

# Protecting Development From Disasters:

## UNDP'S SUPPORT TO THE HYOGO FRAMEWORK FOR ACTION



*Empowered lives.  
Resilient nations.*



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COVER PHOTO: Urban growth had led poor communities to build their dwellings on floating rafts. When floods affected the region in 2008, disease outbreaks among these communities led many families to be relocated to temporary shelters.

Photo by: Borja Santos Porras/UNDP Ecuador

BACK PHOTO: Natural disaster in the eyes of Almaty Children in Kazakhstan

Photo by: UNDP Kazakhstan

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# Foreword

Jordan Ryan, Director  
Bureau for Crisis Prevention and Recovery, UNDP

Disasters caused by natural hazards, such as drought, hurricanes or earthquakes, take lives, cause widespread human suffering, cost billions of dollars a year and literally wash away years of costly and hard-earned development gains.

Access to education and healthcare, stable employment and livelihoods, safety and security, as well as opportunities for women, are all threatened in countries that are prone to disasters. Costs are incurred during the immediate recovery period, but often it takes decades for a country and its population to recoup the full losses from a disaster.

To make matters worse, the vast majority of disasters hit developing countries already struggling to overcome poverty. While no single reason can be given for this, a combination of environmental and socio-economic factors make people living in poor nations more vulnerable to this kind of catastrophe than those living in developed countries.

The 2004 Indian Ocean tsunami, which killed hundreds of thousands of people, was a turning point for the international community. This event put disaster risk reduction higher on the list of development priorities. The tsunami made it painfully obvious of the urgent need for more robust measures to protect development achievements from natural hazards.

The deadly destruction caused by the event spurred a call to action to better prevent, mitigate and manage disaster risk. One of the immediate steps taken in its aftermath was the adoption by 168 UN Member States of the Hyogo Framework for Action (HFA), committing to a substantial and widespread reduction in disaster losses.

But to achieve this ambitious target, action must be taken by a large number of national and international entities to build and sustain risk management capacity. With this in mind, the United Nations General Assembly tasked the United Nations Development Programme with assisting Members States in putting the priorities of the HFA into action.

By working with central governments, communities and a wide range of national and international in-country partners, UNDP helps countries to reduce disaster risk and thereby protect their development gains.

But much more remains to be done. Continued commitment and actions are required. In 2015 the HFA will expire, to be followed up by new international mechanisms for development and disaster risk reduction. As a contribution to the process of considering any follow-on mechanism, UNDP has undertaken a reflection of its work generally in the disaster risk field, and with specificity the last eight years of its support to the HFA. This report comprehensively outlines UNDP's engagement in implementing the HFA and illustrates successes, challenges and lessons learned as countries and communities move to become more disaster resilient.

The international community has a special opportunity to put disaster risk at the heart of both the post-2015 development agenda as well as the successor to the Hyogo Framework. I hope that this report and the experiences of UNDP over the last eight years can play a part in that critical undertaking, as well as contribute to improving disaster risk reduction and management for the benefit of the most vulnerable people living in countries affected by natural disasters.



Jordan Ryan



*Community members construct a river bank protection system in Divya Nagar, Chitwan in Nepal.*

Credit: © UNDP Nepal

# Executive Summary

This publication highlights the results that UNDP has achieved since 2005 in supporting disaster risk reduction (DRR)<sup>1</sup> and recovery in countries prone to disasters. The first comprehensive report outlining UNDP's contribution to the implementation of the Hyogo Framework for Action, the report illustrates the reforms that countries and communities are undertaking, with UNDP support, to become more disaster resilient.

In the last 50 years, the vast majority of those affected by disasters have resided in low and middle income countries.<sup>2</sup> Besides causing death and suffering, disasters erase development gains, destroy infrastructure, restrict access to education and health care, undermine livelihoods, and exacerbate vulnerabilities to further natural hazard events. To break this cycle, the Hyogo Framework for Action, endorsed by 168 countries, calls on Member States to build resilience and reduce disaster risk.

With its operational presence in 177 countries and a wealth of technical expertise, UNDP was tasked by the United Nations General Assembly to support Member States in preventing and preparing for disasters.<sup>3</sup> Since the Hyogo Framework for Action was put into effect, UNDP has devoted its efforts to helping countries achieve its ambitious outcomes, which include the substantial reduction of disaster losses.

From 2000-2012, at least 90 countries have been impacted by disasters affecting an average of more than 100,000 people in each event. UNDP is actively engaged in 81 of these 90 countries and in a typical year works in over 50 countries to help reduce disaster risk.

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1 For the purpose of this report, UNDP employs the UNISDR definition of disaster risk reduction (DRR). ISDR states that, "Disaster risk reduction [is] the concept and practice of reducing disaster risks through systematic efforts to analyse and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events." Available at <http://www.unisdr.org/we/inform/terminology>

2 Laframboise, Nicole, and Boileau Loko (2012). Natural Disasters: Mitigating Impact, Managing Risks. IMF Working Paper. WP/12/245. Available at <http://www.imf.org/external/pubs/cat/longres.aspx?sk=40044.0>

3 A/RES/54/233 Resolution (22 Dec 1999)

## WHAT IS UNDP'S STRATEGY FOR DISASTER RISK REDUCTION?

UNDP's vision is that communities and nations are able to take responsibility for protecting their own lives and livelihoods from the impact of disasters and climate change. Hence they need the motivation and skills to prevent, prepare for and respond to disasters. To do this, reducing disaster risk should not be considered a stand-alone endeavour, as it involves a wide range of socio-economic and environmental factors, including poverty, conflict and climate change. To be effective, disaster risk reduction must be pursued comprehensively as a core element of sustainable human development.

In order to achieve this long-term, comprehensive process, three risk reduction components must be addressed:

1. **Understanding and communicating risk;**
2. **Reducing risk;** and
3. **Managing the remaining risk.**

By addressing these three components, countries and communities are able to understand where, how and why they are at risk; take measures to prevent and mitigate the risk; and ensure mechanisms and resources are in place to manage risks that cannot be fully mitigated, by being able to respond when disasters occur.

Recognizing that UNDP's efforts are one part of a larger package of international support, UNDP partners with other UN agencies, international finance institutions and NGOs, to support government-led disaster risk reduction and recovery strategies and plans.

## OUR SUCCESSES

For the period covered in this report (2005 – 2012), UNDP has assisted dozens of countries and hundreds of communities in better understanding and communicating the risks they face, through public awareness, local level risk assessments and the establishment of early warning systems.

As a case in point, in **Jordan** UNDP worked with the General Directorate of Civil Defence to assess and identify the risk of potential human and physical losses should an earthquake occur in the Amman region. This was achieved by evaluating the earthquake hazards, exposed assets, and social and physical vulnerabilities for each neighbourhood.

Similarly, as a result of urban risk assessments and follow up conducted by UNDP, the city of Aqaba (**Jordan**) is now making informed decisions on land allocation for commercial

and housing projects, reducing their exposure to seismic hazards. The city is now recognized by UNISDR as the first Model City for Disaster Risk Reduction in the Arab States.

Through a similar project in **Mexico**, UNDP supported the city of Tijuana to carry out urban risk assessments and use them to prepare pre-disaster shelter plans. As a result, 1.5 million inhabitants of the city are now better protected in the event of a disaster.

To help nations better understand the risk they face from disasters, UNDP has helped governments to develop **disaster loss databases** in 23 countries. These record disaster losses on an event-by-event basis and provide one way of measuring the success or failure of risk reduction measures. UNDP helped introduce these loss databases in five of the countries most affected by the 2004 Indian Ocean tsunami: **India, Indonesia, Maldives, Sri Lanka, and Thailand**.

**Early warning systems** are a practical and effective life saving tool for countries exposed to disaster risk and have become a priority for UNDP and its country partners. These systems allow at-risk populations to be forewarned and thus prepared before hazards occur. In recent years, early warning systems have begun to make use of innovative technology, such as mobile phones, to increase their reach.

For instance, in **Bangladesh**, warning messages are collected from the Flood Forecasting and Warning Centre, which UNDP helped establish, as well as the Bangladesh Meteorological Department, and are then disseminated through the delivery of text-messages.

UNDP has also established similar mechanisms in both **Papua New Guinea** and **the Philippines**. Within minutes of a 9.0 earthquake off the coast of Japan on 11 March 2011, more than 120,000 people living in an exposed coastal community in the Philippines were alerted to a possible tsunami through messages received on their mobile phones. While the Philippines' province of Albay suffered only non-destructive waves, some 108,000 people in 150 coastal districts were nonetheless evacuated as a precaution, an excellent example of early warning in action.

In the **former Yugoslav Republic of Macedonia** and **Uzbekistan**, UNDP has supported the design of mobile phone apps which allow users to receive updates on hazards and disasters as they happen. With a touch of the map, users can find out the status of an event, receive tips on staying safe, explore past hazard events, and access key contact information, such as emergency services.

Early warning systems can be tailored to reflect most natural hazards and to correspond to community needs and capacities. In **Bhutan** and **Nepal**, UNDP has helped strengthen

*Aqaba is now recognized by UNISDR as the first Model City for DRR in the Arab States*

existing early warning systems to monitor glacial lakes that are at risk of bursting and flooding. Due to this system a particularly hazardous glacial lake in **Bhutan** was lowered by more than 3.6 meters, averting a predicted glacial lake outburst flood. A previous lake outburst in 1994 released 20 million cubic meters of water, damaged more than 1,700 acres of land and killed 22 people.

In **Mozambique**, through income-generation and food security-related projects, combined with extensive advocacy and public awareness, UNDP has encouraged resettled communities not to return to flood-prone areas. While only one component of a much larger intervention, the initiative did contribute to a reduction in flood related mortality in 2010, which was less than 25 percent of the 10 year average.

Beyond understanding risk, UNDP is also supporting countries **to reduce the risks** they face. UNDP achieves this by helping governments to allocate resources for disaster risk reduction at both national and local levels. This often involves UNDP providing support to draft, update and amend policies, laws, and overall governance arrangements for disaster risk reduction.

For example in **Peru**, UNDP helped the Government to draft and pass a state policy that makes it mandatory to integrate disaster risk reduction into development projects. So far, 157 municipalities (and seven million people) have benefited from hazard maps undertaken through the Sustainable Cities Project, which assesses urban environmental degradation and informs proposals on building plans.

In the **Dominican Republic**, with UNDP's support the country now boasts a national seismic risk reduction plan and a national fund for disaster prevention, mitigation and response. Moreover, the National Development Strategy 2010-2030, incorporates risk reduction as both a crosscutting issue and as one of its main pillars. These initiatives integrate disaster risk into development and ensure that future projects are sensitive to it.

Similarly, in **Pakistan**, a country prone to earthquakes, a safe construction programme has led to the building of over 500,000 earthquake resistant houses. The design of these houses and the safer construction methods employed have now been permanently incorporated into national building codes - protecting millions of people.

Unfortunately, in many countries disaster risk has magnified due to the effects of climate change. **Climate Risk Management** has therefore become a key component of disaster risk reduction in recent years. Through the Climate Risk Management Technical Assistance Support Project, UNDP supports 17 countries to assess the risks associated with climate variability and change, identify risk reduction priorities, and assess capacity needs.

In **Uganda** for instance, assessments were used to analyse the institutional, policy and capacity gaps related to the impact of climate change on coffee production. The assessment identified a range of risk reduction and adaptation measures needed, and has helped inform the development process of a National Climate Change Policy, completed in 2012.

**Urbanization** represents another challenge to successful risk reduction. Rapid and inadequately managed urbanization in many parts of the world is resulting in poor health services and a lack of access to education, employment or sanitation. This in-turn affects disaster risk by creating vulnerable communities that lack the means to withstand hazard events or recover from disaster. This 'risk accumulation' paves the way for future disasters.

To address the challenge of urbanization, UNDP supported the Andean Cities Programme from 2006-2007. Through the programme, UNDP supported the local and metropolitan governments of five capitals of the Andean Region: Bogotá (**Colombia**), Caracas (**Venezuela**), La Paz (**Bolivia**), Lima (**Peru**), and Quito (**Ecuador**), to collectively promote disaster risk reduction and preparedness by sharing best practices and risk reduction tools with one another. The programme helped raise the profile of risks related to urbanization. Since the programme finished, the cities of Bogotá and Quito have developed further strategies for risk reduction and preparedness.

## WHEN DISASTERS OCCUR

Even when understanding of risk has improved and is effectively communicated, and when comprehensive risk reduction systems are in place, there is a measure of risk which remains. UNDP helps countries **manage this remaining risk** through preparedness measures and pre-disaster recovery planning. Particular emphasis is placed on building preparedness capacity, to ensure that systems for emergency relief, response and recovery are in place before disasters happen.

In **Tajikistan**, prompt and efficient responses to the Vanj earthquake in January 2010 and the flash floods in Kulyab in May 2010 were the result of long-term reforms supported by UNDP. This included the approval of the National Disaster Risk Reduction Strategy and the addition of disaster risk reduction into government guidelines for district development planning.

Similarly, in the **Dominican Republic** UNDP worked with authorities in the North-East region to strengthen preparedness and response capacity in 60 of the most vulnerable communities. UNDP assisted in the development of emergency and contingency plans, which included gathering risk assessment data, action plans for mitigation and prevention, and standard operating procedures for disaster response. In order to facilitate

*UNDP and DHL have trained staff in 15 airports to enable fast emergency response*

emergency relief and save lives, evacuation routes were identified and simulations carried out in partnership with the Dominican Red Cross.

Together with the global shipping company **Deutsche Post DHL**, the Get Airports Ready for Disaster Programme has been implemented in 15 airports in five countries. Due to their location, size and availability of infrastructure, airports often serve as vital hubs in the event of a disaster. Among other things, airports are responsible for managing the sudden and significant influx of aid supplies and humanitarian agents and may be called upon to assist in evacuations, shelter or communications. Due to insufficient training of airport personnel in emergency logistics, this may inadvertently lead to bottlenecks in times of crises, slowing down emergency relief that can cost the lives of affected populations. To strengthen airport preparedness, UNDP and DHL have trained staff in these 15-airports so as to facilitate and enable fast response.

The **post-disaster recovery** process involves rebuilding following the losses and damages that occur during a disaster. This period also represents an important opportunity for change. Using the post-disaster period as an entry point, UNDP encourages steps to reduce the risks of future disasters through the recovery process.

In **India** after the devastating Kosi river floods, UNDP supported an owner-driven programme that assisted in the reconstruction of 170 homes in affected villages. The support provided through the Owner Driven Reconstruction Collaborative, a consortium of NGOs, helped to draft technical guidelines for multi-hazard resistant housing. The scheme was subsequently scaled up, leading to 100,000 families taking the lead role in building their own homes.

In **Ecuador** following the eruption of the Tungurahua Volcano, farmers and inhabitants of Cevallos were taught new job skills. As a result of this diversification, their livelihoods were less disrupted and they were not forced to migrate to other areas of the country when the volcano interrupted farming.

As part of the early recovery response to floods in 2007, UNDP **Bangladesh** improved community resilience to disasters by providing emergency employment to 40,000 people and assisting in the construction of nearly 4,000 family houses.

In post-earthquake **Haiti**, UNDP played an important role in ensuring that recovery involved the establishment of more resilient communities. For example, an innovative mobile-money programme gave US\$500 grants to those undertaking home repairs, as long as they agreed to purchase quality-assured building materials from pre-approved local businesses. The grants were also contingent on participating in training for hazard-resilient building techniques.

A separate project in **Haiti** provided employment to the affected population for clearing earthquake-related debris from water canals, sewage systems and roads. This has lowered the risk of communicable diseases and mitigated flooding during the hurricane season. Since the Haiti earthquake, over 300,000 people, over 40 percent of them women, have been temporarily employed through income-generation activities and over 5,000 participants have been trained in construction techniques. These income generating recovery operations build community resilience by both protecting families through safer construction as well as diversifying livelihoods.

In order to assess people's needs and design recovery frameworks following a disaster, UNDP works with governments, the World Bank, the European Commission and a host of donor governments, UN agencies and NGOs, to carry out Post Disaster Needs Assessments. In **Haiti**, this assessment provided the evidence needed for the Government of Haiti to develop a recovery framework and mobilized US\$10 billion in recovery financing. Similar assessments have been carried out in countries as diverse as **El Salvador**, **Indonesia**, **Lao People's Democratic Republic**, and **Namibia**.

## CHALLENGES AND THE WAY FORWARD

Throughout this report, examples are given to highlight how UNDP is embedding disaster risk reduction in other development activities. In an effort to ensure that development gains are sustainable, UNDP has strongly supported the implementation of the priorities of the Hyogo Framework for Action, working to achieve the common goal of reducing disaster losses, as measured in lives and the social, economic and environmental assets of communities and countries.

