enhancement of sub-regional climate information and multi-hazard early warning systems can inform, and thereby improve, prevention, preparedness and early action and response.’

‘Integrated and coordinated approaches to disaster risk reduction, climate change adaptation and related aspects of conflict prevention can reduce the fragmentation of resources and improve the impact of investments.’

RECOMMENDED READING

For an exploration of how to improve the links between disaster resilience and conflict prevention see:

Harris, K., Keen, D. and Mitchell, T. (2013) *When disasters and conflicts collide. Improving links between disaster resilience and conflict prevention*. London: ODI.

See how disasters can be an opportunity for peace, through three case studies:

Fan, L. (2013) *Disaster as opportunity? Building back better in Aceh, Myanmar and Haiti*. London: ODI.

To understand how much is spent on DRR in conflict-affected countries:

Kellett, J. and Sparks, D. (2012) *Disaster risk reduction: Spending where it should count*. Global Humanitarian Assistance, Development Initiatives, UK.

Explore tools and approaches for disaster risk management through examples:

Mitchell, A. with Smith, E. (2011) *Disaster Risk Management for Insecure Contexts*. Paris: Action Contre la Faim.

Learn how disaster risk governance can help inform our understanding of how to reduce disaster risks:

Wilkinson, E., Comba, E. and Peters, K. (forthcoming) *Disaster Risk Governance: unlocking progress and reducing risk*. United Nations Development Programme and ODI, London, UK. Prepared for the Global Assessment Report on Disaster Risk Reduction 2015.

10 Stakeholders and leadership

Complex social problems such as disaster risk need a diverse group of stakeholders at different scales to undertake the many varied DRM functions. Progress on managing risk will require a clear articulation and division of responsibilities across government, the private sector and civil society, as well as recognition that the incentives are different for each group of stakeholders.

Lead authors: Emily Wilkinson and Amy Kirbyshire

Government:

Delivering development and protecting citizens

Governments have a responsibility to lead in the protection of citizens: as direct providers of DRM goods and services such as flood defence, early warning systems and insurance, as regulators of private sector activity, as promoters of collective action and as coordinators of multi-stakeholder activity.



National government

The enabling actor



Responsibility

National government has a moral duty and often a legal one to protect citizens from harm caused by natural hazards. According to the HFA: 'each State has the primary responsibility for its own sustainable development and for taking effective measures to reduce disaster risk, including for the protection of people on its territory, infrastructure and other national assets from the impact of disaster.'¹⁶³



Development lost

Disasters can destabilise the economy of a country, reduce economic growth and strip back development gains:

HURRICANE IVAN (2004) cost Grenada over 200% of its GDP; the earthquake in Haiti (2010) cost close to 120% of the country's GDP.¹⁶⁵

- Globally, economic losses from disasters topped \$1 trillion from 2000 to 2010, and grew at a faster rate than GDP per capita in OECD countries over the same period.¹⁶⁴
- In larger economies, such as Bangladesh, the loss of 3–5% of GDP every three to five years has a heavy cumulative impact on development.¹⁶⁶



Investments to protect

Public assets such as schools and hospitals are affected by disasters:

- Cyclone Nargis destroyed or badly damaged more than 4,000 schools (over 50%) in the affected areas.¹⁶⁷
- Hurricane Katrina destroyed 11 community health centres (facilities that treat patients regardless of insurance/payment status) and seriously damaged another 80, causing damage costing more than \$65 million.¹⁶⁸

THE SICHUAN earthquake destroyed 7,000 classrooms.



Local government

The principal implementing actor



Responsibility

Decentralisation transfers responsibility for key DRM activities to local governments.

IN THE PHILIPPINES national government is responsible for the development of national roads (30,000 km in length) but the remaining road network – 172,000 km – falls under the responsibility of local government units.¹⁷⁰

- New Zealand has highly devolved governance: local governments have primary responsibility for DRM under a centralised national legal framework and coordination mechanism, supplemented by regional bodies.¹⁶⁹

DRM-relevant legal responsibilities include controlling construction in hazard-prone areas, providing basic services, protecting the environment and preparing for and responding to disaster.



Political support lost

Elections can be won or lost depending on how local government is perceived to have responded to disaster:

- Between 1976 and 2007, 40% of countries with democratically elected governments replaced their leaders in any two-year period. In countries that experienced a major earthquake this figure rose to 91%.¹⁷¹



Annual budgets to protect

- Municipal government budgets are quickly eroded by responding to disasters, and this affects all other planned investments.

THE EL SALVADOR (1985) earthquake destroyed assets equal to 27% of national GDP and 158% of total annual government revenues.¹⁷²

Business:

Protecting profit and delivering livelihoods

The business case for investment in DRM includes reducing direct exposure of core operations, limiting indirect exposure of supply chains and markets, and taking advantage of business opportunities. Smaller enterprises face significant challenges in preparing for and responding to disasters. Many will not have insurance, so disasters result in loss not only of profit but also of family income, employment and livelihoods.



