Bureau for Crisis Prevention and Recovery
Bureau for Development Policy/ Energy and Environment Group

Climate Risk Management

Climate-related hazards, including drought, floods, cyclones, sea-level rise and extreme temperatures, have enormous impact on the socio-economic development of a society. The frequency, magnitude and duration of damaging climate conditions are changing. It is now widely understood that efforts to address the impacts of adverse climatic conditions on human development must be undertaken within the context of a longer-term vision of development. UNDP is supporting a wide range of countries to manage risks related to climate variability and change through the Climate Risk Management Technical Assistance Support Project (TASP).

CLIMATE RISKS AND DEVELOPMENT

Risk itself is a disincentive for development. For example, populations in high-risk areas, who experience frequent loss of life, destruction of assets and other negative effects on physical, mental and social well-being, become risk-averse. They avoid risking the investments of livelihood resources needed to advance economically, because these investments are all too often lost in the next disaster. Recurrent and expensive disaster relief, recovery and reconstruction operations drain away resources that could otherwise be used for the development of the country.

Droughts can lead to water and food scarcity as well as increased tensions between communities (© UN Photo/Martine Perret).

Protecting development in areas affected by climate variability and change involves managing risks associated with climate-related hazards. Variability within the climate system generates extreme events such as floods and wave surges, storms and extreme temperatures. Changes in regional climatic averages due to global warming are accompanied by changes in the frequency and intensity of these extreme events. Exposure to climate-related hazards, coupled with conditions of vulnerability and insufficient capacity to reduce or respond to damaging consequences, results in disasters and losses. Managing climate-related risks, therefore, is a key enabler of development. Identifying and reducing risks associated with climate-related hazards can help to protect people, livelihoods and assets, thereby promoting the achievement of development goals.

WHAT IS CRM?

With climate change, it is likely that assumptions concerning the frequency and severity of climate-related hazards derived from historical experience may no longer be a reliable basis for evaluating near-term risks. Despite growing awareness of climate risks, national institutions are often inadequately prepared to respond to and prevent risks related to multiple and new hazards across different sectors. In addition, responsibilities for managing disaster risks, on the one hand, and climate change, on the other, may be distributed across various agencies and departments, with inadequate clarity on mandates and an unclear division of labour.

UNDP's CRM approach takes into account both the risks triggered by current climate variability and projected climate change trajectories. CRM focuses on climate-related development sectors that are sensitive to both climate variability and change, such as agriculture, water resources, food security, health, the environment and livelihoods. For UNDP, managing and preventing climate risks implies the rethinking of "business-as-usual" development paths, policies and institutional frameworks. It also entails strengthening local, national and regional capacities for designing and implementing risk management measures, through coordination of a wide range of stakeholders, including the UN system, national governments, non-governmental organizations, civil society organizations and members of the scientific community.

FAST FACTS

- **Over the last decade, 3,852 disasters killed more than 780,000 people and affected more than 2 billion others, at a cost of approximately US$ 960 billion.**
- **After earthquakes, storms (22 percent of dead) and extreme temperatures (11 percent of dead) were the most deadly disasters over the last decade.**
- **The most deadly climate-related disasters of the decade were Cyclone Nargis (2008), which killed 138,366 people in Myanmar; and the heat waves in Europe (2003), causing 72,210 casualties.**

CRM AT WORK

The CRM approach is the focus for UNDP's Climate Risk Management TASP, jointly developed by UNDP's Bureau for Crisis Prevention and Recovery (BCPR) and the Bureau for Development Policy's Energy and Environment Group (BDP-EEG). CRM TASP aims to build in-country capacity to analyze, prevent and manage risks related to climate variability and change, and define risk management solutions. The CRM TASP entails working with national governments, recognizing their priorities, and helping them build the necessary capacity to manage climate risks over short- and longer-term time scales. CRM TASP aims to generate evidence-based climate risk management solutions and priorities for each country, drawing on information about current and future risks from three planning horizons: a) historical and current patterns of climate-related hazards; b) observable trends creating new patterns of risks; and c) predicted climate change scenarios.

CRM TASP approach considers the whole spectrum of climate risk-related activities, from disaster prevention, preparedness and management, to broader climate change adaptation (CCA) strategies. UNDP believes that preventing disasters and protecting development through CRM requires a programmatic approach that can be broken down into a series of analytical steps that, in turn, support the formulation of a set of institutional, policy and programmatic responses. (See Figure 1.)

The first phase of the CRM TASP was implemented in Armenia, Ecuador, Indonesia and Mozambique during 2009-2010 by the Asian Disaster Preparedness Center (ADPC), in collaboration with UNDP country offices and national and regional partners.

Figure 1.

CLIMATE ANALYSIS

This step compiles what is known about the current climate in a particular location, including climate variability and trends, the degree of climate predictability over various time frames, and how the climate might change.

⇓

RISKS AND IMPACT IDENTIFICATION

This step establishes the actual and potential impact of climate variability and change at present (based on historical information), in the medium term (based on current situation and observed trends), and over the long term (based on projections and predictions).

⇓

DECISION ANALYSIS AND SUPPORT

This step supports specific decision makers to make specific decisions with relevant scientific information about climate variability and change. The decision analysis, combined with the institutional, policy and capacity analyses, identify sectors, geographic areas in which CRM is a priority.

⇓

INSTITUTIONAL AND POLICY RESEARCH

This step clarifies governance and institutional aspects of CRM policies, identifies responsibilities across government agencies and sectors, through stakeholder analysis and stakeholder-driven research.