Throughout the last few decades, with UNDP support, some of the world's most disaster-prone countries have demonstrated that it is possible to achieve substantial reductions in disaster losses.

UNDP considers disaster risk reduction to be a core-component of sustainable development and, as with development initiatives as a whole, disaster programmes must be nationally led in order to be successful. In unison with efforts to improve governance across the board, UNDP aims to ensure disaster risk reduction is built into the laws, plans, policies and strategies in high risk countries. This brings countries' own resources to bear in the process of defining and achieving risk reduction objectives, focuses international support, and encourages local ownership and sustainability.

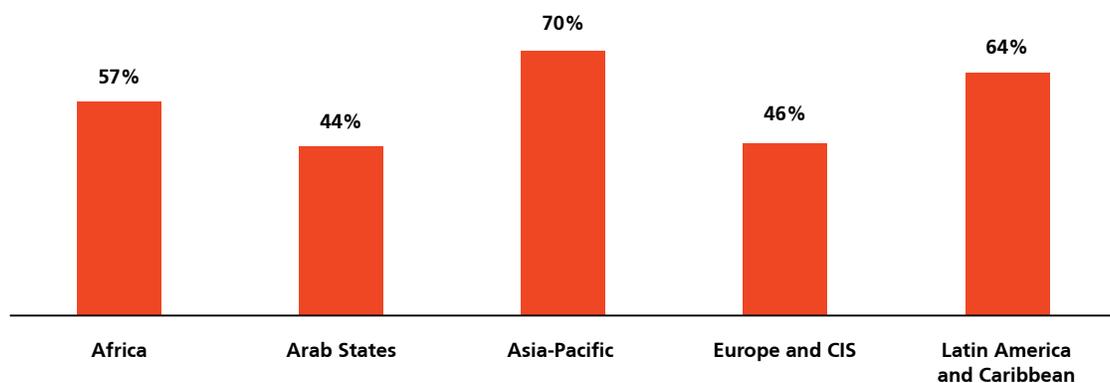
There is a growing awareness regarding the strong inter-relationship between **climate change** and disaster risk reduction, notably that climate variability and change will lead to increased hazard events, potentially triggering disasters in exposed populations. However, while the awareness has increased, there remains more pragmatic and conceptual work to be done to effectively act on this relationship. It is clear that climate change and variability must become a core component of disaster risk reduction if losses are to be reduced in the long-term. A challenge for UNDP will be to stress the urgency of acting on climate change and garnering financial and political support towards this end.

Another challenge is finding adequate time and resources to ensure sustainable risk reduction. The vast majority of funding mechanisms are for relatively short 'attractive' programmes where quick results can be expected. A great deal of the work done to build resilience is achieved through long-term engagement behind-the-scenes, with national and local governments, boosting commitment to disaster risk reduction and enabling small but cumulatively significant actions. UNDP needs to better articulate these challenges to donors and partners, making the case that disaster risk reduction **is above all a long-term development issue, not a one-time response.**

#### LOOKING AHEAD

As of 2013, a number of countries have begun or are continuing to implement comprehensive disaster risk reduction programmes, including **Afghanistan, Albania, Bangladesh, Kyrgyzstan and Nepal.** Additionally, money is increasingly being allocated towards reducing climate related risks. Corresponding to this, new major UNDP climate risk management programmes are coming online, with substantial budgets, particularly in Africa and Asia.

#### PERCENTAGE OF UNDP PROGRAMME COUNTRIES PER REGION WITH REPORTED RESULTS ON DRRR



In the coming years UNDP will remain actively engaged in the global debates on the post-2015 agenda, advocating for increased focus on disasters. UNDP will continue to emphasize partnership building across sectors and regions; the fostering of south-south cooperation and the disseminating of knowledge; and the potential for recovery processes to serve as an entry point to build more resilient societies.

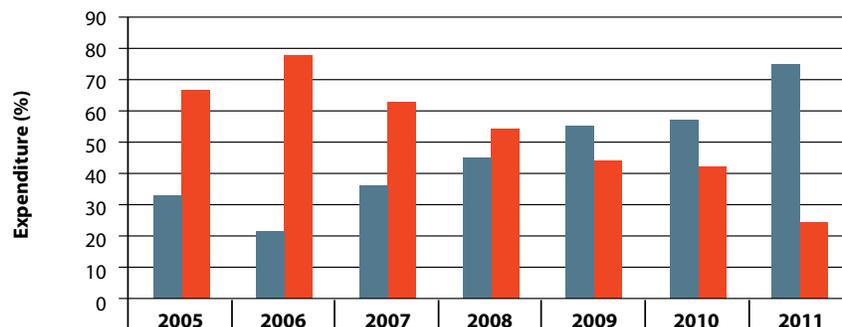
Following an independent evaluation of UNDP's contribution to disaster risk reduction in 2010, UNDP is working on a country-focused strategy for disaster and climate risk reduction, as well as a UNDP strategy for recovery. A strategic framework, presenting the guiding objectives and outputs which UNDP seeks to achieve in risk reduction and recovery, is also being developed. In addition, the upcoming UNDP Strategic Plan (2014-2017) strongly emphasizes disaster reduction and links it to climate change adaptation, further reinforcing UNDP's commitment to this field of work.

UNDP's commitment and continued support to disaster risk reduction and recovery meets a growing demand from the countries which are supported. By early 2013, UNDP was supporting programmes with strong climate risk reduction components in 33 countries. This growing national commitment and ownership of the agenda presents an opportunity to make larger investments to protect lives and livelihoods from disasters and climate change.

The dual threats of climate change and rapid, unmanaged urbanization mean that new hazard trends are emerging that do not necessarily fit into past models. These contemporary challenges mean that now more than ever there is a need to reassess our disaster risk reduction strategies and seek strategies and mechanisms to reduce risk. In the post-2015 discussions, UNDP will continue to raise these issues and advocate for strong action.

In the coming years, UNDP will lead efforts to make the goals of the Hyogo Framework for Action and its successor arrangements a reality. In doing so, UNDP will continue to work alongside national governments, communities and international partners to support their ability to understand, communicate and reduce risk, while effectively managing the risk that remains.

### EXPENDITURES IN DRM AND RECOVERY PROGRAMMES, PER YEAR (%)



■ DRM and mixed	33	22	37	46	55	57	75
■ Post-disaster response & recovery	67	78	63	54	45	43	25

Total expenditure 2005-2011 = US\$1,144,033,224

## HFA Priorities for Action

## UNDP Areas of work

1. Ensure DRR is a priority with an institutional basis for implementation

UNDP promotes the establishment of institutional and legislative systems that prioritize DRR as an integral part of development policies, planning and programmes.

2. Identify, assess and monitor risks and enhance early warning

UNDP promotes the generation of evidence-based risk information and facilitates its application to improve the quality of policy/decision making at all levels.

3. Use knowledge, innovation and education to build a culture of safety and resilience

UNDP develops capacity on DRR through the provision of technical guidance, knowledge sharing and dissemination, and the development of tools and materials, among other methodologies.

4. Reduce the underlying risk factors

UNDP works with countries to integrate disaster and climate risk management solutions into development strategies, policies, plans and projects.

5. Strengthen disaster preparedness for effective response at all levels

UNDP supports government authorities to develop the capacity to prepare for disaster response and recovery, by working with partner organizations through the IASC and UNCT, and promoting South-South cooperation.

## Examples of UNDP contributions to achievement of HFA Priorities for Action

Supported at least 58 countries in developing and strengthening national Disaster and Risk Management Laws.

Developed the capacity of over 45 National Disaster Management Authorities.

Helped both Honduras and Peru take steps that make DRR mandatory in the approval of development projects.

Supported more than 57 countries in risk assessments and mapping, which helped direct development investments.

Helped set up at least 23 Disaster Loss Databases that informed national policy and programme formulation for DRR.

Supported more than 24 countries in strengthening Early Warning Systems to facilitate rapid response and life-saving action.

Helped the Government of Aceh (Indonesia) carry out public awareness campaigns, reaching more than 2500 people.

Provided technical assistance for the development of DRR curriculums in over 20 universities across the globe.

Supported public awareness for resettled communities in Mozambique to discourage returning to flood exposed areas.

Assisted over 30 countries in incorporating DRR into national development policies and plans.

Helped 28 countries conduct post disaster needs assessments, which informed the design of recovery programmes that reduce disaster risk.

Helped Jordan conduct urban risk assessments and mapping in the cities of Amman and Aqaba. The latter of which is now a model city for DRR in the region.

Supported the development of national and community level preparedness and contingency plans in over 20 countries.

Helped establish Emergency Operations Centres and response and recovery units in over 30 countries.

Together with Deutsche Post DHL, UNDP has trained staff in 15 airports in five countries to prepare emergency airport logistics systems.



Through an urban risk assessment in Tijuana (**Mexico**), 1.5 million inhabitants of the city are now better protected in the event of a disaster. UNDP has supported 25 countries with **urban risk management**.

In **Haiti**, a post-disaster needs assessment provided evidence for the Government to develop a recovery framework and mobilize US\$10 billion in recovery financing. Globally, at least 25 countries have been supported in **post-disaster needs assessments**.

In **Honduras**, 10 national counterparts were trained in the use of these **gender-sensitive** recovery guidelines and were able to apply this methodology for planning the response to storm Agatha in 2010. As a result, 40 percent of the cash-for-work days have directly benefited families headed by women.

In **Dominican Republic**, UNDP helped facilitate advancement of Law 147-02 on DRR. In line with this, 60 of the most vulnerable communities were identified and supported to develop risk management plans. These included emergency and contingency plans, operating procedures for preparedness and response, and the selection of evacuation routes coupled with emergency simulations.

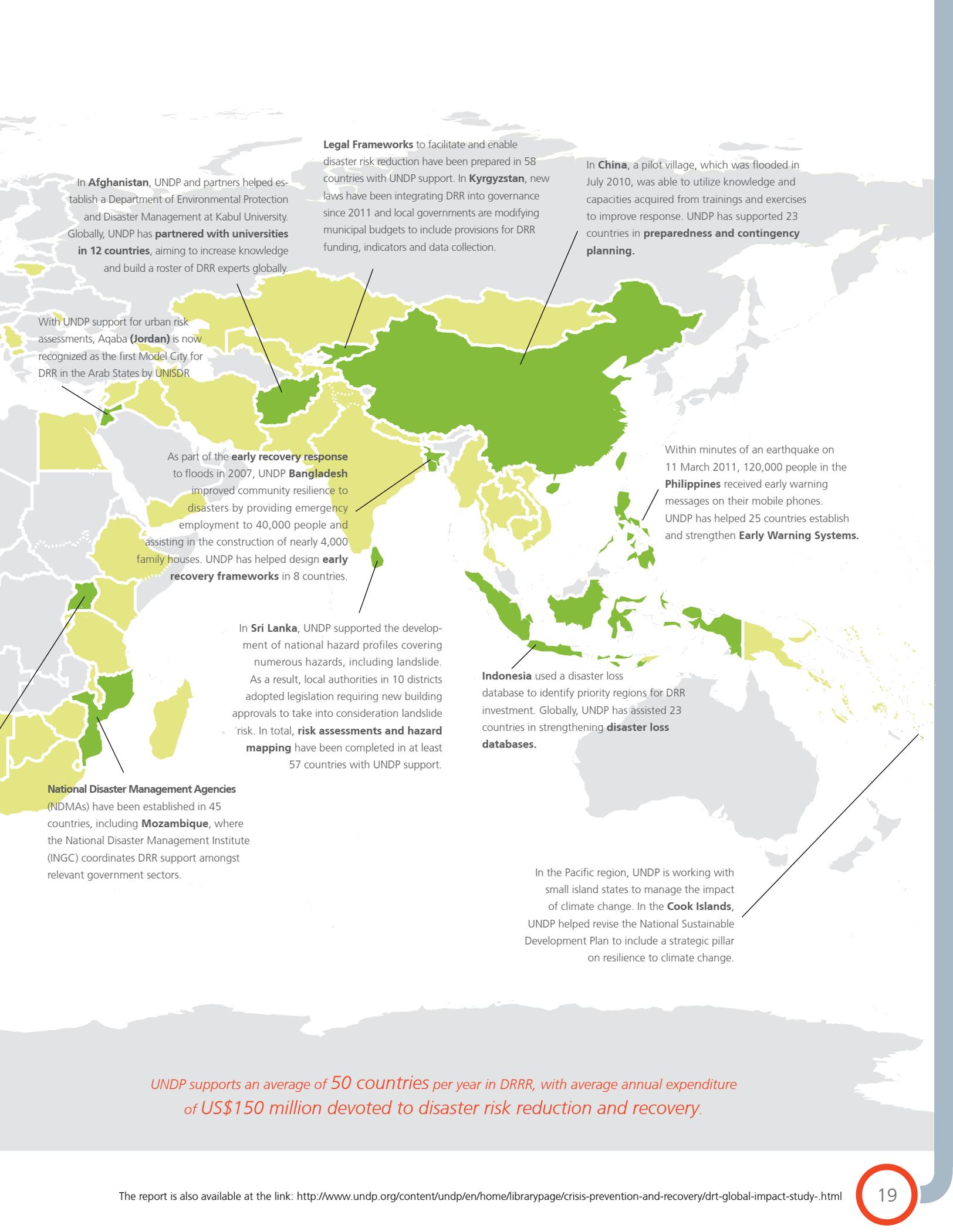
Through income diversification in **Ecuador**, farmers and inhabitants of Cevallos are not forced to migrate to other areas of the country to find work due to instability at the Tungurahua Volcano. UNDP has also undertaken DRR related income generation and diversification in Haiti and Pakistan, amongst others.

To tackle the risks associated with urbanization, UNDP supported five capitals of the Andean Region: Bogotá (**Colombia**), Caracas (**Venezuela**), La Paz (**Bolivia**), Lima (**Peru**), and Quito (**Ecuador**), to collectively promote DRR and preparedness through the sharing of best practices. The cities of Bogotá and Quito have since developed strategies for risk reduction and preparedness.

In **Peru**, UNDP helped the Government to draft and pass a state policy that makes it mandatory to integrate disaster risk management into development projects. Globally, 30 countries have **mainstreamed DRR into development**, helping to safeguard development gains.

In **Uganda**, UNDP has helped assess the impact of climate change on coffee production—a major source of local livelihoods and the national GDP. This is just one of the 17 countries benefiting from UNDP's climate project (CRM TASP)

■ Countries with DRRR results from 2005 – 2011



In **Afghanistan**, UNDP and partners helped establish a Department of Environmental Protection and Disaster Management at Kabul University. Globally, UNDP has **partnered with universities in 12 countries**, aiming to increase knowledge and build a roster of DRR experts globally.

**Legal Frameworks** to facilitate and enable disaster risk reduction have been prepared in 58 countries with UNDP support. In **Kyrgyzstan**, new laws have been integrating DRR into governance since 2011 and local governments are modifying municipal budgets to include provisions for DRR funding, indicators and data collection.

In **China**, a pilot village, which was flooded in July 2010, was able to utilize knowledge and capacities acquired from trainings and exercises to improve response. UNDP has supported 23 countries in **preparedness and contingency planning**.

With UNDP support for urban risk assessments, Aqaba (**Jordan**) is now recognized as the first Model City for DRR in the Arab States by UNISDR.

As part of the **early recovery response** to floods in 2007, UNDP **Bangladesh** improved community resilience to disasters by providing emergency employment to 40,000 people and assisting in the construction of nearly 4,000 family houses. UNDP has helped design **early recovery frameworks** in 8 countries.

Within minutes of an earthquake on 11 March 2011, 120,000 people in the **Philippines** received early warning messages on their mobile phones. UNDP has helped 25 countries establish and strengthen **Early Warning Systems**.

In **Sri Lanka**, UNDP supported the development of national hazard profiles covering numerous hazards, including landslide. As a result, local authorities in 10 districts adopted legislation requiring new building approvals to take into consideration landslide risk. In total, **risk assessments and hazard mapping** have been completed in at least 57 countries with UNDP support.

**Indonesia** used a disaster loss database to identify priority regions for DRR investment. Globally, UNDP has assisted 23 countries in strengthening **disaster loss databases**.

**National Disaster Management Agencies (NDMAs)** have been established in 45 countries, including **Mozambique**, where the National Disaster Management Institute (INGC) coordinates DRR support amongst relevant government sectors.

In the Pacific region, UNDP is working with small island states to manage the impact of climate change. In the **Cook Islands**, UNDP helped revise the National Sustainable Development Plan to include a strategic pillar on resilience to climate change.

*UNDP supports an average of 50 countries per year in DRRR, with average annual expenditure of US\$150 million devoted to disaster risk reduction and recovery.*



*Displaced Darfur farmer in arid and cracked land in Dali, close to Tawila in the Sudanese state of North Darfur.*

Credit: © Albert Gonzalez Farran/UN Photo 2011

# Introduction

From 2000-2012, 90 countries across the world have suffered disasters affecting more than 100,000 people per event. UNDP is present in 81 of these 90 countries and has helped achieve results in disaster risk reduction (DRR) and recovery in over 80 percent of them.<sup>1</sup> On average, UNDP has supported 50 countries per year in DRR and recovery.

Disasters triggered by natural hazards, such as earthquakes or floods, impact countries and communities in multiple ways; not only do disasters destroy lives and livelihoods, but they also erase hard-won development gains. This is particularly challenging given the fact that, due to existing vulnerabilities, the vast majority of disasters have impacted developing countries. In fact, since the 1960s, roughly 99 percent of the world population affected by disasters and 97 percent of all deaths have occurred in middle and low income countries.<sup>2</sup> When faced with disasters of similar scale, people residing in low-income countries are four times more likely to die than those living in high-income countries. In addition, disasters cause developing countries annual economic losses of 2-15 percent of their GDP.<sup>3</sup>

Committed to supporting and advancing development efforts that reduce poverty and given the fact that disasters erase development gains, UNDP has integrated DRR and recovery into its agenda. Since the 1990s, UNDP has been working with partners to increase the capacities of governments and communities to reduce the impact of disasters. Through a coordinated approach, UNDP seeks to enable disaster-prone countries to manage their disaster risk through the integration of DRR into development processes. As a lead UN agency on issues related to governance and poverty reduction, UNDP is uniquely positioned to advance the integration of DRR into the development agenda, at the global, regional and national levels.

UNDP's involvement in DRR has evolved over the years, adapting to fit the emerging needs of countries and communities, particularly in light of climate change and global

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1 Based on EM-DAT Database, v12.07 and UNDP monitoring figures.

2 Laframboise, Nicole and Boileau Loko (2012). Natural Disasters: Mitigating Impact, Managing Risks. Working Paper, WP/12/245. International Monetary Fund. Available from: <http://www.imf.org/external/pubs/ft/wp/2012/wp12245.pdf>.

3 United Nations, Millennium Project (2005). Investing in Development: A Practical Plan to Achieve the Millennium Development Goals. p.181. New York, NY, Earthscan.

## HYOGO FRAMEWORK OF ACTION

In 2005, as an outcome of the World Conference on Disaster Reduction, the international community working on DRR adopted the Hyogo Framework for Action (HFA). This 10 year plan has become the key global instrument for guiding implementation of DRR within all levels of society.

With the overarching goal of achieving a substantial reduction of disaster losses, in lives and in the social, economic and environmental assets of communities and countries, the HFA set 5 priorities for action:

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

shifts in the DRR policy agenda. As understanding of the linkages between DRR, recovery, climate change adaptation, urbanization and development have emerged, UNDP has remained strong in its commitment to build more resilient societies, capable of reducing risks and recovering more quickly from disasters on their path towards development.

This report presents an overview of select achievements from UNDP supported countries and illustrates how UNDP is working with partners at the local, national, regional and global levels to reduce the impact of disasters on lives and economies. The report strategically focuses on results achieved since 2005, which corresponds to the start of the 10-year Hyogo Framework for Action (HFA).<sup>4</sup>

Additionally, the release of this report has been timed to correspond with the fourth session of the Global Platform for Disaster Risk Reduction. This will be the last session of the Global Platform to be held before 2015 and thus offers an opportunity for UNDP to contribute to policy discussions related to the post-2015 development agenda.

This report endeavours to illustrate that integrated, comprehensive programmes, implemented over an extended period of time, are the most effective way to reduce the impact of disasters. In making this argument, the report does not intend to present all of UNDP's contributions, but rather to exemplify, through key experiences, the value of UNDP's approach in developing the capacity of nations to manage risk through effective governance.

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<sup>4</sup> The HFA is a 10 year plan that aims to make the world safer from natural hazards, seeking to substantially reduce disaster losses by 2015 by building the resilience of nations and communities to disasters.

The report is based on extensive interviews with UNDP staff members in New York, Geneva, and Country and Regional Offices, as well as a desk review of relevant project and programme reports<sup>5</sup>, evaluations, and UN publications.<sup>6</sup> Independent programme evaluations, country specific as well as global, have also been an important source of information for the development of this report.

Following a brief overview of UNDP's mandate and added value in achieving progress on DRR globally, this report makes the case for comprehensive DRR programming. Details of UNDP's support are presented in three sections: (i) understanding and communicating risk, (ii) reducing risk, and (iii) managing remaining risk. Throughout the report, salient case examples are presented to provide both evidence of success and challenges incurred. Taken in isolation, these examples do not necessarily by themselves lead to a reduction in disaster risk. However, they represent important milestones which, when part of a comprehensive DRR approach, constitute steps towards increased resilience of countries and communities.

As will be evident throughout the report, UNDP's success in DRR corresponds to the extensive engagement with, and support given to and provided by partners. The diverse range of partners with whom UNDP works includes national and sub-national governments, communities, Non-Governmental Organizations (NGOs), and both UN agencies and international financial institutions.

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5 Buckle, Philip, and Lezlie Moriniere (2010). Evaluation of the Impact of UNDP Disaster Risk Reduction Interventions (2002-2009). available from: <http://erc.undp.org/evaluationadmin/manageevaluation/viewevaluationdetail.html?evalid=3501>

6 United Nations Development Programme (2010). Evaluation of UNDP Contribution to Disaster Prevention and Recovery. Sales nom. E.10.III.B.34.

# UNDP: A Unique Player in Disaster Risk Reduction and Recovery

There are a number of characteristics of UNDP's work and structure that make it a unique player in the global DRR and recovery architecture, as highlighted in a 2009 independent evaluation:

1. UNDP maintains a body of **technical expertise** that builds on over two decades of work in the field of disaster risk reduction and recovery. Advisors and local experts are available to provide technical expertise and quality assurance, drawing on lessons learned and good practices from the field, as well as taking advantage of a broad network of **partnerships**;
2. UNDP's **operational presence** in at least 177 countries, coupled with its procurement and financial management capacity, gives UNDP the ability to support governments on DRR and recovery as an integral part of development;
3. UNDP's history at country level allows for **long-standing relationships with governments** developed through years of development cooperation. This encourages a joint-management approach, which is crucial in sustainable and effective DRR programme delivery;
4. UNDP's extensive experience **working directly with local communities** provides UNDP with an in-depth understanding of local vulnerabilities and strengths, creating a linkage between the global DRR agenda and local dynamics;
5. A broad **regional and global presence** allows UNDP to be engaged at various levels of policy discussions, informing regional and global policy with country-level knowledge and promoting the implementation of global and regional agreements at national levels;

6. UNDP's **coordinating role** within the UN family brings together different UN agencies to improve efficiency and effectiveness at the country level. This allows UNDP to draw on the support and guidance of the entire UN system when required, including for the mainstreaming of DRR into development programming and in the coordination of recovery efforts. As global 'early recovery lead' in the Inter-Agency Steering Committee cluster system, UNDP can bridge humanitarian and development approaches, while integrating disaster risk management; and
7. UNDP has the ability to leverage **financial resources**, however small or large, to kick-start or continue implementation of DRR programmes, paving the way to higher engagement by governments and communities.

## THE UN GENERAL ASSEMBLY HAS MANDATED UNDP TO:

1. Support governments to undertake regular reviews of early warning requirements and capabilities at national and community levels - *A/RES/50/117 Resolution (20 Dec 1995)*;
2. Take responsibility for natural disaster mitigation, prevention and preparedness- *A/RES/52/12B (19 Dec 1997)*;
3. Strengthen and build operational capacities in natural disaster mitigation, prevention and preparedness, as well as maximise international cooperation - *A/RES/54/233 Resolution (22 Dec 1999)*;
4. Cooperate with regional and national organizations in order to increase their capacity to respond to natural disasters - *A/RES/56/103 Resolution (14 Dec 2001)*; and
5. Integrate comprehensive disaster risk reduction programmes as integral elements of UN support for socio economic development programmes - *A/RES/56/195 (21 Dec. 2001)*.



*More than five million cubic metres of debris have been removed from the streets of Port-au-Prince and Léogâne through a joint effort by the Government, UN agencies, and national and international partners.*

Credit: © UNDP Haiti 2009

# What Does It Take? Advocating for a Comprehensive Approach to Disaster Risk Reduction & Recovery

UNDP's experience has demonstrated that a comprehensive approach to DRR has a higher chance of success in the long term. A recently conducted evaluation of UNDP's contribution to disaster prevention and recovery, clearly stated that DRR requires long-term planning and sustained efforts at the national level.<sup>1</sup> The evaluation concluded that programme planning and implementation must systematically acknowledge the links between poverty reduction, sustainable development and DRR, while prioritizing national ownership of DRR strategies.

In line with the conclusions of this evaluation, UNDP works with national authorities, local communities and partners, to address natural disaster risk at all levels. Through a broad range of entry-points, DRR programmes are developed jointly by UNDP and local partners, taking into account the political context, social environment, national priorities, community needs and existing capacities. Typical entry points include, but are not limited to: national, comprehensive DRR efforts; smaller, area-focused efforts (ex: city/province); preparatory activities, such as national strategy formulation; post-disaster recovery efforts; and efforts emanating from a demand for better preparedness and contingency planning.

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<sup>1</sup> United Nations Development Programme (2010). Evaluation of UNDP's Contribution to Disaster Prevention and Recovery. Sales No. 10.III.B.34 P.



▲ *A Turkana girl waters camels from a hole dug in a dry river bed near Kenya's border with Uganda. Increasing drought has forced pastoralists to travel further in their search for pasture and water.*

Credit: © Anthony Morland/IRIN

*To be successful, DRR programmes must be comprehensive, long term, locally driven and nationally-led*

However, while the design and implementation of comprehensive programming must be adaptive to differing contexts, there is a general overarching logic to DRR programmes, which includes: **understanding and communicating risk**; **reducing risk**; and **managing the remaining risk**. Understanding and communicating risk ensures that information on hazard exposure, vulnerabilities, capacities and risks, is made available and accessible for effective decision-making. Reducing risk works to prevent and mitigate disaster impact by integrating DRR

into development policies, plans and programmes; strengthening disaster management legislation; and building capacities to manage disasters. Managing the remaining risk involves preparing for disasters that might occur and recovering from them when they do.

Throughout these processes, which are described in more detail in subsequent sections of this report, measures to promote gender equality are considered and special attention is given to protecting those most vulnerable, such as women and the elderly.

Just as there is no 'one-size-fits-all' model of DRR programming, there is also no chronological order to the components of a comprehensive programme. The actual design and implementation of DRR programmes is context specific and often, depending on entry-points, multiple components can proceed simultaneously, or in differing orders in differing contexts. The key point is that regardless of context, to be successful, DRR programmes must be broad and comprehensive, encompassing each of the above areas.

Throughout this report, a series of case studies have been selected to highlight this comprehensive approach. Titled the 'In-Focus Series', the case studies from **Mozambique,**

**Indonesia, Armenia, India and Ecuador,**<sup>2</sup> illustrate the value of this integrated approach to DRR and recovery. In each of these countries, UNDP drew upon its longstanding presence and close relationship with national and local authorities to transform how disasters are managed, from emergency management to risk management. As can be noted from the cases, entry points, design, implementation and chronology all differed, however the overall comprehensive approach remained consistent. Most importantly, in each of these examples significant achievements have been made and are reflected in overall reductions in disaster losses.

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2 Countries listed in order of appearance in the report.



◀ *Community members on road in a flood prone area. The village has been built to be resilient to recurring floods. Under the constant threat of cyclones, the Government of Bangladesh has worked with UNDP for more than 30 years to improve the country's disaster risk management.*

Credit: © UNDP Bangladesh



In focus:

# Mozambique<sup>2</sup>

**With an extensive coastline along the Indian Ocean and high seismic activity, Mozambique is prone to natural hazards that can easily develop into disasters. Cyclones, earthquakes, flooding and drought are all common occurrences in a country where 50 percent of the population still live below the poverty line.**

UNDP has been present in Mozambique since before the civil war, providing on-going support and an institutional memory that has been useful in encouraging disaster risk reduction. During the conflict, UNDP supported the creation of the Department for the Prevention and Combat of Natural Disasters, which later transitioned into the National Disaster Management Institute (INGC) following the war.

Since its formation, the INGC has taken a leading role in coordinating DRR within the Government and is now an autonomous government institution. Not only does this consist of managing disasters before and after they occur, but also permits the INGC to call upon other ministries and departments to leverage support for DRR. UNDP has supported the INGC as it has grown into this role, specifically through capacity building, knowledge sharing and south-south cooperation. UNDP also supports the INGC in the decentralization of DRR, successfully leading to greater support and commitment for the integration of DRR and climate change adaptation into local plans and planning processes in Mozambique.

Having agreed to the priorities set out in the Hyogo Framework for Action, the INGC, with support from UNDP and partners, has been implementing a series of DRR projects that align with the HFA priorities while advancing Mozambique's development agenda. In particular, in March 2006 Mozambique's Council of Ministers, with support from UNDP, approved the Natural Disasters Prevention Master Plan (2006-2015) to coincide with the

country's commitments to the Hyogo Framework. Led by the INGC and engaging a broad range of diverse actors, the Plan represents a significant shift from a response oriented approach towards an integrated one, linking DRR with national development priorities. Since 2007 the annual budget committed to the INGC has reached US\$80 million, representing a 30 percent increase from earlier budgets.

To support this Plan, UNDP has helped train local teachers on how to integrate DRR into school curricula, as well as supported the Government in the establishment of community early warning systems and the creation of local risk management committees. Through these committees, community hazard-maps are prepared to delineate safe zones and evacuation routes for community members.

Targeting the same vulnerable populations, UNDP is also supporting interventions which discourage resettled communities from returning to vulnerable, flood-prone areas. UNDP motivates these populations to remain in the less-vulnerable areas by developing small-scale food security and income generation projects, complimented by trainings, materials and financial support. As evidence of the project success, the INGC has reported that in instances of serious flooding, such as in 2011, the number of people who are in need of evacuation has decreased substantially.

As further evidence of the long-term transformation of DRR in Mozambique, from 2001-2010 the total number

2. Information for this case study has been primarily drawn from: (UNDP (2004). Country Evaluation: Assessment of Development Results-Mozambique) as well as (Buckle, Philip, and Lezlie Moriniere (2010). Evaluation of the Impact of UNDP Disaster Risk Reduction Interventions (2002-2009).

of Mozambicans affected by disasters fell by 45 percent compared to the previous decade. Flood related mortality in 2010 was less than 25 percent of the 10 year average and although 16,000 people were affected by flooding, this represents a decrease of more than 90 percent on the previous decade. Similarly, in 1981 a drought led to more than 100,000 deaths, yet a similar drought in 2002 resulted in only nine deaths.

By addressing DRR through an integrated approach, the Government of Mozambique has been able to make substantial progress in reducing disaster losses. UNDP was able to assist in this process by targeting interventions at specific entry points, including policy design, institution and legal systems, capacity development, data collection and knowledge sharing. These entry points have proven useful in launching and integrating DRR programming. The country is now a regional and global example for effective disaster risk reduction.

However challenges still remain. Emergencies, such as the 2011 floods, continue to negatively impact regular programme implementation, demonstrating that additional capacities to fully manage risk are needed. In particular, urban risk has not yet been sufficiently addressed in Mozambique. In response to this, UNDP has begun working with UN-Habitat to assist municipal authorities to conduct a Seismic Risk Assessment for Maputo.

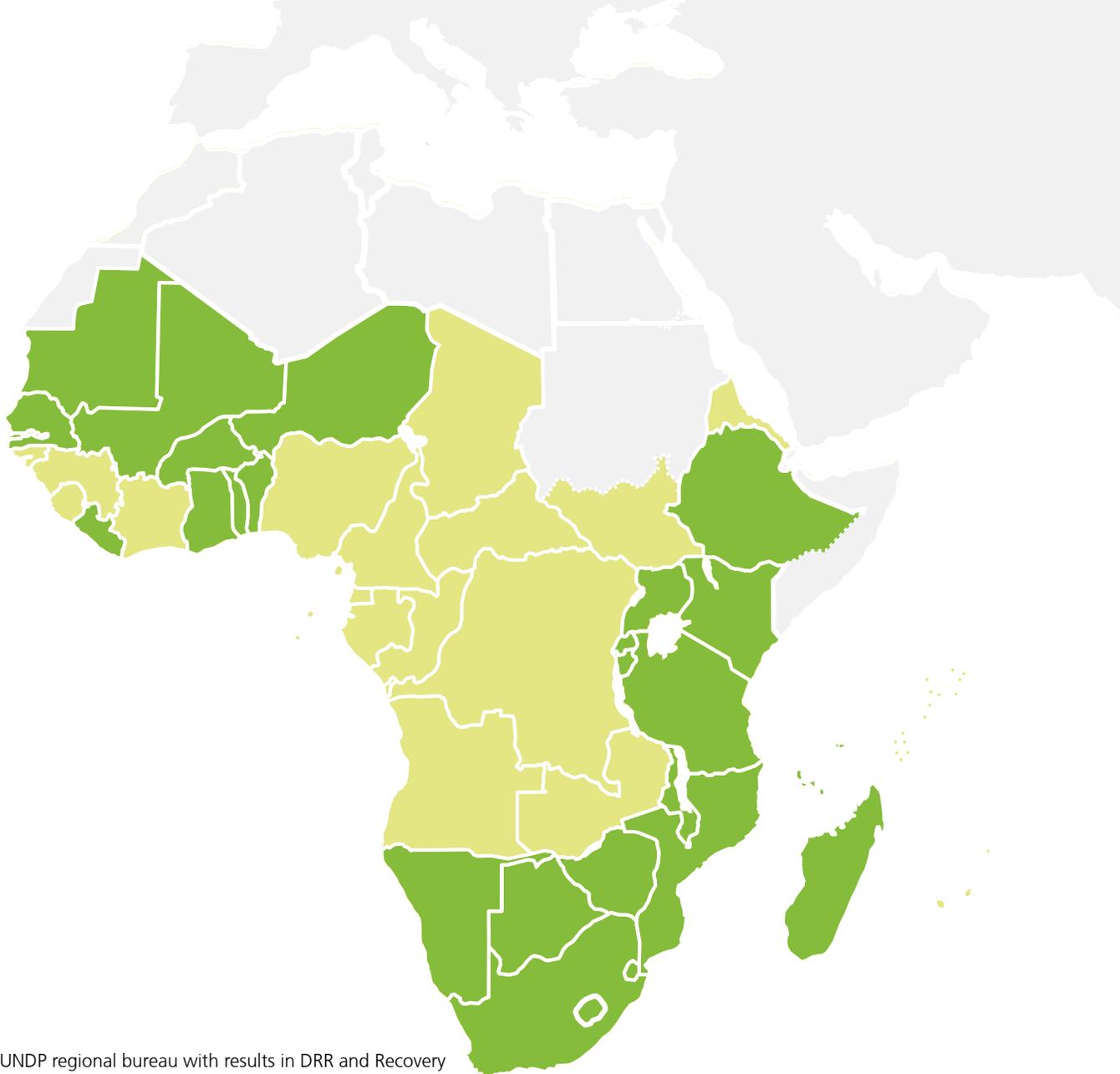


*Local Risk Management Committee volunteers transfer injured people to a tent offering first aid.*

Credit: © UNDP Mozambique

## Milestones

- Establishment of the Department for the Prevention and Combat of Natural Disasters, later replaced by the National Disaster Management Institute **1980**
- National Disaster Management Policy enacted **1999**
- Natural Disasters Prevention Master Plan (2006-2015) approved **2006**
- Annual budget allocations to the INGC reached \$80 million, a 30 percent increase from earlier budgets *Since* **2007**
- Annual contingency plans & simulations developed by the Government *Since* **2009**



-  Countries in UNDP regional bureau with results in DRR and Recovery
-  Remaining countries in UNDP regional bureau

## Africa



**34,000+**

From 2005-2012 more than 34,000 people killed by disasters



**127 million+**

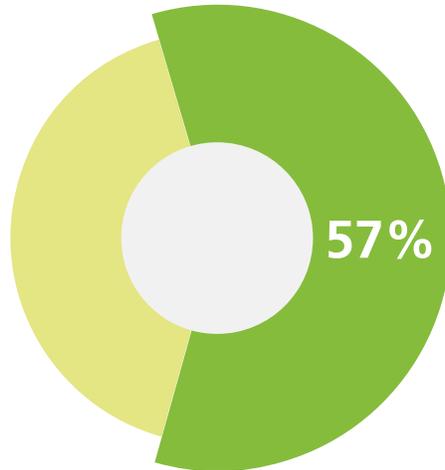
From 2005-2012 over 125 million people affected by disasters



**US\$2.5 billion**

Total damage 2005- 2012

\*source EMDAT/CRED data on countries in UNDP Africa Region



Percentage of countries with UNDP work on **Disaster Risk Reduction & Recovery**

UNDP has assisted

**27**  
countries

in the Africa region with  
**DISASTER  
MANAGEMENT  
PROGRAMMING**

**EARLY  
WARNING  
SYSTEMS**  
established in

**6**  
countries

in the region, including  
**Ethiopia**

**POST-  
DISASTER  
NEEDS  
ASSESSMENTS**

conducted in

**9**

countries

**NATIONAL  
DISASTER  
MANAGEMENT  
AUTHORITIES**  
established in

**12**  
countries

in the region, including  
**Mali**

**RISK  
ASSESSMENT  
& MAPPING**  
completed in

**15**  
countries

to help prevent disaster,  
including  
**Zimbabwe**

**LEGAL  
FRAMEWORKS**  
to support **DRR**  
have been prepared in

**18**

countries  
including  
**Uganda**

**PREPAREDNESS  
& CONTINGENCY  
PLANS**  
have been set up in

**8**

countries  
including  
**The Gambia**



*In the Himalayas, where melting ice glaciers pose a threat to the lives of 210 million people, UNDP is supporting the Government of Bhutan to build hydroelectric dams to avert glacial flooding and install early warning systems along rivers. Photo: workers reducing the risk of glacial outburst floods at Lake Thorthormi, Bhutan.*

Credit: © UNDP Bhutan

# UNDP's Framework for Disaster Risk Reduction and Recovery

Mandated by the General Assembly to undertake disaster prevention and preparedness, UNDP works with the International Strategy for Disaster Risk Reduction (UNISDR) and other partners to advance DRR and recovery globally.<sup>1</sup> In particular, UNDP plays a central role at country level in supporting governments to operationalize the priorities established and agreed to in the Hyogo Framework for Action.

Specifically, UNDP helps operationalize the Framework by responding to requests from government partners to help build capacity to effectively prevent, prepare for and recover from disasters. Bridging the gap between humanitarian and development programming, UNDP provides

technical assistance by generating and compiling knowledge and information, developing human resources and institutional capacities, and providing policy and legal guidance. This assistance is intended to **help develop the capacity of disaster-prone nations to reduce risk through effective governance.**

As described in detail throughout this report, UNDP works at multiple levels, often concurrently, in order to successfully strengthen decision-making processes and governance systems for DRR. In particular, UNDP works to **understand and communicate risk** by supporting national governments in identifying potential hazards and vulnerabilities; implementing early warning systems (EWS); and tracking disaster losses.

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<sup>1</sup> A/RES/54/233 Resolution (22 Dec 1999)



▲ *Community based disaster management project for wetland management in Nepal. Gabion work and growing grass are initiatives often used to prevent soil erosion.*

Credit: © UNDP Nepal

To help **reduce risk**, UNDP assists partner governments by strengthening their governance structures and integrating disaster and climate risk reduction into development policies and plans. This includes developing human resource and institutional capacities, working with legislative systems, and developing operational frameworks for risk reduction.

To help **manage the remaining risk**, UNDP supports preparedness and recovery processes that address losses that could not be prevented.<sup>2</sup> This helps ensure national partners, communities and individuals, can

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<sup>2</sup> UNISDR defines remaining risk as the risk that remains in unmanaged form, even when effective disaster risk reduction measures are in place, and for which emergency response and recovery capacities must be maintained.

effectively anticipate, respond to and recover from the impacts of disasters, while being able to incorporate risk reduction measures into the immediate recovery process.

As national partners and communities are at the forefront in the effort to reduce disaster losses, these constitute UNDP's primary partners. Whilst local communities can contribute with crucial intimate and contextual knowledge, it is governments at the local and central levels who need to be engaged in all DRR processes, so as to ensure the continuum of disaster risk reduction is adequately addressed. This also helps foster an enabling environment for DRR, facilitates the integration of DRR into public policy, and encourages sustainability.

UNDP also partners with international organizations at country level; amongst others, UNDP works with UN Country Teams, international finance institutions and non-governmental organizations, to put in place comprehensive DRR programmes. UNDP also engages in international technical partnerships that deploy relevant technical capacities for coordinated country support. Examples include Post-Disaster Needs Assessments, a collaboration with the UN system, World Bank and European Commission; and capacity development support through the Capacity for Disaster Reduction Initiative (CADRI), a partnership with the Office for the Coordination of Humanitarian Affairs (OCHA), United Nations Children's Fund (UNICEF), World Food Programme (WFP), and the World Health Organization (WHO), with partic-

ipation from the World Bank and International Federation of the Red Cross and Red Crescent (IFRC).

Subsequent sections of the report detail how UNDP works with partners to operationalize the Hyogo Framework and build capacity to reduce disaster risk. Broken into three over-arching components (**understanding and communicating risk**; **reducing risk**; and **managing the remaining risk**) the report provides specific examples from each area to highlight the work being done. As the central theme of this report is the long-term, comprehensive and multi-sectoral nature of successful DRR, many of the examples described in the following pages are a result of the collaborative, multi-faceted work done by UNDP and partners.



◀ *Slope stabilization following the 2005 earthquake.*

Credit: © UNDP Pakistan

## PARTNERSHIPS IN DISASTER RISK REDUCTION

Over 95 percent of UNDP expenditures on DDR and recovery are at country level. Therefore, although UNDP engages in partnerships at all levels, the greatest emphasis is on aligning UNDP's country-level programmes with both national and international partners in high risk countries.

UNDP is increasingly orienting its efforts towards putting in place comprehensive DRR programmes of a scale and scope sufficient to assist high-risk countries to achieve the outcome of the HFA. To do this, UNDP works within a partnership network that includes the UN Development Group of agencies (UNDG), International Finance Institutions (IFIs), and the Inter-agency Standing Committee (IASC), a consortium of humanitarian organizations that includes the International Federation of Red Cross and Red Crescent Societies (IFRC).

In each programme country the UN Resident Coordinator is responsible for coordinating the work of all UN Country Team (UNCT) members. With the Resident Coordinator, the UNCT and the Government, UNDP seeks to ensure that disaster risk reduction is incorporated into the UN Development Assistance Framework (UNDAF), which guides UNCT programmes over five-year programming cycles. This process is done based on guidelines developed specifically for this purpose by UNDP and the UNDG along with UNISDR.

Examples of where UN Resident Coordinators have put in place such programmes with UNDP support include the Risk Management Consortium in **Nepal**, the One-UN programme in **Mozambique**, and UNDAF-driven support for the National Plan of Action for Disaster Risk Reduction and Climate Change Adaptation in **Ghana**. These programmes

bring together the efforts of not just UN organizations, but also IFIs, the Red Cross/Crescent, and other major disaster management actors with country-level presence, in support of government-led strategies and plans.

When disasters happen, in accordance with post-crisis cooperation agreements signed with the European Commission and World Bank, UNDP leads the UN system in the implementation of Post-Disaster Needs Assessments (PDNAs). PDNAs provide an evidence-based comprehensive recovery framework for the government and partners, and is the basis by which UNDP aligns its recovery programmes with those of other organizations. In addition, UNDP also coordinates the IASC Cluster Working Group on Early Recovery, giving UNDP a unique niche in linking immediate response to short and long-term recovery.

UNDP seeks to ensure that arrangements for effective recovery are in place before disasters occur. Through the IASC, UNDP works with organizations that have humanitarian or recovery mandates, including OCHA, UNICEF, WFP, FAO, WHO, the IFRC and the World Bank, to link international preparedness efforts with the development of country preparedness capacity.

UNDP coordinates its technical assistance to country programmes with other partners through a set of multi-stakeholder thematic programmes. These include the International Recovery Platform, the Partnership for Environment and Disaster Risk Reduction, and the Capacity for Disaster Reduction Initiative. Among other things, the latter provides an inter-agency vehicle for incorporating disaster reduction

considerations into UNDAFs. Other partnerships focus on Disaster Reduction Law (with IFRC), global risk assessments, and mainstreaming disaster reduction into development. These programmes draw on and harmonize their respective partners' capacities at country, regional and global levels.

Finally, UNDP engages with private sector partners to engage specific capacities that can be directed towards country support. One of these, the Get Airports Ready for Disaster programme with Deutsche Post DHL, provides training and technical assistance to international airports to enable

them to better handle the needs of humanitarian assistance following disasters. As well, UNDP also engages in the World Economic Forum's Disaster Resource Partnership, through which major international companies provide post-disaster recovery support.

*Local Haitians create fuel briquettes out of recycled material. UNDP's Cash-for-Work programmes have provided critical employment for hundreds of thousands of Haitians. This helps rebuild critical infrastructure while diversifying livelihoods.*

Credit: © UNDP Haiti





In focus:

# Indonesia

**Indonesia is one of the most disaster-prone countries in the world. Frequently affected by natural hazards, the Indonesia National Disaster Management Authority estimates that 60.9 million people are exposed to flood hazards and 124 million are vulnerable to landslides.<sup>2</sup>**

UNDP has been working with the Government of Indonesia and local communities on DRR and recovery for over a decade. By 2003, there were calls from national authorities and civil society to reform the Disaster Management Law, but it was the 2004 tsunami and the 2006 earthquake in Yogyakarta that accelerated public policy interest in advancing DRR. In response, UNDP has since been supporting Indonesian authorities through a two-pronged approach, supporting development of DRR policies and regulatory frameworks, as well as undertaking risk reduction at the community level.

In 2007, UNDP partnered with the UK Department for International Development (DFID), the Australian Agency for International Development (AusAID), the UN Economic and Social Commission for Asia and the Pacific (UNESCAP), UNISDR and the World Bank, to develop a five year national programme to support the Government of Indonesia in strengthening its DRR capacity and achieve the Hyogo Framework priorities. Through the Safer Communities through Disaster Risk Reduction Programme, UNDP and partners have made critical contributions to the new policy, legal and reg-

ulatory frameworks in the country. According to an evaluation completed in 2012, the programme was the first to support the shift to comprehensive disaster management in Indonesia.<sup>3</sup>

Since 2006, important steps have been taken to strengthen the institutional and legal systems for DRR in Indonesia. In March 2007, the Government passed the Law on Disaster Management, which allowed for the development of a National Action Plan for Disaster Reduction 2006–2009, and the establishment of a National Disaster Management Agency (BNPB) to provide DRR guidance and support to ministries, provinces and districts.<sup>4</sup> In addition, Guidelines for the Development of Post-Disaster Rehabilitation were legally endorsed, clarifying roles and responsibilities for recovery processes and ensuring budget allocation for recovery plans.

In 2011, the UNISDR recognized Indonesia's progress and commitment by appointing Indonesia's president, Susilo Bambang Yudhoyono, as the first United Nations global champion for DRR. UNDP's continuous support to the commitment of the Government to strengthen DRR has led to a prioritization of DRR in the national medium term development plan and the national budget.

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2 Based on predictions by the Indonesia National Disaster Management Authority (Badan Nasional Penanggulangan Bencana –BNPB), 20 December 2012.

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3 Hillman, Ben, and Saut Sagala (2012). Safer Communities through Disaster Risk Reduction (SC- DRR) in Development: Project Evaluation. Australian National University, Bandung Institute of Technology for the Government of Indonesia, and UNDP.

4 United Nations Development Programme (2009). Institutional and Legislative Systems for Early Warning and Disaster Risk Reduction – Indonesia. Bangkok.



*Students take shelter under a desk as part of a disaster simulation at Wadoi Primary School in Nabire District of Papua, Indonesia.*

Credit: © Dian Lestariningsih/AusAID

Funding for the disaster management agency and related work now exceeds US\$1 billion per annum, representing over 1 percent of the national budget.

In 2009, the Government with support from UNDP, the United States Agency for International Development/Office of Foreign Disaster Assistance (USAID/OFDA), and the Centre for Research on the Epidemiology of Disasters (CRED), launched a disaster loss database. This database is being used to strengthen the national DRR system and provide critical information for policy development. For example, the database was used to develop a list of

priority districts that are being encouraged to establish their own DRR bodies. The database is also being used by the Ministry of Finance to assign a budget line in the general budget funds, thereby paving the way for funding to the districts that establish their own DRR bodies.

Simultaneous to the national level work being conducted, a three-year Multi-Donor Fund-sponsored DRR programme was developed for Aceh. This project has sought to make disaster risk reduction a core component of the local development process, by establishing institutional arrangements and an enabling environment

to facilitate implementation of DRR. The programme also helped the Government establish the Provincial Disaster Management Authority as the main policy and decision-making body for DRR in the province, as well as helped strengthen local DRR capacities.

UNDP has also supported the Government of Aceh in carrying out a public awareness campaign, which included a disaster preparedness training programme

for over 2,500 people and the development of provincial risk maps for the region. A curriculum for public schools has been developed, in partnership with Aceh's education department, to help students be better prepared in the event of a disaster.

When in January 2012 a 7.9 earthquake struck Aceh, the community, fearing a tsunami, searched for higher ground and sought protection in safe areas. While no



*Fire drill at the Al Manar Islamic boarding school in Banda Aceh.*

Credit: © UNDP Indonesia

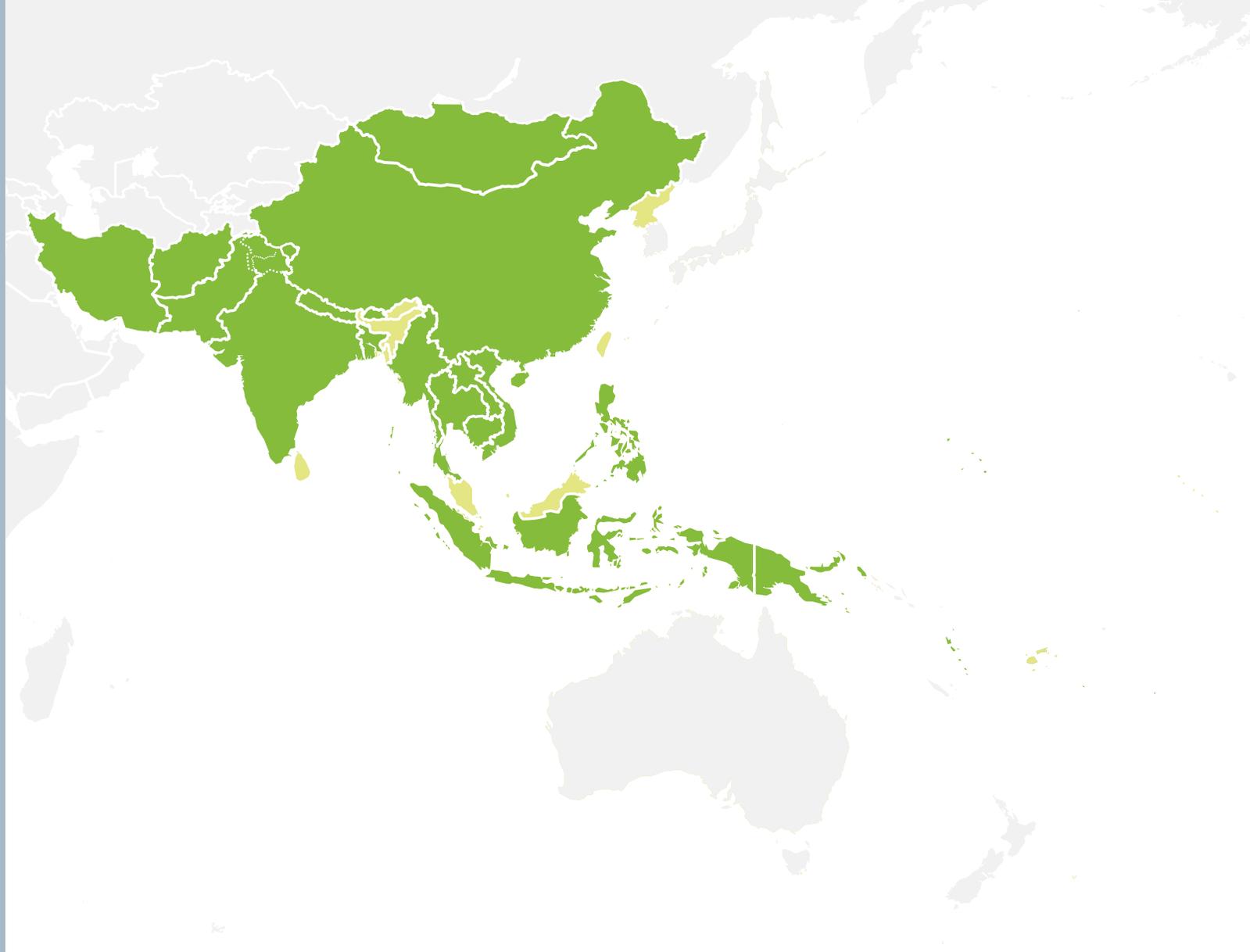
tsunami was generated, the fact that the community had sought higher ground demonstrates improved awareness and preparedness.

Despite progress made in the identification of disaster risks and the reduction of vulnerabilities, disasters continue to affect thousands of people in Indonesia. When they occur, UNDP works alongside government authorities and communities to develop and implement recovery programmes.

When Indonesia's Merapi Volcano erupted in late 2010, killing 340 people, destroying homes and livelihoods, and damaging public infrastructure in five districts of Yogyakarta and Central Java, UNDP provided technical assistance to the BNPB to conduct a Human Recovery Needs Assessment (HRNA). By partnering with the local government and a consortium of local NGOs, UNDP helped mobilize a team to conduct over 500 household surveys, interviews and focus group discussions, to assess both the impact and the recovery needs of the population. The resulting HRNA formed the basis of a national action plan for reconstruction and post-disaster recovery, spurred financial support and fostered cooperation among the various agencies involved. Subsequently, the Government developed their own national disaster assessment guidelines using the UNDP/WB post disaster needs assessment as an example. This is perhaps the only country in the world that has its own PDNA guidelines, with both HRNA and Disaster and Loss Assessment (DaLA) components incorporated.

## Milestones





-  Countries in UNDP regional bureau with results in DRR and Recovery
-  Remaining countries in UNDP regional bureau

## Asia and the Pacific



**380,000+**

From 2005-2012 over 380,000 people killed by disasters



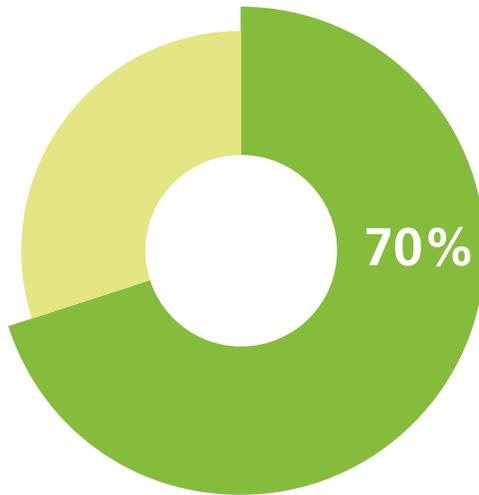
**1.2 billion+**

From 2005-2012 over 1,2 billion people affected by disasters



**US\$317 billion**

Total damage 2005-2012 over US\$317 billion



Percentage of countries with UNDP work on **Disaster Risk Reduction & Recovery**

UNDP has assisted

**26**  
countries in  
Asia and the Pacific  
with  
**DISASTER  
REDUCTION AND  
RECOVERY**

**EARLY  
WARNING  
SYSTEMS**  
established in  
**14**  
countries  
in the region

**POST-  
DISASTER  
NEEDS  
ASSESSMENTS**  
conducted in  
**9**  
countries  
in  
Asia and the Pacific

**NATIONAL  
DISASTER  
MANAGEMENT  
AUTHORITIES**  
established in  
**18**  
countries  
in the region, including  
**Indonesia**

**RISK  
ASSESSMENT  
& MAPPING**  
completed in  
**17**  
countries  
in  
Asia and the Pacific

**LEGAL  
FRAMEWORKS**  
to support **DRM**  
have been prepared in  
**20**  
countries  
including  
**Bangladesh**

**URBAN  
RISK  
PROGRAMMES**  
established in  
**6**  
countries  
in the region



*In communities where people don't have access to radios or televisions and illiteracy is high, there are innovative ways to communicate warnings. Community-based early warning and contingency planning saves lives and livelihoods in Bangladesh.*

Credit: © Amir Jina/UNISDR

# Understanding and Communicating Risk

## Advancing Priorities 2 and 3 of the Hyogo Framework for Action

While there is no particular chronological order to Disaster Risk Reduction, identifying and understanding the risks is often a precursor to political support and resource mobilization. With increased knowledge on existing risks, communities and governments can take actions based on that knowledge.

UNDP uses a number of tools to effectively understand and communicate risk. Amongst these, UNDP helps countries to develop the capacity to prepare **risk assessments**, institutionalize **disaster loss and damage databases** and implement **Early Warning Systems (EWS)**.

### **RISK ASSESSMENTS**

By examining hazard exposure and vulnerability factors, disaster risk assessments provide an evidence base concerning the likelihood of future losses and the causal factors. UNDP works with country-level stakeholders to develop the capacities to prepare risk assessments and apply them to risk reduction decision-making.

For example, in **Jordan**, UNDP worked with the General Directorate of Civil Defence to undertake a risk assessment outlining potential social and physical losses in the region should an earthquake occur. This was achieved by assessing the earthquake hazards,

social and physical vulnerabilities, and exposed assets for each neighbourhood. In addition, UNDP supported the completion of the Amman City Disaster Risk Profile, which will serve as the basis for establishing legal, institutional and organizational arrangements for risk management.

Building on the DRR Plan for Amman, UNDP collaborated with the Swiss Agency for Development and Cooperation to support the Aqaba Special Economic Zone Authority (ASEZA) in successfully integrating seismic risk reduction into its planning and business processes. Aqaba, **Jordan's** only coastal city, is highly vulnerable to earthquakes, yet the existing city plans were only focused on the seismic response and did not address mitigation, nor preparedness measures. With UNDP support, a seismic risk assessment was conducted and the ASEZA Disaster Risk Management Unit was created, thus ensuring that all development and land use planning is risk-sensitive.

As a result of this assessment and follow up, the ASEZA Directorate for Planning is now using the findings and recommendations to make informed decisions on land allocation for commercial and housing projects, reducing their exposure to seismic hazard. **In 2013, these developments led to the recognition of Aqaba as the first Model City for Disaster Risk Reduction in the Arab States by UNISDR.** In addition, the positive results were acknowledged by the neighbouring Petra Development & Tourism Region Authority, with whom UNDP initiated a similar programme to support the integration

of DRR in local development planning in the Petra Region. A fully operational DRR Unit has already been set up with UNDP's support, while additional programmes to strengthen understanding and management of risk are on-going.

UNDP has learned that in order to be successful, risk assessments need to be based on strong collaboration among the scientific community, decision-makers and stakeholders, including local communities and the private sector. Therefore UNDP acts as a convener, coordinating contributions from different actors involved in DRR.

For instance, in 2006 UNDP supported a disaster risk profile for the **Maldives**, which determined the probability of hazards, assessed the range of vulnerabilities in each island, and assigned categories of risk. While the Government had simultaneously been developing a programme that identified 10 potential islands for priority public investment, this was revised when the Government learned that four of the 10 islands had a high risk profile.

Furthermore, in 2009 a Cost Benefit Study of Disaster Risk Mitigation Measures was carried out for three islands, led by the Government of the Maldives with UNDP support. The study was subsequently used in the development of coastal protection guidelines in 2011. The guidelines are also to be used nationwide to enhance the resilience of coastal communities to the impacts of extreme climate events, sea level rise, coastal pressures related to population growth, and ultimately for the integration of climate change risks into island planning.

The Maldives example illustrates the high impact risk assessments can have on risk reduction when linked to decision making processes.

Similarly, in **Sri Lanka** UNDP supported the development of national hazard profiles covering a broad range of hazards, including coastal erosion, drought, flood, landslide, sea level rise, storm surge and tsunami. As a result, local authorities in 10 landslide prone districts adopted legislation requiring new building approvals to take into consideration landslide risk.

Assessing risks related to climate change is a significant part of UNDP's work. In **Peru**, through the Global Risk Identification Programme (GRIP), UNDP supported the completion of a climate risk assessment in 2010. Rising global temperatures are accelerating

the melting of glaciers in the region, which represent an important source of water supply for communities, their livestock, industries, and the generation of hydro-electric power. The assessment led to the development of a regional strategy for climate change adaptation for the state of Arequipa, which seeks to address the consequences of glacier melt on water supply. As a result, new water management and irrigation systems were built, together with food silos and reservoirs, which are assisting communities in the adaptation process. The Arequipa strategy has been used as a model to be replicated in other states of the country. In addition, the Ministry of Education used the information generated to incorporate climate change adaptation into school curricula, produced learning materials for children and trained teachers on climate change.

## GLOBAL RISK IDENTIFICATION PROGRAMME (GRIP)

UNDP promotes the collection and dissemination of disaster risk information through the **Global Risk Identification Programme (GRIP)**. This multi-stakeholder initiative, hosted by UNDP but developed and implemented by a dozen other organizations including the ISDR Secretariat, is a set of harmonized activities which seek to strengthen risk identification, assessment and monitoring at all levels. The programme developed a Disaster Risk Assessment package that provides countries with tools and methodologies for comprehensive disaster risk assessments. The vast amount of information generated through these programmes is available through a web-based platform titled 'GRIPweb', which facilitates the exchange, access and use of risk information.

From its inception in 2007, **over 57 countries have received direct assistance through GRIP** to conduct disaster risk assessments at national and local levels. These assessments have been used in the preparation of both national strategies for DRR and action plans for the management of urban and sectoral risks. By supporting national institutions and engaging various sectors of society in these processes, UNDP develops local capacities and creates an enabling and sustainable environment for implementing strategies. As well, the new knowledge of risks is often incorporated into schoolbooks and curricula to promote a culture of prevention. As of 2013, the risk identification work carried out by GRIP has become fully integrated into UNDP's DRR portfolio.

In 2009, on behalf of the Emergency Shelter Cluster and in collaboration with UN-HABITAT and the IFRC, GRIP supported the city of Tijuana (**Mexico**) in carrying out urban risk assessments to prepare pre-disaster shelter plans. In Tijuana, the project first used historical earthquake data to locate high-risk zones. Damage scenarios were subsequently analysed based on the different soil compositions, building locations, construction types, and population densities and distribution. The estimated damage to buildings was used to determine the number of people that would need shelter during an earthquake and to locate safe areas that could be used as shelters. As a result of the project, 1.5 million inhabitants of the city of Tijuana are better protected against seismic risk and the city now has a clear emergency action plan, which is frequently updated through simulation programmes. Following the project completion, mayors of five other major cities of the State of Baja California signed an agreement to replicate the measures implemented in Tijuana.<sup>1</sup>

### DISASTER LOSS DATABASES

Disaster loss databases are an important component of understanding risk, providing historical information on hazard related loss and damage over time. These databases can be used for validating risk assessments and to monitor the effec-

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1 For more details see: Disaster Risk Assessment and its Use in Decision Making Practice and Experience from Baja California, Mexico (2011). GRIP and CIESE. Available at: [http://www.gripweb.org/gripweb/sites/default/files/documents\\_publications/DRA\\_Situation\\_Analysis\\_BC\\_Mexico\\_2011-11-18.pdf](http://www.gripweb.org/gripweb/sites/default/files/documents_publications/DRA_Situation_Analysis_BC_Mexico_2011-11-18.pdf)

tiveness of implemented DRR measures. Disaster loss data provides evidence on which to base investment decisions, leading to a cost-effective and efficient approach to development.

The UN supported the implementation of the **DesInventar Methodology**, developed by the Network for Social Studies on Disaster Prevention in Latin America in late 1993.<sup>2</sup> This method allows for homogeneous data collection and an analysis of losses caused by disasters; sets quality-standards to exchange information; has fully documented analytical methodologies facilitating implementation; and can be successfully used as a first step towards a full risk assessment.

Through the Regional Programme on Capacity Building for Sustainable Recovery and Risk Reduction (2005-2009), UNDP supported the implementation of DesInventar disaster loss databases in five of the countries most affected by the 2004-tsunami: **India, Indonesia, the Maldives, Sri Lanka, and Thailand**. UNDP worked with government authorities in each of these countries to identify an appropriate 'home' for the database, establishing disaster loss databases within the national DRR framework, supporting the collection and validation of data, conducting analysis, and working to ensure sustainability. Thanks to this initiative, five of the six countries most affected by the 2004-Indian Ocean earthquake and tsunami now have databases that allow them to develop informed and risk-sensitive development policies.

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2 For more information on the DesInventar Methodology and implementation visit <http://www.desinventar.org/>.

For example, in **Sri Lanka** the disaster loss database is recognized as one of the most advanced in the region. With UNDP support, data was collected from different government organizations, including the Epidemiology Unit of the Ministry of Health, the Department of Wildlife Conservation, and the National Building Research Organization; and more than 90 officers from national and district levels were trained on data collection. In 2007, the Sri Lanka Disaster Information System was launched, and by 2012 was transferred successfully to the emergency operating centre of the Disaster Management Centre. The information made available through the disaster loss database revealed to the Government the value of investing in risk reduction, integrating it into the 2010 Vision for the Future. Government investments in DRR have since increased significantly, with budget allocations in 2013 being 25 times larger than in 2009.<sup>3</sup>

The establishment of the Disaster Information System and the strengthening of capacities within the Disaster Management Centre in Sri Lanka, were part of a broader national DRR programme supported by UNDP and composed of seven different projects. Jointly, the projects led to the establishment of EWS for both tsunamis and multi-hazards. Likewise, the project led to the creation of a community based flood and landslide monitoring and early warning mechanism. Finally, national and district level emergency operation centres were established, helping to strengthen local level

<sup>3</sup> In 2009, the budget allocation was of 18.2 million SL Rs. In 2013 the budget allocation was of 465 million SL Rs.



*Coastline affected by erosion in Sierra Leone.*

Credit: © Tommy Trenchard/IRIN

action and overall coordination. Coupled with the national Disaster Information System, these results have had a very positive impact on the accessibility of local communities to disaster information and by extension to a reduction of risk.

The example of Sri Lanka showcases the importance of establishing linkages between the collection and analysis of disaster-loss data with technical capacities and DRR measures. Based on the positive results of the regional programme, UNDP continues to assist countries in the development of disaster loss databases using DesInventar, including in **Belize, Bhutan, Brunei, Cambodia, Liberia, Moldova, Myanmar, Pakistan, the Philippines, and Tunisia.**



- ▲ *A man receives warning about the return of rains in the Somali Region of Ethiopia. Mobile phones are increasingly used to communicate warnings and coordinate preparation activities.*

Credit: © UNISDR

### EARLY WARNING SYSTEMS (EWS)

For some hazards, EWSs are an effective measure that allow at-risk populations to be forewarned and take preventive and preparatory measures before hazards strike. This protects lives and livelihoods, while reducing the potential impact of disasters when they occur. UNDP supports governments to continuously monitor disaster risk and losses – such as through the institutionalization of disaster observatories and the establishment of EWSs.

For instance, in **Bangladesh** the Ministry of Food and Disaster Management, with UNDP support, has established both a 24/7 Disaster Management Information Centre and a National Disaster Response Coordination Centre, to facilitate information sharing, deliver emergency aid in times of

crisis, and help coordinate risk reduction and recovery. Since 2010, with UNDP support, a Cell Broadcast System has been disseminating early warning messages among people and communities at risk. Warning messages are collected from the Flood Forecasting and Warning Centre, which UNDP helped establish, and the Bangladesh Meteorological Department, and are then disseminated through the delivery of text-messages to cell phones. The strengthened EWS has resulted in a substantial increase in community access to information, allowing them to better prepare for and respond to hazard-related risks country-wide.

Across the Pacific region, UNDP is working alongside national authorities to improve EWS through a combination of disaster risk assessments, hazard monitoring

mechanisms, and broad sensitization. To strengthen tsunami early warning in the **Pacific region**, technical and financial support has been provided by UNDP for the development of standard operating procedures, linking regional providers, such as the Hawaii-based Pacific Tsunami Warning Centre, with national and local authorities. National partners then take the responsibility of issuing warnings to their citizens through their respective disaster management authorities.

The effectiveness of the EWS set up with UNDP support in the region was evidenced when a magnitude 9.0 earthquake struck off the coast of **Japan** on 11 March 2011. Within five minutes of the earthquake occurring, more than 120,000 people living in an exposed coastal community in the **Philippines** were alerted to a possible tsunami through messages received on their mobile phones. Although the Philippines' province of Albay suffered only non-destructive waves, some 108,000 people in 150 coastal districts were nonetheless evacuated as a precaution. The number of people forewarned and the fast, efficient delivery of the messages highlights the success of this project in building EWSs with the potential to save lives and reduce losses.

Another UNDP project in **Pakistan** supported the establishment of a tsunami-EWS in mid-2011. Both the British Geological Survey and the U.S. Geological Survey have requested to review this system, which in the future may be replicated in **Oman**.

In the **Maldives**, the Government was provided with over US\$3 million worth of equipment. Funded by the Government of Germany and implemented with UNDP support, equipment included a Doppler Radar, satellite communications systems, and seismometers, among other things. Staff were also trained on the use of the equipment, while local island chiefs were linked to an EWS broadcasting system. As a result, the Maldives is now no longer dependent on India for issuing early warnings and local communities are receiving more timely information.

An important issue affecting the way we understand and communicate risk, and subsequently reduce it, is climate change



▲ *A man carrying his belongings in a styrofoam box tries to reach a rescue boat after flooding in Manila. Climate-related disasters like flooding are on the rise globally. Early warning systems and cooperation among countries are needed to increase resilience to water-related disasters.*

Credit: © Jason Gutierrez/IRIN 2012

and its effects. For instance, one particular consequence of climate change is the accelerated melting of glaciers, which is leading to a rapid accumulation of water in mountaintop lakes in the Himalayan region. While sediments deposited by the glaciers act as a natural barrier containing the lakes, with the accumulating melt water these natural dams are becoming less and less stable. The risk is that these glacial lakes will burst, releasing millions of cubic metres of water and debris in a short period of time. These sudden discharges of water, or Glacial Lake Outburst Floods (GLOFs), are potentially devastating for communities further down. For example, a GLOF event which occurred in **Bhutan** in 1994, released approximately 20 million

cubic metres of water, damaged more than 1,700 acres of agricultural land, washed away five mills and 16 yaks, destroyed six tons of food grains and killed 22 people.

In an effort to help countries address this emerging and increasingly recurrent type of hazard, UNDP has partnered with the European Commission for Humanitarian Aid (ECHO) to undertake the Regional Glacial Lake Outburst Floods (GLOFs) Risk Reduction in the Himalayas Initiative. Implemented from December 2007 to February 2009, the initiative covered **Bhutan, India, Nepal** and **Pakistan**, and focused on strengthening non-structural and community-based capacities.



▲ *Automatic Water Level Monitoring Station (AWLS) in the Lunana region, where the Thorthomi Glacial Lake is located in Bhutan. An Early Warning System has been installed to provide real time glacial lake outburst flood warning to the people living in Punakha-Wangdue and Chamkhar Valley, downstream of the glacial lake.*

Credit: © UNDP Bhutan

For instance, in **Bhutan** UNDP helped identify downstream valleys potentially exposed to GLOFs. Considering that only 7.8 percent of Bhutan's land area is suitable for farming, the risk of decreased agricultural output due to GLOFs is high. As a result of the regional programme, people living in the most at-risk valleys are now covered by an end-to-end flash flood and GLOF EWS. As part of the project, hazard maps were developed and disseminated, and are now being used to highlight hazard prone and vulnerable areas. As a response to the risk assessment, measures have been taken to lower the water level of the glacial lake Thorthomi by more than 3.6 meters, averting a predicted GLOF event. As well, 17 siren towers along the Punakha-Wangdue valley are also providing GLOF early warning to 21 vulnerable communities, while 67 percent of households in the target area have been made aware of evacuation routes.

Similarly, in **Nepal** the regional programme helped identify GLOF risk reduction as a priority project for implementation. The programme strengthened Government capacity on preparedness, response and planning in at least seven communities downstream from one of the most vulnerable glacial lakes. UNDP Nepal is now helping to establish a community-based EWS, which will be linked to the district and central levels through emergency operation centres at both levels. In addition, the Government of Nepal has completed construction of a National Emergency Operations Centre, with



technical support from UNDP and funding from AusAID. The centre will collect, analyse and disseminate information on hazards and coordinate emergency response.

The GLOF Regional Programme has strongly benefited from the joint collaboration of UNDP Country Offices and local partners, who have an intimate understanding of the local context. The project has successfully helped embed knowledge of GLOF risk within the administrative thinking of decision-makers, and effectively led to a reduction in the risk posed by the accelerated melting of glaciers.

▲  
*Community members help prepare risk maps to identify local hazards and vulnerabilities.*

Credit: © UNDP Bhutan



In focus:

# Armenia

**Located in one of the most seismically active areas of the world, Armenia is vulnerable to numerous natural hazards. High levels of urbanization and high incidence of poverty both have the potential to increase hazard exposure and vulnerability in the country.**

In 1988, Armenia was devastated by a massive earthquake, which destroyed over 350 settlements, killed more than 25,000 people and left 514,000 people homeless. The disaster proved an entry point for DRR and led the Government of Armenia to prioritize the development of DRR capacities. Between 1990-1991, both the National Survey for Seismic Protection and the State Emergency Management Administration were established. To support this new focus on DRR, UNDP and OCHA initiated a Disaster Management Training Programme in 1997.

Throughout the following decade Armenia continued to develop its DRR capacities, transitioning from an exclusively post-disaster response strategy to a more comprehensive, long-term approach, with an emphasis on preparedness, awareness and planning. In order to systematize capacity development efforts and identify significant gaps, in 2010 UNDP Armenia, with support from the Capacity for Disaster Reduction Initiative (CAD-RI) and the Capacity Development Group, worked with the Ministry of Emergency Situations (MoES) to design and facilitate a DRR capacity self-assessment. In consultation with the Ministry, the Hyogo Framework for Action was selected as the basis for designing the indicators against which key government officials would measure the DRR system capacities.

This capacity assessment provided a roadmap to the MoES and recommended several strategic actions, including devising a national strategy for DRR; conduct-

ing system wide monitoring and evaluation to support coordination and information management; and establishing a National Disaster Observatory to unify databases. Based on the results of the assessment, an action plan for capacity development was adopted to strengthen the DRR system.

To follow up on the recommendations of the assessment, the Government, supported by UNDP and partners,<sup>4</sup> worked jointly on the development of a National DRR Strategy, which was guided by the priorities of the HFA and the goals of the Armenian National Sustainable Development Programme. The development process was led by a National DRR Platform, established in 2010, and was extremely participatory, emphasizing the leading role of the Government, particularly the MoES, and providing equal opportunities to all DRR stakeholders to become part of the decision making process. In March 2012, the final draft of this strategy was approved by the Prime Minister of Armenia.

In 2011, the MoES implemented a plan to decentralize the DRR system, appointing the Ministry's regional representatives as regional DRR and Hyogo Framework focal points, and setting up both a Crisis Management Centre and a National Disaster Observatory. In order to strengthen understanding of risks, UNDP supported

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<sup>4</sup> Armenian Red Cross, Crisis Management State Academy, Japan International Cooperation Agency, Oxfam, Swiss Development Cooperation Society, UNICEF, WHO, the World Bank, and World Vision Armenia.

the observatory through the Global Risk Identification Programme (GRIP), for the collection, analysis and interpretation of disaster data. The observatory has since been able to create hazard maps for the three major threats – floods, earthquakes and landslides – and regular data monitoring is allowing the Crisis Management Centre to issue early warnings.

At the community level, UNDP supported the MoES in conducting Local Level Risk Management Interventions with a focus on vulnerability and capacity assessments. The methodology used was drawn from a toolbox developed by the IFRC and adapted by UNDP to incorporate climate risk management (CRM) and gender-related components. With the implementation



*The National Disaster Observatory was established in Armenia in 2011 in order to support national risk assessment processes and disaster risk management initiatives.*

Credit: © UNDP Armenia

of the local risk management interventions, UNDP initiated a dynamic process of community mobilization that led to the achievement of four basic requirements for successful DRR community engagement: **common understanding of hazards; common perception of risks; common sense of shared responsibility; and commonly agreed DRR measures relevant to needs and capacities**. Based on the assessments, DRR activities were prioritized and presented to local authorities, and subsequently included in development and operational plans. This led to the implementation of over 18 adaptation and mitigation projects, including an innovative vineyard protection anti-hail-net programme, the construction of embankments to prevent mudflow on agricultural lands, and the reconstruction of a bridge destroyed by heavy flooding.

In addition, under the local risk management project, the Community Risk Certificate has now become an essential community planning tool, circulated among DRR stakeholders for consideration, and presented to the MoES and the Ministry of Territorial Administration to be integrated into the planning templates for community development.

Also in support of the decentralized DRR system, under the leadership of the National DRR Platform a special training package on the introduction of local risk management in the communities was developed. The

training package was subsequently distributed to all 915 communities, 10 DRR regional teams and other DRR stakeholders, to be used as a common education package.

Throughout the support provided to the national and community DRR system, UNDP has consistently encouraged an emphasis on gender mainstreaming. Equal gender participation was ensured during the DRR project implementation thanks to simultaneously held gender sensitive DRR education and awareness campaigns, as well as the provision of equal opportunities to all community members to be actively involved in the local risk management process. The National DRR Platform formed a thematic group on Gender mainstreaming in DRR, promoting the DRR stakeholders' consideration of gender issues in policies and actions. In addition, a study on gender and DRR was conducted and used to inform the development of a Gender Action Plan. This plan aimed to raise awareness and sensitize officials on the benefits and necessity of gender-sensitive DRR. These efforts jointly led to important results, including the inclusion of a DRR-specific chapter within the National Gender Policy implementation plan 2011-2015.<sup>5</sup>

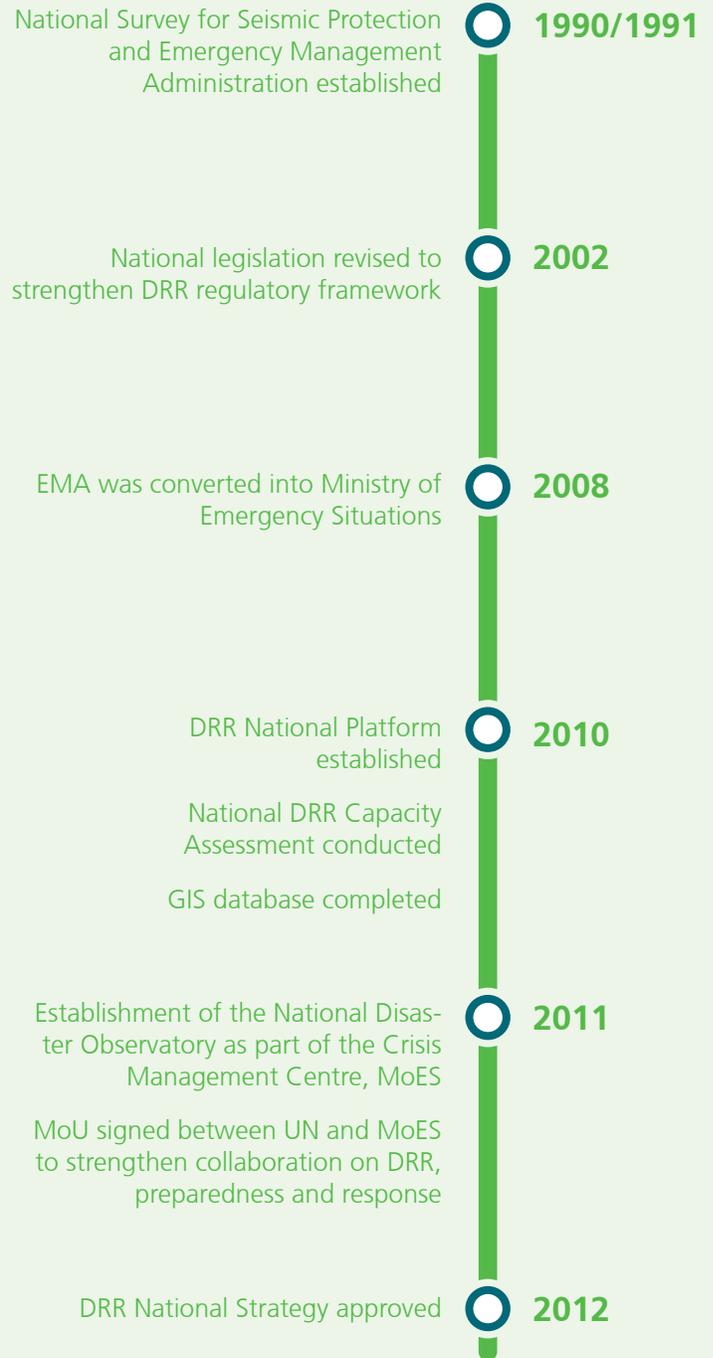
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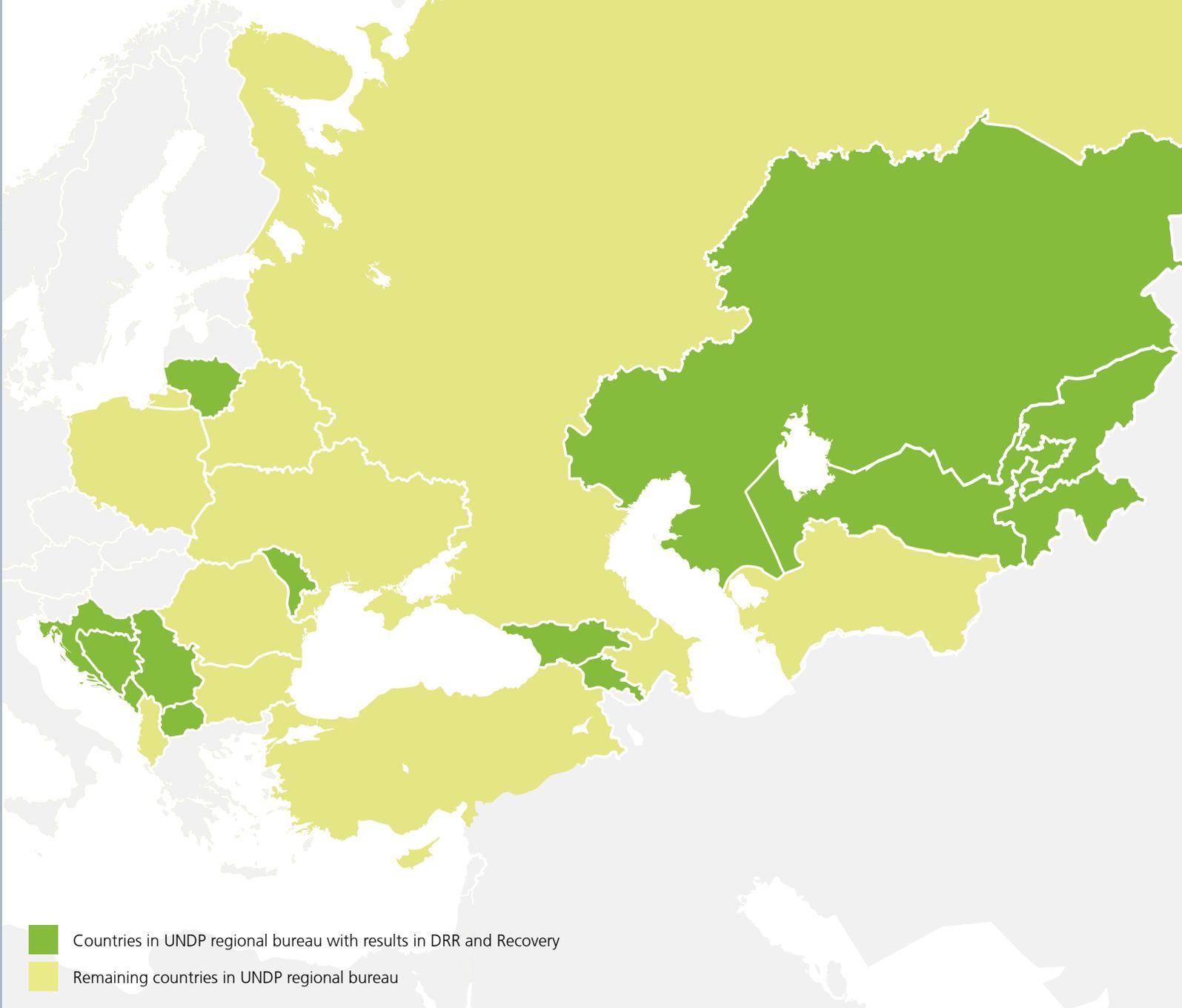
5 UNDP Armenia (2011). Applying Gender Mainstreaming in Disaster Risk Reduction Policy Development / Guideline for Practitioners.

UNDP has also supported south-south cooperation in Armenia. A Memorandum of Understanding has been signed between the Governments of Armenia and Montenegro, through which the Ministry of Emergency Situations of Armenia and the Ministry of Interior of Montenegro committed themselves to strengthening cooperation through the exchange of specialists and information sharing. UNDP also facilitated the signing of a memorandum between the National DRR platforms of Armenia and Kyrgyzstan, through which the parties will cooperate to solve common problems, further improving capabilities for DRR and emergency preparedness.

Through its work with both local communities and the central Government, notably in strengthening institutional and legal systems while helping to increase knowledge on risks, UNDP has accompanied Armenia in its transition from an exclusively disaster response-centred approach to one focused on disaster prevention and risk reduction.

## Milestones





## Europe and Commonwealth of Independent States (ECIS)



**60,000+**

From 2005-2012 more than 60,000 people killed by disasters



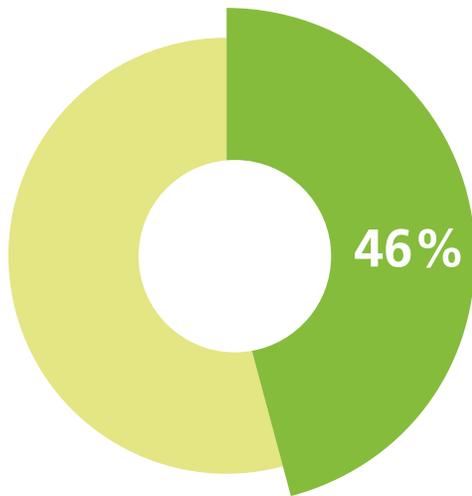
**8 million+**

From 2005-2012 over 8 million people affected by disasters



**US\$20 billion**

Total damage 2005- 2012  
US\$20 billion



Percentage of countries with UNDP work on Disaster Risk Reduction & Recovery

UNDP has supported

12

countries with

**DISASTER RISK REDUCTION**

PREPAREDNESS AND CONTINGENCY

**PLANS**

set up in

Kazakhstan  
Kyrgyzstan  
Moldova and  
Tajikistan

11 countries have mainstreamed **DISASTER MANAGEMENT** into **DEVELOPMENT POLICIES**

**NATIONAL DISASTER MANAGEMENT AUTHORITIES** established in

5

countries in the region

**RISK ASSESSMENT & MAPPING** completed in

6

countries in the region

**LEGAL FRAMEWORKS** to support **DRM** prepared in

7

countries

Tajikistan and **Armenia** have set up

**URBAN RISK PROGRAMMES**

to protect rapidly growing cities



*Children from the Teguis Children's Association for Active Participation in the Philippines plant mangrove saplings. Mangroves provide much needed protection against disastrous typhoons and floods.*

Credit: © UNISDR

# Reducing Risk

## Advancing Priorities 1 and 4 of the Hyogo Framework for Action

One of the core goals of UNDP's DRR work is to enable country partners to reduce risk. UNDP achieves this through a holistic, good-governance oriented approach, involving policies, laws, institutions, and well-planned, sufficiently resourced programmes. Together, these actions enable risk management and reduction. Institutional and legislative systems (ILS) can facilitate information sharing and resource allocation by designating crucial roles and responsibilities, which are then carried out by respective agencies and sectoral partners. In essence, **programmes to reduce risk are borne**

**of governance actions that officialise, plan and budget for them.**

Due to growing risks from urbanization and climate change, additional challenges exist for governance. The goal is to ensure disaster risk information is systematically applied to and considered in development and recovery planning. As this section will describe, this is facilitated by governance systems, raising awareness and mainstreaming risk reduction across sectors, together with the development of capacities and dissemination of best practices.

*58 countries have strengthened their DRR institutional and legal frameworks with UNDP support*

*75 percent of National Disaster Management Authorities in the Asia-Pacific Region have received direct technical and/or financial support from UNDP*

## GOVERNANCE AND DISASTER RISK REDUCTION

Through its country-level work with governments, UNDP's experience has shown that appropriate governance is fundamental if risk considerations are to be factored into development planning, leading to reduced risk.<sup>1</sup> An adequate institutional basis, as well as good governance, is an important prerequisite for DRR.

UNDP's institutional and legislative support to governments in the past two decades has evolved from a disaster-management to a risk-management approach. Whilst in the 1990's efforts were focused on establishing national disaster management authorities (NDMAs) through one-dimensional programmes, the realization that NDMAs needed to be part of a broader public policy reform process prompted UNDP to build on its governance expertise and develop a more holistic approach.

As illustrated by the 'In Focus' country examples placed throughout this report, in an effort to ensure a comprehensive and sustainable approach, UNDP promotes DRR systems that are founded on the principles of 'good governance': broad participation, partnerships, transparency, accountability, rule of law, efficiency, effectiveness, and responsiveness. Good governance in DRR can ensure that adequate operational frameworks, capacities and resources, are made available to enable societies to put in place appropriate measures to prevent, prepare for, manage and recover from disasters.

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<sup>1</sup> United Nations Development Programme (2004). Reducing Disaster Risk: A Challenge for Development. New York.

For example, in the **Solomon Islands**, UNDP worked with the National Disaster Council on the development of a National Disaster Risk Management plan in 2009. The plan was based on a broad consultative process in which communities, agencies, sectors and various levels of government were represented. During the preparation of the plan, UNDP emphasized the need to recognize social inequalities and gender-differentiated needs and impacts. Due to this, the plan promotes DRR initiatives which are gender and child specific, recognizing the different vulnerabilities within the community. Given the concern that, despite a gender-sensitive plan, cultural obstacles would limit women's genuine involvement, the Ministry of Women, Youth and Children is now actively engaged in the implementation process, together with local NGOs and the national Red Cross.

In **Uganda**, UNDP partnered with the Office of the Prime Minister in developing and in facilitating the passage of the National Policy for Disaster Preparedness and Management. This was accompanied by a process of strengthening local capacity in disaster management. Through the Crisis Management and Recovery Programme, UNDP supported the Office of the Prime Minister and the District Disaster Management Technical Committees in northern Uganda (then known as District Disaster Management Committees) by bolstering the capacity of these institutions to coordinate emergency and DRR measures. Committees in 11 districts in the Acholi, Lango and Teso sub-regions, were successfully revitalized or supported in establishing Sub-County Disaster Management Committees. This was

done to ensure that disaster prevention, preparedness and response reach the lowest level of governance. The Committees were trained on DRR and early warning, and the committees remain fully functional, working to improve disaster risk reduction among their communities.

Similarly in **Ghana**, through CADRI, UNDP supported the development of the Ghana Plan of Action for DRR and Climate Adaptation 2011-2015. The plan was a significant achievement, demonstrating the shift in the Government's approach from a reactive one to one of risk management. The plan mobilized different institutions towards addressing disaster risk, building on a collaborative process among multiple stakeholders involved in its development.

UNDP has worked with governments worldwide in the development and strengthening of national disaster management policy, as is illustrated by the cases mentioned above. These policies establish national agencies that will deal with hazards and risks, and describe the counter-measures that need to be taken to reduce them. These agencies coordinate disaster and risk reduction activities by defining roles and responsibilities, allocating resources, providing frameworks for action, implementing disaster prevention and preparedness measures, and coordinating relief and recovery activities and assessments when disasters occur. National DRR policies also play the important role of providing an institutional framework through which budget allocations can be made, consolidating national budget contributions to DRR programmes and facilities.

For example, in the **Dominican Republic**, through a DRR programme implemented from 2006-2010, UNDP worked with national authorities to advance the effective implementation of Law 147-02 on DRR, which called for the creation of a National System for Disaster Prevention, Mitigation and Response (Sistema Nacional para la Prevención, Mitigación y Respuesta ante Desastres). As the system was established, UNDP partnered with UNISDR and the technical support of the Instituto Tecnológico de Santo Domingo and the Facultad Latinoamericana de Ciencias Sociales, to support the strengthening of the national DRR system and the implementation of the aforementioned law. Capacity development programmes were developed to strengthen the DRR system, with special attention paid to integrating gender issues into curriculums and ensuring equal participation. As a result, a national technical committee was established and trained, incorporating representation from 22 different state units. With UNDP's support the Dominican Republic has

*Residents of Soroti (Uganda), assist an elderly resident in crossing a flooded area in September 2012.*

Credit: © John Odong/IRIN



undergone a substantial transformation in its DRR capacity. The country now possesses a National Seismic Risk Reduction Plan, a National DRR Plan, and a National Fund for Prevention, Mitigation and Response. In addition, the number of risk management units at the local level is increasing, further strengthening the coordination capacity of the National Emergency Committee. Moreover, the National Development Strategy 2010-2030, incorporates risk reduction as a crosscutting issue and one of its main pillars, paving the way for a stronger articulation of DRR within development programmes.

As reflected in a review of UNDP's institutional and legislative support for DRR published in 2007, the depth and character of UNDP involvement varies considerably from country to country, responding to the different national contexts. Because the institutions and arrangements established by DRR policies need to be adaptable to changing circumstances, UNDP has been uniquely positioned to assist governments in their further development and reinforcement.

Strengthening institutional and legislative systems is not restricted to the national or central levels. UNDP works with city and sub-national governments to help them integrate their own systems with their national counterparts, thus standardizing and streamlining DRR policies and practices. In **Bolivia** and **Colombia** for example, UNDP was instrumental in the establishment and institutionalization of disaster response systems in Bogotá, Medellín and La Paz. These local systems respond in turn to national systems, the latter of which call for and are constructed upon, decentralized DRR activities. The DRR systems mirror the governance systems in place in each country, where existing legislation and practices strongly support popular participation in decision-making at the local level.

The case of **Nepal** reflects a very different context. The country saw a slow-down of its efforts to develop a Comprehensive Plan for Disaster Management due to the Maoist insurgency of the late 1990s. Following this, UNDP, being present in the country before, during and after the conflict, was able to re-ignite the risk reduction process, leading to the re-establishment of sectoral working groups and the development and approval of a National Strategy for Disaster Risk Management in 2008. Following the approval of this strategy, the Government of Nepal has embarked on the establishment of new institutional, legislative and policy frameworks for DRR.

UNDP also provides instrumental support in complex states, such as in **Afghanistan**. There, UNDP collaborated with the Afghan National Disaster Management Authority to revise the Disaster Management Act. While as yet unfinished, the passing of the

*Community residents actively participating in hazard mapping exercise.*

Credit: © UNDP Peru



Act will signify a shift from a post disaster-response focus to comprehensive DRR, providing a legal basis for the mainstreaming of DRR into development and clearly defining the roles and responsibilities of the Authority. Simultaneously, preparedness and recovery mechanisms and capacities are being formalized and improved, including guidelines for effective and transparent use of the National Emergency Fund and the strengthening of the National Emergency Operations Centre.

In these examples mentioned above, as in many other countries, UNDP was able to identify entry-points to introduce and develop DRR programmes in collaboration with national authorities. UNDP's country knowledge, the relationship developed with communities and governments through other development programmes, and drawing on partnerships at the global, regional and national levels, allowed UNDP to provide instrumental support for the strengthening of institutional and legislative systems for DRR.

### **MAINSTREAMING DRR INTO DEVELOPMENT**

DRR is all too frequently considered as a stand-alone issue, separate from other development considerations. Yet because disasters by definition entail widespread losses, typically across a wide range of sectors and affecting multiple segments of society, to reduce disaster losses and protect investments, DRR must be an integral part of development. Actions must be taken and measures put in place throughout all affected sectors and at multiple levels in society to reduce hazard exposure and vulnerability. This comprehensive approach is necessary for losses to be reduced.

For example, in the years before the 2010 **Haiti** earthquake, bilateral and multilateral ODA supported the development of Haiti's economic infrastructure, roads, hospitals and schools. Yet when the earthquake occurred, it took only minutes for the destruction of hundreds of schools, hospitals and health centres, while kilometres of main roads were destroyed or rendered unusable. This clearly demonstrates the high economic cost and loss of life to which the lack of integration of DRR measures into development in disaster-prone settings will inevitably lead.

To address this need, UNDP focused on the principal development planning tool used by the UN system at country level, the UN Development Assistance Framework (UNDAF). The UNDAF sets the direction for the UN Country Team (UNCT) member agencies' five-year programmes, as agreed with the Government. The inclusion of DRR in the UNDAF is a key entry point for ensuring that DRR is fully integrated into UN country programmes in support of the country's own development efforts. Jointly with the United Nations Development Group (UNDG) and UNISDR, UNDP led the development of guidelines for integrating DRR into the UNDAF preparation process. UNDP provides on-going advice to UN agencies at country level as to how to integrate DRR into development and programming, and has developed and conducts training for UNCT on the integration of DRR and climate change adaptation into national development frameworks. Since the publication of the UNDAF mainstreaming guidelines in 2009, 54 UN country teams have completed new UNDAFs – out of which 51 include reference to DRR issues, only seven

*Since 2009,  
54 UN country  
teams have  
completed new  
UNDAFs – out of  
which 51 include  
reference to  
DRR issues*

of which address DRR as an exclusively preparedness and recovery issue.<sup>2</sup>

On the side of local partners, as a signature activity, UNDP advocates for the importance of incorporating DRR as a central priority in national development frameworks, such as Poverty Reduction Strategy Papers. One of the most salient cases is that of **Peru**, where, following strong advocacy by UNDP, **the Government passed a state policy making DRR integration into development projects mandatory**. Similarly, in **Honduras** UNDP supported the Secretariat of Development Planning in conducting a course for government officials and NGOs on development planning, mainstreaming risk reduction and gender equality. The 45 technicians trained, 55 percent of which were women, have led reviews of the national guidelines for investment and development planning, and have integrated a gender perspective to their work. In a prominent example, **the Finance Secretary of Honduras made DRR mainstreaming mandatory for public financed projects**, while disseminating new guidelines for disaster risk assessments to facilitate the process.

In **Kyrgyzstan**, where UNDP has been working with national authorities on DRR for several years, new laws have been integrating DRR into governance since 2011, and local governments are modifying municipal budgets to include provisions for DRR funding, indicators, and data collection. Likewise, with UNDP support, **Tajikistan** is-

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<sup>2</sup> Information drawn from a UNISDR preliminary report which assesses progress towards DRR mainstreaming in country-level United Nations planning, February 2013.

sued official guidelines for integrating DRR into district development plans and piloted them in 13 districts. These achievements have been a result of continuous advocacy and successful DRR programmes, led by national authorities and supported by multiple partners, including UNDP.

In **Bangladesh**, UNDP is supporting an innovative funding mechanism under the Comprehensive Disaster Management Programme, which is facilitating the mainstreaming of DRR issues into development. To support the implementation of risk reduction measures identified by vulnerable communities, small grants are being provided to NGOs and local governments. Grants are awarded on the basis of risk reduction action plans, developed through Community Risk Assessments and managed by a technical review and approval committee. Over 550 risk reduction interventions, spread across 16 districts, have been funded, including multiple structural mitigation measures, largely towards improving certain facilities or infrastructure at the village level. Approximately US\$ five million has already been distributed. The funding mechanism is not only giving local Disaster Management Committees an opportunity to get involved with the implementation of risk reduction measures, but also encourages local authorities to take ownership of DRR initiatives and increases the level of community participation.

In the Pacific region, UNDP supported the Government of **Cook Islands** in substantively revising the National Sustainable Development Plan (2011-2015), which includes a strategic pillar dedicated to enhancing the resilience of communities to

disasters and climate change. DRR has since been incorporated as a criterion within the screening process for the Government's annual development budget allocation. Similar budgetary considerations have been implemented in **Papua New Guinea** with UNDP support. In that country, risk reduction information and criteria are required for any new public infrastructure investments.

## CLIMATE RISK MANAGEMENT

The Inter-Governmental Panel on Climate Change Special Report on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation, firmly established the linkages between climate change, extreme climate events and disasters.<sup>3</sup> UNDP is moving rapidly to integrate climate change adaptation (CCA) and DRR to address simultaneously the risks to development posed by climate variability and change.

Climate Risk Management (CRM) refers to an integrated approach that advances climate-sensitive decision making. It focuses on development outcomes that are dependent on climatic conditions, such as in agriculture, water resources, food security, health, the environment, urbanism and livelihoods.

One initiative in this area is the Climate Risk Management Technical Assistance Support

<sup>3</sup> IPCC, (2012). *Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation* [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.)]. 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.



▲ *A flood-resilient village in Bangladesh.*  
Credit: © Nasif Ahmed/UNDP Bangladesh

Project (CRM-TASP), through which UNDP supports 17 countries across the globe. The CRM-TASP assists countries to identify risks associated with climate variability and change, define risk reduction priorities, analyse the institutional and policy environment for CRM, and assess capacity needs for CRM implementation. The results are used as a basis for developing comprehensive CRM programmes.

For instance, in **Nepal** climate risk assessments focused on the existing and emerging risks to the agriculture sector have been conducted and completed in 2012 through the CRM-TASP. These assessments have led to the development of risk reduction and adaptation interventions under the Comprehensive Disaster Risk Reduction Programme in six districts. Conducted with six partner NGOs, the programme includes implementation of local level risk reduction plans in 35 villages, which includes training on first aid, early warning systems, search and rescue, and community based DRR.

In **Honduras**, a similar project included an assessment on the impact of climate change on smallholder farmers. Carried out by the Department of Meteorology and the Ministry of Agriculture in June 2012, the assessment identified options related to the improvement of local governance and social organization to reduce climate risks. These recommendations are now being addressed through an integrated CRM initiative led by the Ministry of Agriculture, which aims to build the adaptive capacity of communities and the agriculture sector. The technical capacity of national departments and hydro-met agencies, as well as institutional capacity for risk reduction and adaptation for disaster/climate risk management, is being strengthened with the support of UNDP.

*In Peru, farmers are facing a water shortage due to decreased rains and rapidly shrinking glaciers. Climate change poses serious threats to the agriculture sector in many countries.*

Credit: © UNDP Peru



coffee-crop production. Authorities and communities were supported to use climate-related information for managing the impacts of climate change on coffee crop production, and to mainstream climate risk information into national and local development plans. The assessments have helped inform the development process of a National Climate Change Policy, completed in 2012. They have also analysed the institutional, policy and capacity gaps, and identified a range of risk reduction and adaptation measures to improve climate related coffee production outcomes.

With a view to better understand the dynamics of climate change-induced hazard and vulnerability profiles in the Himalayan region, with the financial assistance of ECHO's Disaster Preparedness unit, UNDP designed a second phase project building on the glacial lake outburst floods (GLOF) Regional Programme concluded in 2009. The Regional Climate Risk Reduction in the Himalayas Project was implemented in all four Phase 1-participating countries: **Bhutan, India, Nepal, and Pakistan**. The new project increased awareness on climate-related risks and CRM, resulting in the inclusion of GLOFs and other hydro-meteorological hazards in many key policy and programme documents, such as the Nepal National Strategy, the Bhutan National Disaster Risk Management Framework (Bhutan), and the Pakistan DRR Policy and DRR Needs Plan. This programme was also followed by the development of a series of multi-million dollar Global Environment Facility-funded GLOF risk reduction projects in Bhutan, Nepal and Pakistan implemented through UNDP, as

well as national level programmes with specific components on CCA. UNDP continues to foster south-south collaboration among these countries, focusing on the linkages between DRR and CRM issues.

Another example of UNDP's work on CRM is the Community-Based Climate Risk Management Programme in **Mexico**, which focuses on ecosystem-based loss and damage reduction associated with hurricanes. A quantitative assessment revealed substantial differences in the damage caused by Hurricane Dean in 2007, in two regions with different biodiversity patterns that experienced similar degrees of hurricane exposure. From the resulting analysis, local authorities and communities realized the valuable protection from winds and storm surges provided by mangroves, especially in reducing damage to houses, crops and fishing boats. Moreover, communities realized that their ecosystems not only helped save lives and infrastructure during a hurricane but also helped speed up recovery following a disaster. Through its analysis and activity in southern Mexico, the CRM project contributed to the incorporation of ecosystem-based disaster reduction into the country's DRR strategy, thus allowing it to better reduce risk related to climate variability and change.

On a larger scale, UNDP-supported CRM programmes help unify efforts among partners, with the expectation that combined results will advance the practice of CRM and DRR globally. In the coming years it is likely that CRM will become the largest component of UNDP's DRR portfolio.

## URBAN RISK MANAGEMENT (URM)

With more than half of the world population living in urban areas, Urban Risk Management (URM) is becoming increasingly important. Studies have shown that rapid, unplanned urban growth leads to increased pressure on social services and governance structures, and to inadequate living conditions for poor populations. Poor or inadequate health and nutrition, chronic unemployment, and a lack of education, constitute permanent threats to physical and psychological security, creating 'everyday risks' which cause small scale disasters on a regular basis. These everyday risks are compounded by natural hazards, resulting in a 'risk accumulation' process specific to urban areas, where risk is constructed and amplified by human activities.

Within its DRR programmes, UNDP has been working with partners across the world to address and minimize urban risk. At the global level, UNDP and the Earthquakes and Megacities Initiative led a consultative process in 2007 that resulted in the establishment of a Global Forum on Urban Risks. The Forum explored how to address the root causes of urban vulnerabilities and defined measures to fill existing gaps in knowledge, policy, organization and practice. It provided an important impulse to advocate, facilitate and support the mainstreaming of DRR issues in urban contexts.

In 2006, UNDP partnered with ProVention Consortium, the International Institute for Environmental Development, and the University of Cape Town, to form the **African Urban Risk Analysis Network (AURAN)**, a regional programme which served as a

platform through which the debate on urban risk management was initiated with governments across Africa. The network was comprised of six African research institutions, with the goal of developing a better understanding of disaster risk in urban areas and the actions required to reduce them. Initially, the network had to confront perceptions that poverty and disasters in Africa are primarily rural problems and that risk could be reduced through well-prepared responses to the disaster. Partnerships built through the programme, information generated through assessments, and the support provided to community level urban risk reduction, all contributed to a change in these perceptions, paving the way to a number of URM programmes being implemented across the continent today.

The AURAN programme also revealed lessons learned, particularly that whilst local level risk reduction measures can have an immediate impact on targeted communities, the engagement of government authorities is crucial to ensure the continuity and sustainability of urban risk management programmes.<sup>4</sup> The AURAN programme was an important stepping stone in developing and disseminating knowledge and raising awareness, specifically on the relevance of assessing how urban development can increase vulnerability and how this can be addressed through efficient risk management programmes.

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4 The countries covered by the programme were: Algeria, Ghana, Kenya, Senegal, South Africa, and Tanzania. Programme results were published in a book (Pelling, Mark, and Ben Wisner. *Disaster Risk Reduction: Cases from Urban Africa*. (London, UK, Earthscan Press, 2009).

Another urban risk programme, the **Andean Cities Programme**, was implemented from 2006-2007, and is a good example of how UNDP engages governments to reduce urban risk. Through the programme, UNDP supported the local and metropolitan governments of five capitals of the Andean Region: Bogotá (**Colombia**), Caracas (**Venezuela**), La Paz (**Bolivia**), Lima (**Peru**), and Quito (**Ecuador**), to collectively promote DRR and preparedness through the sharing of best practices. The programme helped collate various tools and methodologies in urban risk reduction, and the cities of Bogotá and Quito have since developed strategies for risk reduction and preparedness.

In **Peru**, UNDP has been working for over a decade with the national Civil Defence Institute on the implementation of a Sustainable Cities Programme. Through the programme, hazard maps were developed and used to inform proposals on the use of soil and on mitigation measures in 159 municipalities. This has helped local government authorities integrate DRR into urban development plans. To date over 178 sustainability studies have been conducted in 157 municipalities across the country, reaching a population of over seven million. **The programme was recognized as the most significant experience in risk reduction in the Americas by UNISDR, on the occasion of the Regional Platform for Risk Reduction, which took place in Chile in November 2012.**

UNDP has also been working closely with authorities in **Haiti** on urban seismic-risk management. The coastal provinces in the north of the country are at particularly high risk, as they are located along a fault line and have seen high population growth, increased poverty and unplanned development. Following a specific request from the Government, UNDP initiated an urban risk programme in 2012, which focuses on four pillars: i) conducting risk and vulnerability assessments in the four major cities of the North-East and North-West of the country; ii) proposing a budgeted plan for the strengthening of priority infrastructure and incorporating seismic risk into contingency plans; iii) building the capacity of engineers and construction workers on seismic practices, while raising awareness of local governments and communities; and iv) strengthening public policies to better integrate DRR, with specific attention to seismic risk. The project is a good example of a multi-dimensional DRR programme, which seeks to engage local communities, government authorities, and the private sector, to work on awareness raising, capacity development and policy strengthening in an integrated manner.

UNDP is also supporting URM programmes in Asia. In **Pakistan**, following the 2005 earthquake, UNDP collaborated with the Government to implement the Technical Assistance for the Management of Earthquake Early Recovery project. The project included an innovative safer-construction programme, which included facilitating organizations like UNHABITAT and a local



Nepalese NGO, National Society for Earthquake Technology, to provide training to thousands of masons on safe-building practices with local materials. **The programme not only allowed communities to implement recovery actions without the need to wait for national assistance to reach them, but also led to the building of approximately 500,000 permanent earthquake resistant houses.**

The project was subsequently scaled-up by the Government, in collaboration with UN Habitat, during the reconstruction phase. The building code for the earthquake affected area was revised with technical support from UNDP and was enacted as a permanent construction regulation. In parallel, the Earthquake Risk Reduction Project, under the larger National Capacity Building for DRR Programme, also drew from the experience gained, leading to the promotion of safer construction and mason trainings in other earthquake prone parts of the country.

▲  
*Children play in the flooded streets of Sana'a, the capital of Yemen.*

Credit: © Annasofie Flamand /IRIN



▲ *Two local residents walk through the rubble of their ruined homes, which were damaged by the October 2005 earthquake in Pakistan.*

Credit: © Evan Schneider/UN Photo

The Earthquake Risk Reduction and Recovery Preparedness regional project, initiated in 2007 with the support of the Government of **Japan**, also led to important results in urban risk management.<sup>5</sup> Through it, cities in **Bangladesh, Bhutan, India, Nepal,** and **Pakistan** introduced earthquake risk reduction and preparedness measures, such as revised national building codes and guidelines, and developed their capacity through participation in trainings and knowledge sharing events. In **Nepal**, where the project was concluded in December 2010, over 300 people were trained on the structural analysis of buildings and safe building codes, which

<sup>5</sup> For more information see: United Nations Development Programme (2011). Earthquake Risk Reduction and Recovery Preparedness Programme for South Asian Region - Final Synthesis Report.

led to two municipalities incorporating checklists, as per the National Building Code, in the application form for building permits. To illustrate the value of retrofitting structurally unsound buildings, the programme enlisted technical assistance from the Asian Disaster Reduction Centre and Building Research Institute of Japan to conduct seismic assessments in five public buildings, followed by demonstrative seismic retrofitting of the buildings. The combination of 'soft' approaches for raising awareness, coupled with visible results such as the retrofitted buildings, led to increased prioritization of seismic risk among local governments in Nepal.

UNDP's presence in countries and operational capacity also presents an opportunity to support global efforts to raise awareness on

particular issues, such as the World Disaster Reduction Campaign: 'Making Cities Resilient -- My City is Getting Ready' launched by UNISDR in 2010. The campaign builds upon previous global campaigns on safe schools and safe hospitals, and lays down 10 points which can help make cities resilient.

In **Lebanon** for instance, a total of 257 municipalities and the Union of Municipalities have officially joined the Making Cities Resilient Campaign. UNDP has supported the implementation of the campaign across the country and as a result legislations has been reviewed, institutional mechanisms were revisited and enhanced, resources are made available for public awareness, and capacity-building programmes for the media and public sector have increased.

In **Bangladesh**, the UNDP Comprehensive Disaster Management Programme signed an MoU with the Municipality Association, which unites all municipality mayors, and pledged united efforts in their commitment to make cities resilient to emerging urban hazards. The objectives of the MoU include the gradual implementation of the 10 essential points of the 'Making Cities Resilient: My City is Getting Ready' campaign.

Likewise in both **El Salvador** and **Vietnam**, the campaign was launched on the occasion of national forums organized with the support of UNDP. In Vietnam, the five largest cities and most important economic centres of the country, Ho Chi Minh, Ha Noi, Hai Phong, Can Tho and Da Nang, joined the campaign. In El Salvador, participants from municipalities took it upon themselves to review their progress and priorities in the context of the campaign, sending their results to the Government and UNDP in San Salvador.

## DEVELOPING CAPACITIES AND DISSEMINATING KNOWLEDGE

As mentioned, good governance for DRR requires that the general public is sufficiently informed of prevailing natural hazard risks and is able to take the appropriate precautions. Accordingly, UNDP supports universities in the development of curricula and post-graduate degrees on DRR, which in turn contribute to the increased availability of local experts on DRR. For example, programmes have already been rolled out with UNDP support in the Universidad Autónoma de Santo Domingo and the Universidad Nordesatana in **Dominican Republic**; and in the Universidad de San Carlos of **Guatemala**, where the course, initially designed for national planning specialists, was later opened to government officials from all Central American countries.

*A community member is working on building an earthquake resistant school with local techniques in Honduras.*

Credit: © Marcos Rodriguez/UNDP Honduras



The UCA University in **El Salvador** has also established a post-graduate curriculum on gender and DRR, following the provision of technical assistance by UNDP to develop and conduct tailored workshops on DRR and gender in Honduras and El Salvador.

In **Indonesia**, a post-graduate degree programme on disaster management has been created, with UNDP's support, at a leading university in Banda Aceh. This was complemented by the establishment of a think-tank for disaster science and mitigation. Both of these developments are helping increase knowledge and awareness on DRR.

In **Afghanistan**, through the joint support provided by UNDP, the United Nations Environment Programme (UNEP), and the International Centre for Mountain Development at Kabul University, a Department of Environmental Protection and Disaster Management has been established. This was followed by the set-up of a Bachelor's programme on disaster management and environmental protection. By early 2013 an estimated 200 students (about 25 percent of which are women) have pursued the undergraduate course.

Another way through which UNDP is making use of the high volume of knowledge collected through its offices, is the Capacity for Disaster Reduction Initiative (CADRI). