

TST ISSUES BRIEF: CLIMATE CHANGE AND DISASTER RISK REDUCTION¹

I. Stock taking

Climate change and disaster risk are fundamental threats to sustainable development and the eradication of poverty. The negative impacts threaten to roll back decades of development gains. Building resilient and sustainable societies means addressing both climate and disaster risks, and integrating these risks, as well as potential opportunities, into development planning and budgeting.

Currently, as decades of disaster risk data show, more than 226 million people globally are affected on average by disasters associated with natural hazards every year. These include both geo-physical events (e.g. earthquakes, tsunamis, volcanos) and hydro-meteorological events (e.g. floods, cyclones, droughts). Weather-related disasters comprise about 81 per cent of all events, causing 72 per cent of all economic losses and 23 per cent of fatalities. As examined further below, the impacts of climate change will also further exacerbate disaster risks.² If climate change is not contained and the currently rising greenhouse gas emissions are not reduced significantly, the adverse consequences of climate change will undermine development gains, including poverty reduction.

Natural hazards destroy lives and livelihoods, and have long-term consequences for human and economic development. The detrimental impacts of these events on development have been seen over and over, with destruction of lives and livelihoods setting back development progress and increasing levels of poverty—or forcing new groups into poverty.

As a result, both disasters and climate change are increasingly being considered and integrated as part of this development continuum, instead of as isolated events. While hazards are natural, disasters are not. The scientific community has pointed out that the current drivers of risk are linked to poor policies and practices in land-use planning, governance, urbanization, natural resource management, ecosystem management as well as increasing poverty levels.³ For example, the Millennium Ecosystem Assessment found that many of our essential ecosystems are being used unsustainably, thereby reducing their capacities as natural buffers to provide protection against hazards, which is essential in protection and sustainability of livelihoods.⁴ Further, these risks are only increasing. By 2050, 70 per cent of the world's population is expected to live in urban areas, two thirds of this in low- and middle-income nations. Much of this growth is taking place in locations already prone to earthquakes, cyclones, floods and droughts.

As outlined in the Inter-Governmental Panel on Climate Change (IPCC) Special Report on Extreme Events and confirmed in the IPCC's recently released Fifth Assessment Report, climate change is already impacting the nature of these natural weather-related hazards, leading to more frequent and/or intense extreme events, and will only further exacerbate natural hazards in the coming decades.⁵ This has the potential to further increase the number of humanitarian crises. Mortality rates from weather and climate-related disasters are decreasing in most regions, in many cases due to ongoing disaster risk reduction, including early warning and emergency preparedness activities. At the same time, however, the number of people affected by disasters is increasing, and economic losses are rising, partially due to the changing nature of weather-induced hazards from climate change. Economic losses now regularly exceed \$100 billion annually and are

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² EM-DAT: The OFDA/CRED International Disaster Database - Université Catholique de Louvain - Brussels - Belgium (2011)

³ Intergovernmental Panel on Climate Change (IPCC), *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, 2012. Summary for Policymakers available here: <http://ipcc-wg2.gov/SREX/report/>

⁴ Millennium Ecosystem Assessment (2005).

⁵ IPCC, *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation*, 2012.

projected to double by 2030. Since 1980, risk of economic loss due to floods has increased by over 160 per cent and to tropical cyclones by 265 per cent in OECD countries. In fact, risk of economic loss due to floods and cyclones in the OECD is growing faster than GDP per capita.⁶

Further, as outlined in the IPCC's Fifth Assessment Report, climate change also impacts slow-onset processes, causing impacts such as warming of the atmosphere and the ocean, reduction in snow and ice, global mean sea level rise, global water cycle changing rainfall patterns, and ocean acidification. These changes are already disrupting livelihoods in many parts of the world, particularly those that are dependent on predictable temperature and rainfall, clean water availability, and arable land. Sea level rise will also continue to increasingly affect coastal communities by exacerbating erosion and leading to loss of land and coastal industries.

These risks posed by both disasters and slow-onset processes, will have the biggest impact on the poorest and most marginalized – be it through gender inequality, age, disability or any other intersecting vulnerability – who are the most susceptible to the risk. The interconnectedness of risk posed by climate change and disasters with poverty reduction, social protection, and sustainable development makes a strong case for the need for adaptive, inclusive, equitable, risk sensitive and climate and disaster resilient development.

Links between Climate Change, Disaster Risk Reduction and Sustainable Development

Over the last 30 years there has been an evolving recognition that action on climate change and disaster risk reduction is a prerequisite for achieving sustainable development. Emphasis has been placed on incorporating both climate change action and disaster risk reduction needs into development mechanisms, such as public investment planning systems, sectoral development plans, and social protection and infrastructure investments.

Following the World Summit on Sustainable Development (Johannesburg, 2002), and guided by the *Hyogo Framework of Action 2005-2015: Building the Resilience of Nations and Communities to Disaster (HFA)* and the United Nations Framework Convention on Climate Change (UNFCCC), among other processes and General Assembly resolutions, disaster risk reduction and climate change action, including mitigation and adaptation, are seen not only as an imperative to protecting investments in development, but also as an opportunity for a transformative shift towards more resilient development. The United Nations Conference on Sustainable Development held in 2012 (Rio+20) renewed the international community's commitment to sustainable development and also emphasized the importance of tackling poverty, climate change and disaster risk in an integrated manner. In particular, it called for better coordinated strategies that integrate disaster risk reduction and climate change considerations into public and private investment, decision making and planning of humanitarian, post-recovery, and development actions.

As a result of these and other global commitments, extensive efforts have been underway for the past few decades to address climate change and disaster risk in the context of development. Comprehensive risk reduction and mitigation and adaptation policies and practices have been designed and implemented in many countries around the world, closely integrated into national and sub-national development processes. Furthermore, efforts have also been ongoing to reduce greenhouse gas emissions which are contributing to the climate change, in the hope of minimizing impending impacts. These climate change mitigation efforts are extremely relevant to adaptation and risk reduction given their impact on natural resources and production and consumption patterns, including energy systems, agricultural practices and forestry management. An

⁶ UN Office for Disaster Risk Reduction, *Global Assessment Report 2011: Revealing Risk, Redefining Development* (Geneva, 2011)

important shift is emerging that recognizes climate change as an opportunity for green growth and low-carbon economies alongside co-benefits and building resilience.

Global efforts to strengthen action on climate change and disaster risk reduction as part of the international development agenda

In recent years, progress has been achieved at the global level to help guide and drive regional and national processes on climate change and disaster risk reduction.

In 2010, at the 16th Conference of the Parties (COP 16) of the UNFCCC, Parties committed to a global goal to reduce greenhouse gas emissions so as to hold the increase in global average temperature below 2° Celsius, and to consider a 1.5° Celsius limit in the near future. Through the Cancun Agreements adopted at COP 16, Parties to the UNFCCC also established a series of institutions for implementing this agreement. These included: a) the Cancun Adaptation Framework, which introduced National Adaptation Plans, a work programme on Loss and Damage, and the establishment of the Adaptation Committee to coordinate implementation of adaptation; b) a Technology Mechanism consisting of the Technology Committee and Climate Technology Centre and Network to increase design, development and dissemination of climate-friendly technologies; and c) the establishment of the Green Climate Fund to manage financing in support of developing countries' actions on climate change; Also, developed countries expressed their broad agreement to mobilize 100 billion USD per year both for adaptation and mitigation by 2020. Further, under the Cancun Agreements all industrialized nations formally submitted mitigation pledges and have committed themselves to develop low-carbon development plans or strategies. A number of developing countries have also initiated the development of nationally appropriate mitigation actions (NAMAs) which present opportunities for developing low carbon growth strategies. At the Durban Climate Change Conference in 2011, Parties established the Ad Hoc Working Group on the Durban Platform for Enhanced Action, identifying the path toward a future legal climate framework that will cover all countries. A process is now underway to prepare text for agreement in 2015 that would outline a new "protocol or another legal instrument on an agreed outcome with legal force," for the period beyond 2020. Under the Second Commitment Period of the Kyoto Protocol launched in Doha in December 2012, developed countries listed in Annex-I committed themselves to reduce their average GHG emissions by 18 per cent in the 2013-2020 period.

Similarly, the HFA serves as the global framework for international cooperation on disaster risk reduction as a foundation for national, regional and international development agendas. The overall expected outcome of the HFA is the "substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries", and is supported by three strategic goals, five priorities for action, and four cross-cutting issues.⁷ The HFA serves as the guideline for countries and various other stakeholders, to contribute to the achievement of the internationally agreed goals through 2015. Consultations on a post-2015 framework for disaster risk reduction (or HFA2) are already underway, and supported by the international community's commitment for "disaster risk reduction and the building of resilience to disasters to be addressed with a renewed sense of urgency in the context of sustainable development and poverty eradication".

There are also a number of well-established inter-governmental agreements outside climate change and disaster risk reduction policy processes that clearly support and deliver disaster risk reduction and adaptation outcomes as 'co-benefits'. These include, among others, the UN Convention on Biological Diversity,⁸ the UN Convention to Combat Desertification,⁹ the Ramsar

⁷ <http://www.unisdr.org/we/inform/publications/1037>

⁸ <http://www.cbd.int/>

⁹ <http://www.unccd.int/en/Pages/default.aspx>

Convention,¹⁰ and the Beijing Declaration and Platform for Action,¹¹ the Committee on World Food Security, which recognize the importance of maintaining healthy ecosystems for supporting livelihoods, economic growth, and increasing local resilience.

While there are several global frameworks currently addressing issues related to climate change and disaster risk, there are also considerable – but uneven – efforts at the national and sub-national level in terms of implementation. Focusing on climate change adaptation and disaster risk reduction, implementation has been channeled through integrated policies and plans, joint working groups, and comprehensive activities on the ground. Efforts are also underway to strengthen the linkages between climate change, disaster risk reduction and other relevant issues such as food security, health, traditional knowledge, gender and humanitarian responses, bringing different communities of practice together at all levels to guide and implement integrated approaches. This reflects the inherent cross-cutting nature of climate change and disaster risk, and the importance of integrating solutions for poverty reduction, gender equality, disaster risk reduction and climate change to ensure lasting solutions to global vulnerabilities and achieving sustainable development.

With these interconnections and opportunities for more effective measures in mind, coherence between the post-2015 development agenda, HFA2, and the 2015 climate change agreement is necessary to deliver sustainable and well-planned development outcomes beyond 2015. Specifically, the HFA2 and climate agreement can provide important instruments for implementing the aspirations of sustainable development goals.

II. Overview of the proposals

Lessons from the HFA can provide guidance on goals and targets given its experience setting up frameworks for the DRR community. The HFA Mid-Term Review and the third session of the Global Platform for Disaster Risk Reduction in 2011 recognized that targets encourage more accelerated implementation, as well as greater accountability of action. Further, while generic targets and indicators have been developed under the HFA in consultation with countries, challenges have been faced in translating these targets into consistent efforts across countries. These challenges include: difficulty measuring targets given the cross-cutting nature of disaster risk reduction, limited connection with existing goals/targets of development frameworks like the MDGs, lack of access to data collection and monitoring tools; and the lack of recognition of disaster risk reduction as a development principle.

Building on these lessons, several proposals for integrating issues related to both climate change and disaster risk reduction into the Sustainable Development Goals framework have been made to date. Generally speaking, climate change proposals have been integrated into more than one goal, reflecting the broad scope of climate change – covering both mitigation and adaptation activities – and its close links to many different development sectors, such as energy, water, and food security. There are a number of disaster risk reduction proposals currently available,¹² and they provide ideas for both integrating targets related to disaster risk reduction across multiple goals or creating a stand-alone goal on disaster risk reduction.

Climate Change

In the report of the *High-Level Panel of Eminent Persons on the Post-2015 Development Agenda* (HLP), climate change is reflected in four of the 12 clusters of indicative goals suggested. Cluster 7 on Secure Sustainable Energy is directly related to climate change, covering issues such as renewable energy, energy efficiency and access to energy, as well as fossil fuel subsidy reform.

¹⁰ http://www.ramsar.org/cda/en/ramsar-home/main/ramsar/1_4000_0__

¹¹ <http://www.un.org/womenwatch/daw/beijing/platform/>

¹² A compilation of proposals is available here: <http://www.unisdr.org/2013/docs/newyork/climateDRRcompilation.pdf>

Other clusters present issues that are relevant to climate change, though do not reference climate change explicitly. These clusters are related to: enabling environments and long-term finance, deforestation and land degradation, sustainable management of natural resource assets, and sustainable agriculture as it relates to food security and nutrition. The HLP report does not suggest numerical values for many of the quantitative goals.

The Leadership Council of the Sustainable Development Solutions Network (SDSN), in its report for the UN Secretary-General,¹³ proposes 10 goals, one of which is to “curb human-induced climate change and ensure sustainable energy”. The targets suggested under this goal focus on decarbonizing the energy system, reducing non-energy emission through improved practices in various sectors and the adoption of incentives. Other suggested goals relevant to climate change include improvement of agricultural systems, empowering resilient cities, securing ecosystem services and biodiversity, and ensuring good management of water and other natural resources. This report also does not suggest numerical goals and targets.

The report *Corporate Sustainability and the United Nations Post-2015 Development Agenda*, submitted by the UN Global Compact based on consultations and surveys with businesses globally, looks at energy and climate under an area named “the resource triad”. It notes that water and sanitation, energy, and food and agriculture are tied to the causes and effects of climate change. Goals in each of these areas are related to climate change, with the most significant being the goal on sustainable energy for all. Targets do not focus on emissions, but rather focus on renewables, energy efficiency, energy access and particulate concentrations, suggesting possible numerical values for these.

The Centre for International Governance Innovation and the Korea Development Institute’s report *Post-2015 Development Agenda: Goals, Targets and Indicators* includes a recommendation to have a climate change target with indicators that include total emissions of carbon dioxide (CO₂), total emissions of greenhouse gases, and CO₂ emissions per capita and per GDP. The report also includes targets on other areas that are related to climate change under an overarching goal on “Sustainable Management of the Biosphere, Enabling People and the Planet to Thrive Together”. These targets relate to biodiversity, energy and planetary boundaries.

Disaster Risk Reduction

The report by the HLP suggests that risk sensitive development must be at the heart of the post-2015 development agenda. The next sustainable development framework would effectively address disaster and climate risk if it includes a goal/target on overall loss of life and economic losses as well as related targets under the main potential sectoral goals that contribute to risk reduction, for example related to water, education, environment and health.

Three options emerge among existing proposals on how to address disaster risk reduction.¹⁴ One option is to have a standalone goal on disaster risk reduction supported by a limited number of targets on social, economic and environmental issues. These targets could be reducing economic losses, preventing impoverishment, reducing mortality, morbidity and disability, early warning information and services, and protecting and improving health systems. A second option is to have targets related to disaster risk reduction in broader topics, such as poverty reduction, gender equality, governance, or tackling obstacles to development, supported by one or more specific targets. The third option is to have a resilience goal in which disaster resilience would be one of a number of targets oriented around shocks, encompassing natural hazards, food chain

¹³ *An Action Agenda for Sustainable Development: Network Issues Report Outlining Priority Challenges* (2013) Sustainable Development Solutions Network

¹⁴ A compilation of proposals is available here: <http://www.unisdr.org/2013/docs/newyork/climateDRRcompilation.pdf>

emergencies, transboundary or technological threats, socio-economic crises, violent conflicts and protracted crises, among other aspects.

In May 2012, the UN System Task Team on the Post-2015 UN Development Agenda produced a thematic think piece on *Disaster Risk and Resilience* that set-out an initial proposal for a global goal and targets to address disaster risk and resilience in the context of sustainable development. This was based on the recognition that disaster risk and resilience is a programming principle that needs to be better reflected in future development goal and target regimes.¹⁵

Calls have been made for HFA2 to accelerate efforts by the development community to be responsive to different population groups and achieve a net reduction in all forms of risk in order to address public and private investments that are contributing most to the growing exposure to disasters. This would promote a new development approach that integrates disaster risk considerations into all development interventions. To build socio-economic and ecological resilience, there is a need to integrate knowledge and tools that address shocks, stresses, vulnerabilities, and changes arising not only from disasters from natural hazards, but also from climate change and environmental degradation, as well as from disasters that are man-made including violence and conflicts, financial and economic failures, and health crises.

It should be noted that measuring progress against a quantitative goal and targets related to life and economic loss due to disasters requires an acceleration of efforts by countries to record disaster losses. A large number of countries now maintain disaster loss databases in Latin America and the Caribbean, Asia, Europe and the Arab States region. Analysis of these datasets have helped understand the patterns of extensive risk across these regions and informed the global discourse on disaster reduction.

III. Way forward

Addressing climate change and disaster risk in sustainable development goals will help ensure that these goals will be maintained and achieved in the face of changing climatic conditions and disaster events, and prove to be truly sustainable.

The current model of development needs to be realigned to the changing world in order to address climate change and disaster risk. The concept of resilience offers the international community an opportunity to break down the silos within the development agenda and focus on a common, cross-cutting and coherent outcome. This requires consideration and action on climate change and disaster risk across all policies and sectors, and at all levels of decision-making, given their multiple linkages with all aspects of sustainable development.

Addressing the dual and inter-related challenges of climate change and disaster risk is one of the most critical necessities for the sustainable development agenda beyond 2015. Climate change is multi-dimensional, and difficult to capture in any one sustainable development goal. Disaster risk reduction is also a cross-cutting issue that is intricately tied to different elements of sustainable development. As a result, to address climate change and build resilience to disaster and climate impacts, a multi-stakeholder, multi-sector approach is needed. Addressing the underlying causes of climate change and disaster risk requires engagement with actors involved in all relevant development sectors, including, inter alia, education, health, agriculture, environment, transportation and communications, ICTs, energy, land use planning, rural and urban development and local government, and across different communities, from politicians and community leaders, to public authorities, scientific community, academia and policy-makers, to households, civil society and the private sector.

¹⁵ *Realizing the future we want for all* (2012) UN System Task Team on the Post-2015 UN Development Agenda.

A unique opportunity exists in 2015. Specific attention to climate change and disasters in sustainable development goals will ensure the required coherence between climate negotiations and a successor to the Hyogo Framework for Action. This will enable the international community to commit to an inclusive, equitable, risk aware and comprehensive approach to sustainable development for generations to come.