⇓

CAPACITY DEVELOPMENT

This step provides an assessment of the required capacities – in light of assessed risks, development priorities, and desired institutional and policy changes – providing a basis for capacity development to meet identified challenges.

The first phase of the project has been successful in identifying climate risks and risk management measures and solutions by linking scientific data, institutional analysis and participatory approaches. In response to a need among sectoral and development agencies to enhance the integration of climate risk information, the project has also developed tools for factoring in extreme climate events into development planning processes. Furthermore, country reports prepared in collaboration with national stakeholders captured these findings for a wider audience.

The second phase of CRM TASP includes an additional 20 countries and is currently implemented by ADPC and the International Institute for Sustainable Development. The primary stakeholders of the project include representatives of governments, local and regional experts, representatives from UN and UNDP country offices, and other partner agency staff working at regional and national levels. Other local actors and partners are determined through the development of country-level work plans.

CRM TASP project is one of the components of the wider UNDP integrated CRM practice, comprising the following additional projects and programmes:

- Supporting Integrated and Comprehensive Approaches to Climate Change Adaptation in Africa
- Supporting Integrated and Comprehensive Approaches to Climate-Related Disaster Reduction and Climate Change Adaptation in Central Asia
- South-South Cooperation Between Pacific and Caribbean Small Island Developing States on Climate Change Adaptation and Disaster Risk Management
- Community-based Climate Risk Management in Latin America
- Climate Risk Management Training Module

CRM ACTIVITIES

UNDP provides an integrated support package to help governments recognize climate-related risks and identify opportunities for addressing them within existing development portfolios. At national and regional levels, UNDP disaster reduction advisors and climate change advisors work together to assess existing climate risks for particular countries, help build and develop national expertise, and provide technical support. Specific activities at the country level include:

Identifying risks and assessing CRM needs

Assessing climate risks, vulnerabilities and exposure is essential for effective and sustainable CRM interventions. UNDP, in cooperation with its national and local partners, undertakes climate risk identification including hazard mapping and vulnerability analysis; carries out institutional, policy and capacity needs assessments; and enhances capacities of key partners by providing training for vulnerability and risk assessments, preparedness, and response, including climate risk management.

Building national databases on disaster losses and climate change impacts

UNDP, together with its partners, undertakes training on climate data management and its application in development planning; produces risk maps and sets up early warning systems for climate-related hazards; and trains local groups and government staff on

Effectively managing climate-related risks is essential for preserving valuable development gains (© UN Photo/Martine Perret).

documentation of impacts and design of appropriate responses.

Raising awareness and advocacy for CRM

UNDP provides assistance to governments in developing awareness strategies on climate risks and the linkage between climate change, vulnerability to climate-related hazards and poverty; supports knowledge generation and cross-institutional policy dialogue; and develops joint advocacy workshops for policy makers and other stakeholders.

Integrating CRM in institutional and legal instruments

UNDP supports the efforts of governments to reconfigure institutions and policies to pursue preventive climate risk reduction strategies. CRM is at the crossroads of two related practices: disaster risk reduction and CCA. UNDP provides guidance in reviewing national DRR and CCA plans and policies with a view to incorporating CRM; conducting training on how to integrate climate risk in national plans and policies; and formulating CRM measures within existing national disaster risk reduction and CCA agencies and structures, led by relevant government focal points.

Integrating gender concerns into CRM activities

UNDP recognizes the strong relationship between gender equality and improved resilience to climatic hazards. UNDP provides assistance to governments and communities in undertaking training on CRM for women's networks and groups; organizing exchange visits by women's groups and networks for CRM to other countries in the region where CRM is already integrated into development plans and policies; and implementing women's community-based CRM projects focusing on ecosystem management and services, health, agriculture, and water.

UNDP IN ACTION

Mexico

The South Mexico Community-Based Climate Risk Management Programme was implemented by UNDP through the Global Environment Facility Small Grant Fund in about 300 southern Mexican municipalities. It demonstrated that ecosystems are instrumental in reducing damage from hurricanes, climate-related extreme events that are common in the region. A quantitative assessment revealed substantial differences in the damage caused by Hurricane Dean (2007) in two eco-regions with different biodiversity configurations, within the same distance of the hurricane's eye. The results indicated that coastal areas protected by healthy mangroves and inland areas with high levels of biodiversity, extensive tree cover and multiple cultures sustained a much lower level of damage. Damage to crops was 15 percent in areas protected by forest ecosystems and 29 percent in areas where local ecosystems had been destroyed. Damage to households was 6 percent in areas protected by mangroves, while it was 16.5 percent in areas where mangroves had been destroyed. The mangroves also helped to protect fishing boats. Special shelters were built to warehouse small boat engines, while the boats themselves are sunk in tunnels dug into the mangroves. By doing so, boat destruction was reduced by 98 percent from one year to the next, securing incomes for hundreds of families after the disaster. The authorities are now aware that not only ecosystems help save lives and infrastructure, but also speed recovery after a disaster. Fishermen recognize that fishing after a hurricane is much better in areas where mangroves are well conserved. The project has been able to demonstrate that risk does not have to result in disaster. Sound development and planning practices can reduce the risks dramatically.

FOR MORE INFORMATION:

www.undp.org/cpr/we_do/integrating_risk.shtml
www.undp.org/climatechange/
www.adaptationlearning.net
www.adpc.net/v2007/Programs/CRM/

United Nations Development Programme | One United Nations Plaza New York NY 10017 USA | www.undp.org | October 2010