Big business

The key actor in avoiding the creation of new risks



Responsibility

- Private investment determines risk; in most economies 70–85% of all investment is private.¹⁷³



Recovery of damaged business infrastructure is not guaranteed

- Prior to the 1995 Great Hanshin earthquake, the port of Kobe was the world's sixth busiest. Despite massive investment in reconstruction and efforts to improve competitiveness, by 2010 it had fallen to 47th place.¹⁷⁴



Profits are exposed to risk

- Direct impact: Toyota lost \$1.2 billion in product revenue from the 2011 Great East Japan earthquake and tsunami.¹⁷⁵
- Global supply chains: The same event led to a 20% drop in vehicle production in Thailand. The Chao Phraya floods of 2011 closed 451 Japanese factories in Thailand, as well as others in Malaysia, North America and Japan itself.¹⁷⁶

CLIMATE RISKS Unilever reports climate-related disasters cost yearly \$300 million

Tropical cyclones affect shipping routes, extreme cold closes factories and flooding disrupts distribution systems.¹⁷⁷



Opportunities for investment

- Technology development: Private construction company Mori Building has successfully invested in earthquake-resistant housing developments in Japan, where for 92% of businesses earthquake resistance is the most important criterion when choosing new offices.¹⁷⁸

NEW MARKETS The market for climate change adaptation is estimated at \$100 billion a year until 2050, representing a huge opportunity for business.¹⁷⁹



SMEs and micro-enterprises

Protecting livelihoods and ensuring employment



Responsibility

- Small businesses provide income and employment and form the backbone of community resilience to disaster. Formal micro, small and medium-sized enterprises employ more than one-third of the population, both globally and within developing economies.



Lacking contingency plans

- Fewer than one in six small businesses has business continuity plans in place.¹⁸⁰



Insurance limited

- There are few incentives for insurance in fast-growing markets; in China only 3% of properties are insured against earthquakes, 5% against typhoons and floods.¹⁸¹



Lack of diversification magnifies disaster impact

Farmers are reliant on fragile natural resources and affected by variable rains.

- When drought hit Kenya in 2011, communities had little to rely on – compensation schemes were unable to cope and livelihoods were destroyed.¹⁸²



Limited coping capacity

- A single disaster can wipe out large parts of a single small or medium-sized business.

MEXICAN FISHERMEN who invested in risk management after Hurricane Isidore saved an average \$35,000 when Hurricane Wilma hit three years later.¹⁸³

Civil society:

Representing communities and the most vulnerable people

The poor are often the most vulnerable to disasters as they lack private assets to protect themselves and recover from disaster, and are often excluded from government DRM programmes. The civil society case for prioritising DRM is based on the role it can play in supporting the most vulnerable people and protecting development programmes.

What's at stake?

In some countries the percentage of the population at risk of natural hazards is extremely high:¹⁸⁴

97.4%



NEPAL

96.6%



BURUNDI

92.6%



EL SALVADOR

97.7%



BANGLADESH

Civil society is in the front line of risk reduction, preparedness and response

PROMOTING VULNERABILITY AND CAPACITY ASSESSMENTS

In Nepal, after conducting a vulnerability and capacity assessment (VCA)-type process, the Red Cross National Society worked with villagers to create community-based programmes to deal with local hazards such as flooding.¹⁸⁵

PREPAREDNESS AND PLANNING

Communities in the northwest of Nicaragua, with the support of Oxfam GB, are drawing up risk maps and emergency plans. As the plans are based on the National Risk Management Plan, local emergency committees can receive funding from the national government for DRM.¹⁸⁶

ORGANISED FIRST RESPONDERS

The 1985 Mexico City earthquake prompted an unprecedented spontaneous collective response from civil society.¹⁸⁷

Civil society builds the resilience of vulnerable groups



Protecting development programmes from the impact of disaster

A project in South Africa brought together citizens of townships to collect data to inform the inclusion of community-based risk assessments in local development planning.¹⁸⁸



Ensuring that basic services are resilient and can be quickly reinstated following disaster

As part of a multi-partner emergency reconstruction programme in El Salvador following two devastating earthquakes in 2001, local NGOs provided much-needed capacity for the health sector, helping to reach 1.2 million people in 141 municipalities.¹⁸⁹

It gives voice to the most vulnerable



Ensuring emergency aid reaches the poorest and most vulnerable

After an earthquake hit a remote region of Morocco in 2005, the El Manal Association for women's activities mobilised women and youth to facilitate emergency response, working together with other NGOs to prioritise needs according to vulnerability.¹⁹⁰



Ensuring that the vulnerable are represented in risk management plans

The Evangelical Association of Malawi represents a consortium of NGOs working on DRR in the country, representing stakeholders and communities in a range of government forums, including the government's technical committee on social protection and disaster management.¹⁹¹

The challenge:

Why leadership is lacking on DRM

Given the impacts and interests, DRM might be expected to be a high priority, but this is not the case. Stakeholders vary in their capacities and their ability to influence decision-making and resource allocation, in large part due to the different degrees of power (economic, social and political) they hold.

1

UNDERESTIMATION OF THE RISK

Even when people are aware of the risks, they often underestimate the likelihood of the event occurring.

2

ADDITIONAL COSTS AND BUDGET CONSTRAINTS

When upfront costs are high, governments and companies will often focus on short-run financial goals, rather than on potential long-term benefits of reduced risks. The added cost of safe construction in hazard-prone areas is estimated at 5–10% of the total cost of building.¹⁹²

3

MISMATCH OF TIMESCALES

The benefits of public investment in DRM will not be visible quickly. Political terms are often for 4–6 years, less in many countries, so benefits may not be observed during a politician's term in office, especially when hazards are infrequent.

4

LACK OF INFORMATION

The complexity of disaster risk, the myriad of policy options available and the uncertainty surrounding the relative effectiveness of different strategies lead to procrastination, with groups delaying making a decision when faced with ambiguous choices.

5

LACK OF DEMAND

The benefits of DRM are hard for citizens to perceive, making policy reform unlikely, as governments usually respond to political pressure.

6

LOW VISIBILITY

Less visible DRM activities are likely to be neglected, such as environmental protection and enforcement, building inspections, and risk assessment and planning processes.

7

LACK OF EXPERIENCE

The benefits of DRM are more likely to be underestimated when people and governments have no experience of dealing with specific hazards.

8

COMPETING PRIORITIES

Even in places that have experienced a recent disaster, other problems may take centre stage, such as law and order.

SUMMARY OF RECOMMENDATIONS

Acknowledge differences in governance contexts and trajectories:

- The post-2015 framework on DRR should articulate a set of principles or standards that states are expected to adhere to, although the specific institutional arrangements through which they achieve them should be defined by the existing governance context of each country.

Take advantage of policy windows:

- While timeframes and targets are important for ensuring that progress is achieved in a timely manner, plans of action should be devised that accommodate a range of different futures – plans that allow stakeholders to take advantage of policy windows when they arise. In some countries, planning processes may be well-defined; in others, they may require more flexibility to account for 'unknowns' in future governance challenges.

Focus on linkages and relationships between and across scales of governance:

- Greater monitoring and accountability are required at the sub-national level, to capture differentiated levels of progress within a country. More disaggregated data is needed on the effectiveness of actions that link stakeholders across scales of governance. This will help inform national and international knowledge and understanding of why particular regions lag behind and identify those that require more concentrated support.

Encourage local innovation:

- Greater flexibility is needed to encourage local solutions and ones that take into account different risk perceptions, and to incorporate these as the starting point for DRM. The development of more flexible and culturally appropriate risk reduction approaches and behavioural change processes at the local level should be a core feature of the post-2015 framework on DRR.

How stakeholders and leadership is featured in the HFA

The HFA places emphasis on decentralisation of government responsibilities and resources. It is more explicit than previous policy documents on the need to assign greater responsibility to local governments for DRR. It urges governments to ‘recognise the importance and specificity of local risk patterns and trends, [and] decentralise responsibilities and resources for disaster risk reduction to relevant subnational or local authorities, as appropriate’ (p. 6).

Para 15 (i): ‘National institutional and legislative frameworks: (a) Support the creation and strengthening of national integrated disaster risk reduction mechanisms, such as multi sectoral national platforms, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors. National platforms should also facilitate coordination across sectors, including by maintaining a broad based dialogue at national and regional levels for promoting awareness among the relevant sectors.’

How stakeholders and leadership is included in statements and consultations on the successor to the HFA

Mid-Term Review

- ‘A significant element of concern observed throughout the Review was that in several countries it is not clear who “owns” disaster risk reduction, and therefore it is hard to grasp who is in charge of what at the national level. This in turn leads to serious questions of institutional overlap, coordination, and ultimately accountability. National-level coordination for disaster risk reduction was mentioned by developing and donor countries alike, suggesting that it is not necessarily linked to the availability of resources but is more likely a function of the inherent multi-disciplinary nature of disaster risk reduction. Initial data from the 2009–2011 HFA Monitor indicates ... major coordination challenges where disaster risk reduction responsibilities were distributed across sectoral bodies. ... (p. 43)
- ‘The link between HFA Priority for Action 4 ... and Priority for Action 1 ... is critical to ensure a holistic and strategic approach to reducing vulnerability and increasing resilience. However, ... governance arrangements do not facilitate integrated management of risk drivers, especially when responsibilities for critical issues such as environment policy, social protection mechanisms, disaster risk reduction, climate change adaptation, land tenure and rural development policy, housing, and urban development policy are entrusted to different governmental entities.’ (p. 44)’

RECOMMENDED READING

Analysis of disaster risk governance through a composite index and four case studies:

Wilkinson, E., Comba, E. and Peters, K. (2014) *Disaster risk governance: unlocking progress and reducing risk*. New York: United Nations Development Programme (UNDP).

Public sector institutions and policy choices involved in managing disaster risk:

Handmer, J. and Dovers, S. (2007) *Handbook of disaster and emergency policies and institutions*. London: Earthscan.

A review of literature on disaster governance and emerging research themes:

Tierney, K. (2012) *Disaster governance: social, political and economic dimensions*. Annual Review of Environment and Resources 37, 341–363.

- ‘Implementation of the HFA at local level, or lack thereof, and the capacity of governments to coordinate it with other efforts, such as socio-economic development plans at local level, were also raised consistently throughout the Mid-Term Review ... Institutional structures are often put in place but are not connected to local and community processes.’ (p.46)

Elements Paper

- ‘Effective risk management requires action from a variety of actors of local, national, regional, and global as well of a public and private nature. Given the varied nature and scale of action, legally binding instruments and policy instruments, while necessary, are per se, neither sufficient nor suitable to provide detailed regulation and guidance. Indeed they need to be complemented and articulated by voluntary and explicit commitments and actions by stakeholder groups – such as communities, civil society organisations, local governments, parliamentarians, business, and science – which want to assume the leadership and responsibility and thus contribute positively to managing the risk inherent to development. These commitments, often discrete and unnoticed, are emerging and deserve full appreciation and recognition as a significant contribution to the post-2015 framework for disaster risk reduction.’ (pp. 4–5)
- ‘Public policies on risk management need to ... incorporate actions not only by national and local governments but also by civil society, the private sector, the science and academic sector and others. Such a governance approach would reflect the increasing prevalence of innovative and networked partnerships and alliances between different sectors, as effective means to address development challenges.’ (p. 7)

Chair’s Summary

- ‘Disasters happen locally and solutions are to be found locally. This does not relieve national governments of their responsibilities to establish a framework and enabling environment for local action. However, municipalities and local authorities are in unique positions to lead and create opportunities for local partnerships and to take risk-informed decisions that protect the continued potential for economic and social development.’ (p. 2)
- ‘... reinforced national institutions and inclusive coordination mechanisms at national and local levels are key elements of risk governance.’ (p. 3)
- ‘Participants also called for action to narrow gaps between the scientific community and organisations responsible for implementing disaster risk reduction through the development of collaborative means and methodologies.’ (p. 4)

Incentive structures and influences on government provision of DRM:

Wilkinson, E. (2012) *Transforming disaster risk management: a political economy approach*. ODI Background Note. London: Overseas Development Institute.

The role of the private sector in adaptation and rationale for public-private partnerships:

PricewaterhouseCoopers (PWC) (2010) *Business leadership on climate change adaptation: Encouraging engagement and action*. London: PricewaterhouseCoopers.

1 Interfaces with the post-2015 framework for sustainable development

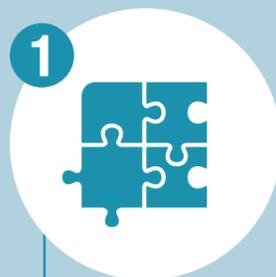
The future framework for disaster risk reduction will come into force at almost the same time as the post-2015 framework for sustainable development. As sustainable development is threatened by disaster risk and because levels of sustainable development determine vulnerability to disasters, it is important that these two global frameworks are closely aligned.

Lead author: Aditya Bahadur

Why is alignment between DRR and development frameworks necessary?

- Disasters have serious impacts on growth, poverty and well-being, and conversely development influences vulnerability to disasters.
- Both frameworks are concerned with tackling 'underlying risk factors'. These include the social, economic, political and environmental issues that put people at risk and impede development.
- Maximising financing for both frameworks is essential. Interventions to realise the goals of both frameworks have strong overlaps – it is only logical that financing is also shared.
- Trade-offs between development and risk reduction need to be managed. This includes the need to ensure that development does not exacerbate risk and vulnerability. It also means ensuring that reducing disaster risk does not compromise development.

Five ways in which the future framework for disaster risk and the post-2015 framework for sustainable development should be aligned



1 Mainstreaming targets and indicators on risk and resilience in the SDGs

Currently issues of disaster, risk and resilience are accommodated in the potential goals on poverty reduction, ensuring health and well-being, sustainable human settlements, infrastructure and industrialisation, food security and combating climate change. Yet there are other goals proposed by the Open Working Group on Sustainable Development Goals that should integrate issues of risk and resilience:¹⁹³

- Education: ensuring that every child is entitled to a safe learning environment
- Gender equality: preventing disproportionate levels of disaster risk amongst women
- Water and sanitation: reducing risks and impacts of water-related disasters.

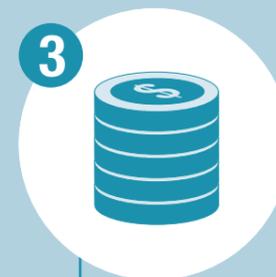
Whatever the DRR targets agreed by the SDG process, they should be used as headline targets in the post-2015 framework for DRR.



2 Monitoring will ensure that progress across the same thematic areas is integrated and reinforced

As both frameworks come into force at the same time and because there are strong overlaps in the issues that they engage with, it is important that any mechanisms to monitor progress are also aligned. This can be done by:

- Ensuring alignment in monitoring cycles
- Working with regional and other institutions to ensure coordination, reconciliation and communication of data from monitoring the frameworks
- Sharing targets and indicators
- Including DRR targets with the same start and end points (e.g. targets set from 2015 to 2030) in the SDGs and the future framework for DRR.



3 Financing mechanisms for the future framework for DRR and the post-2015 framework for sustainable development should be shared

The Intergovernmental Committee of Experts on Sustainable Development Financing and the Open Working Group on Sustainable Development Goals are currently exploring mechanisms for financing the SDGs; moreover, an international summit on the future of development finance will take place in the first half of 2015. These processes must acknowledge the strong potential overlaps in interventions for realising the goals of both frameworks and consequently the need for shared financial streams.



4 Science, data and information should be shared by both frameworks

There are overlaps in the type of data and information needed for the two frameworks (especially if risk and resilience are effectively mainstreamed in the SDGs). At the same time, there are calls for both frameworks to be strongly informed by scientific evidence to help guide implementation and monitoring. Therefore, a shared mechanism for science, data and information exchange would enhance alignment and harness synergies between the two frameworks.



5 Each framework should connect to the other through appropriate textual references

The texts of both frameworks should refer to one other and underscore the need for alignment in order to ensure that institutions and individuals working with either framework understand this need.

How sustainable development is featured in the HFA

Para 4: ‘There is now international acknowledgement that efforts to reduce disaster risks must be systematically integrated into policies, plans and programmes for sustainable development and poverty reduction, and supported through bilateral, regional and international cooperation, including partnerships. Sustainable development, poverty reduction, good governance and disaster risk reduction are mutually supportive objectives, and in order to meet the challenges ahead, accelerated efforts must be made to build the necessary capacities at the community and national levels to manage and reduce risk. Such an approach is to be recognized as an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration.’

Para 13 (k): ‘Disaster risk reduction is a cross-cutting issue in the context of sustainable development and therefore an important element for the achievement of internationally agreed development goals, including those contained in the Millennium Declaration. In addition, every effort should be made to use humanitarian assistance in such a way that risks and future vulnerabilities will be lessened as much as possible.’

Para 28: ‘The follow-up on the World Conference on Disaster Reduction will, as appropriate, be an integrated and coordinated part of the follow-up to other major conference in fields relevant to disaster risk reduction. This should include specific reference to progress on disaster risk reduction, taking into account agreed development goals, including those found in the Millennium Declaration.’

Para 30 (e): ‘Include information on progress of disaster risk reduction in the reporting mechanisms of existing international and other frameworks concerning sustainable development, as appropriate.’

Para 33 (c): ‘Consult with relevant United Nations agencies and organizations, regional and multilateral organizations and technical and scientific institutions, as well as interested States and civil society, with the view to developing generic, realistic and measurable indicators, keeping in mind available resources of individual States. These indicators could assist States to assess their progress in the implementation of the Framework of Action. The indicators should be in conformity with the internationally agreed development goals, including those contained in the Millennium Declaration.’

How links to sustainable development are featured in statements and consultations on the successor to the HFA

Mid-Term Review

‘The study noted a problematic lack of data about mainstreaming disaster risk reduction in the agencies and organizations approached. Resident Coordinators interviewed agreed on the need to scale up on all aspects of disaster risk reduction, emphasizing a closer link with the Millennium Development Goals, a common UN message on disaster risk reduction, and lessons learned on how to implement it effectively’ (p. 37).

‘There are clearly **opportunities** to link action in support of HFA substantively into UN development processes, to support mainstreaming, and to link disaster risk reduction with climate change adaptation and the attainment of the Millennium Development Goals. In this connection, the study suggested considering the possibility of having higher-level representation for UNISDR in New York to facilitate higher visibility and improve its ability to participate in discussions bridging humanitarian, development, and environmental perspectives’ (p. 38).

The United Nations General Assembly has repeatedly asserted through many resolutions the need for disaster risk reduction to be an integral component of development plans and poverty eradication programmes. This point is well understood and accepted among disaster risk reduction experts and has been emphasized throughout the Mid-Term Review during workshops, online debates, and one-on-one interviews. The Review has also shown that important connections are constantly being made about the inextricable links between disaster risk reduction and sustainable development at the international policy level’ (p. 55).

‘As HFA implementation progresses, it is time to consider whether the institutions responsible for mainstreaming disaster risk reduction into all aspects of sustainable development are doing so from the best positions within their organizations. The General Assembly has regularly called for a more effective integration and, by acknowledging the significant impacts of disaster risk reduction on social, economic, cultural, and environmental systems, underlined the need for a close interrelation of disaster risk reduction with development. The Secretary-General too stressed the firm link of disaster risk reduction with development, and by declaring it a core function of the United Nations, asked for a full incorporation of disaster risk reduction into both the humanitarian and the development agendas’ (p. 56).

‘The Advisory Group recommended supporting governments in defining and developing appropriate accountability measures for disaster risk reduction. An international system for global **accountability for disaster risk reduction** was also discussed by the Advisory Group, and it was noted that an explicit inclusion of disaster risk reduction in the Millennium Development Goals would help in making governments accountable to report on action taken in this connection’ (p. 61).

‘Views on a post-2015 framework for disaster risk reduction, irrespective of whether it would be of a legally binding nature or not, included the need to ensure solid and structural links with sustainable development and climate change international framework agreements’ (p. 65).

‘Some argued that considering that disaster risk reduction is primarily a development issue, far greater leverage is likely to be obtained by ensuring the **inclusion of disaster risk reduction as a mainstreamed element** of development plans, goals, and targets in the successor framework to the Millennium Development Goals, rather than going it alone as a “new HFA”. A more nuanced approach was that expressed by those who felt that it is probably desirable to maintain a strong focus on disaster risk reduction as a subset of new development goals so as to ensure that mainstreaming does not mean invisibility for disaster risk reduction and that targeted disaster risk reduction investments are catalyzed where that is the best way to reduce disaster risk’ (p. 65).

Elements Paper

‘Sustainable development goals cannot be achieved without managing disaster risk. The overall focus of disaster risk management, therefore, has to shift from shielding social and economic development against what are seen as external events and shocks, to one of transforming development to manage risks, sustainably seize opportunities, strengthen resilience, thereby ensuring a sustainable development’ (p. 3).

‘This synchronicity is a major opportunity to define and agree upon an overall cohesive, coherent, and as much as possible harmonised post-2015 paradigm. This should enable the management of the risks inherent to development and that manifest through disasters, climate change and variability, financial and economic crises, and other consequences for the economy, society and the environment. From that perspective, climate change mitigation and adaptation need to be seen as part of broader risk management strategy, which embraces natural and technological hazards and is instrumental to the achievement of sustainable development goals’ (pp. 3–4).

‘Provisions need to be made to secure an interlinked and mutually supportive implementation’ (p. 4).

‘[T]he periodic review of the Hyogo Framework for Action has been carried out through a process separated from the Millennium Development Goals and the Climate Change Convention, thus preventing countries from having a holistic review and appreciation of progress, assessing coherence and convergence in implementation, and introducing useful adjustments. In this connection, the periodic review of the post-2015 framework for disaster risk reduction should be carried out at least in connection with, and through the same process and UN governance bodies as, the post-2015 development agenda and goals; and also, possibly, with future arrangements for mitigating and adapting to climate change’ (p. 4).

‘The effect is that monitoring has been very removed from the mechanisms used for the MDGs, resulting in extremely limited cross-fertilisation’ (p. 9).

RECOMMENDED READING

For mainstreaming risk and resilience in the SDGs:

Jones, L. and Bahadur, A. (2013) *Options for Including Resilience in Post-2015 Goals*. London: ODI and IFRC.

Mitchell, T., Jones, L., Lovell, E. and Comba, E. (eds) (2013) *Disaster risk management in post-2015 development goals: potential targets and indicators*. London: Overseas Development Institute.

On the post-2015 SDGs:

Proposal of the Open Working Group for Sustainable Development Goals.

Progress report of the Open Working Group of the General Assembly on Sustainable Development Goals.

Chair's Summary

‘Governments should take a strong lead to ensure that disaster risk reduction is well recognized and systematically incorporated in the international sustainable development agenda’ (p. 2).

Synthesis Report

‘Stakeholders provoked discussion of how mainstreaming and integrated approaches that address underlying risk factors can be a catalyst for pro-poor development. Health, for instance, is regarded as core to social justice and is a key driver of community and national social and economic development. By managing risks to health, people are able to maintain their effective livelihoods and contributions to community development. The MDGs 4, 5 and 6 are directly aimed at health-specific outcomes. Hence, reducing health risks will enhance chances of achieving development goals’ (p. 11).

‘Stakeholders consistently called for inclusion of DRR and climate risk in the post-2015 development agenda’ (p. 15).

‘Work on disaster risk and resilience targets will need to reference and consider the post-2015 development agenda and post Rio+20 SDGs’ (p. 22).

On financing the SDGs:

Report of the Intergovernmental Committee of Experts on Sustainable Development Financing.

On science and data:

Basher, R. (2013) *Science and Technology for Disaster Risk Reduction: A review of application and coordination needs*. Geneva: UNISDR.

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Endnotes

1. The data and information in this graphic sub-section comes from Kellett (2014), in part based on information from UNISDR (2012a).
2. The attrition of small-scale disasters affects the poorest families, and accounts for significant impact: 54% of houses damaged, 80% population affected, 83% of injuries (UNISDR, 2011). The uncounted impact on low-income household businesses, those outside of 'official' indexes, could increase losses by 50%. (UNISDR GAR 2013a).
3. All references in this graphic section are from Kellett (2014).
4. Ibid.
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6. Discussion with Barry Hughes, John Evans Professor and Director, Frederik S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver, Colorado. In Shepherd et al. (2013).
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8. Ibid.
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17. IPCC (2012a).
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22. In: Kellett (2014), from *Damage, Loss, and Needs Assessment for Disaster Recovery and Reconstruction* (April 2008) and *World Bank (2012) Managing Disaster Risks for a Resilient Future*.
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26. Kellett et al. (2014).
27. Kellett and Caravani (2013) from UNISDR 2013.
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29. Kellett and Caravani (2013) from UNISDR 2013.
30. Kellett et al. (2014).
31. Kellett and Caravani (2013).
32. Ibid.
33. Ibid.
34. Kellett et al. (2014).
35. Jackson (2011), p. 7.
36. Gordon (2013), p. 5.
37. Mitchell et al. (2010).
38. Lavell and Maskrey (2013).
39. This infographic section focuses on four of the drivers of marginalisation: poverty, gender, age and disability; this does not mean that other drivers of vulnerability and marginalisation should be excluded from the post-2015 framework on DRR.
40. Shepherd et al. (2013).
41. Ibid.
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44. Reliefweb (2012).
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52. Oxfam (2005).
53. Tripartite Core Group (2008).
54. WFP (2009).
55. ILO (2009).
56. World Bank (2006). Based on data from Benin, Madagascar, Mauritius and South Africa.
57. ILO (2009).
58. UN (2014).
59. Kellett (2014).
60. UNFPA (2014).
61. WFP (2009).
62. European Commission (2014).
63. Flood-related fatalities were 13.3 per 1,000 for girls aged between two and nine, 9.4 per 1,000 for boys, 6.1 per 1,000 for women and 4.1 per 1,000 for men. Pradhan et al. (2007).
64. HelpAge International (2013).
65. Penrose and Takaki (2006).
66. Save the Children (2007); Save the Children (2009).
67. Nishikiori et al. (2006).
68. Fujii (2012). Those with hearing disabilities had the highest death rate.
69. UNISDR (2013c) and Handicap international (2006).
70. Stough et al. (2010).
71. IFRC (2007).
72. Handicap International (2006).
73. World Bank (2007).
74. Kellett (2014).
75. GRID-Arendal (2002).
76. Discussion with Barry Hughes, John Evans Professor and Director, Frederik S. Pardee Center for International Futures, Josef Korbel School of International Studies, University of Denver, Colorado. In Shepherd et al. (2013).
77. These are not comparable. Further work with the Young Lives datasets could generate comparable cross-country results. Footnote taken from: Shepherd et al., 2013.
78. Parameters were updated from Cantore (2011) and expanded to include disaster resilience indicators from the World Risk Report. The national projections explored the possibility of including separate sets of poverty reduction and resilience drivers. In practice, however, there was no substantial overlap among the plausible variables available in the IFs model to drive these outcomes. It made sense, therefore, to run poverty and resilience together. This is an indication of how difficult it is in practice to separate out poverty and resilience both conceptually and empirically. Footnote taken from: Shepherd et al., (2013).
79. Kellett (2014).
80. World Bank (2001).
81. For instance, see <http://news.bbc.co.uk/1/hi/world/americas/207820.stm>, cited in Shepherd et al. (2013). 'Officials say floods caused by Mitch have wiped out about 70% of staple crops in Honduras and Nicaragua. ... In Honduras alone 500,000 are homeless and more than 7,000 dead. ... The floods have not just damaged December's crop but also new seedlings planted for next year.'
82. Willinger (2008).
83. Ibid.
84. Amnesty International (2011).
85. Jenkins and Phillips (2008).
86. IFRC (2007).
87. Willinger (2008).
88. Azhar et al. (2014).
89. Peek and Stough (2010).
90. Shepherd et al. (2013).
91. Kellett (2014).
92. Kellett (2014).
93. UNICEF (2009).
94. UN (2014).
95. UN (2011).
96. Handicap International (2012).
97. Handicap International (2008).
98. CSID (2002).
99. Axelsson (n.d.).
100. UNISDR (2013b).
101. Le Masson and Langston (2014).
102. UNICEF (2013).
103. Handicap International (2005).
104. Huairou Commission (2010).
105. Back et al. (2009).
106. Kett et al. (2005).
107. UNISDR (2013b).
108. Kett et al. (2005).
109. Plan International (n.d.).
110. Mitchell et al. (2009).
111. IFRC (2007).
112. Ibid.
113. Baumwoll (2008).
114. UNISDR (2007).
115. UNISDR (2008).
116. Lovell and Matheson (2013).
117. Moss (2008) In: Lovell and Matheson (2013).
118. Mitchell et al. (2009).
119. Handicap International (2009).
120. Axelsson (n.d.). Plans include delivering door-to-door early warnings with non-verbal messages such as visual signals to persons with hearing impairment.
121. Fox et al. (2010).
122. UNISDR (2013b).
123. Kellett (2013) based upon Munich Re NatCat SERVICE data 1980-2011 (published in January 2012).
124. Narain et al. (2010).
125. World Bank (2014b)
126. IPCC (2014a).
127. Progress reported by 82 governments in addressing key aspects of DRR, by countries' average per capita income
128. IPCC (2012b).
129. Kellett (2013) based upon Munich Re NatCat SERVICE data 1980-2011 (published in January 2012).
130. Poverty figures are based on the International Futures model's baseline scenario, covering the 49 countries most prone to multiple hazards (earthquakes, cyclones, droughts, extreme heat and floods). Source: Shepherd, A., Mitchell, T., Lewis, K., Lenhardt, A., Jones, L., Scott, L., Muir-Wood, R. (2013).
131. WMO (2010).
132. BBC (2011).
133. SRDI (2010).
134. Centre for Climate Adaptation (2014).
135. EM-DAT (2014).
136. Ibid.
137. Erban (2014).
138. MSCPR (2005).
139. Beck and Shepard (2012).
140. Conservation International (2008).
141. Estrella (2014).
142. Beck and Shepard (2012).
143. ProAct Network (2010).
144. Ibid.
145. Estrella (2014).
146. IFRC (2002).
147. World Bank (2013a).
148. Source: UNISDR/Southgate et al. (2013).
149. Taken from the The InterAcademy Partnership: The Global Network of Science Academies. See <http://www.interacademies.net/Academies.aspx>
150. From Science Advice to Governments: An emerging network of leading practitioners. See www.globalscienceadvice.org/media/
151. UNISDR (2009). These examples come from the recent UNISDR Science and Technical Committee report on using Science for DRR selected case studies from across the breadth of scientific disciplines and from all parts of the globe. These document programmes that scientists themselves felt made a difference in people's lives and which demonstrate what can be achieved through the interplay of science and policy.
152. UNISDR (2005).
153. <http://www.preventionweb.net/english/professional/contacts/v.php?id=4862>
154. The source for this section, including the graph, is Kellett and Sparks (2012).
155. Buchanan-Smith and Christoplos (2004).
156. Kellett and Sparks (2012).
157. The source for this sub-section comes from EM-DAT website, accessed April 2014. CRED (2009).
158. Harris et al. (2013).
159. IPCC (2014b).
160. IPCC (2014c); Levine et al. (2014).
161. Composite list includes Failed States Index 2013, Democracy Index 2012, the level of human development in 2013 and the level of risk for each country derived from the UK Met Office (see Wilkinson, Comba and Peters, 2014).
162. The ranking has been produced by combining data from the Failed States Index 2012, the UNU-EHS World Risk Report 2011, the OHPI Multidimensional Poverty Index 2011 and the CGD Climate Change Vulnerability Index 2011 (Harris et al., 2013: 9).
163. UNISDR (2005), Para 13 (b), p. 4.
164. UNISDR (2011).
165. UNISDR (2012b).
166. UNISDR (2012c).
167. UNICEF (2009).
168. NACHC (2006).
169. McNaughton and IFRC (2013); McSherry et al. (2012).
170. RCC (2007).
171. Smith and Quiroz Flores (2010).
172. Gurenko and Lester (2004).
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177. RTCC (2014).
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186. Wilkinson (2011).
187. Quarantelli (1993).
188. Global Network for Disaster Reduction (2011a).
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190. Global Network for Disaster Reduction (2011b).
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In 2015 the international community will come together in Sendai, Japan, to agree upon a future framework for disaster risk reduction. It will be a unique opportunity to help structure international and national commitments to reduce disaster risk, as well as ensuring that such work is integrated into development in general.

This document is designed as a guide for decision-makers, one that highlights key areas that need to be addressed, and provides clear recommendations for the future framework, supported by evidence and analysis.

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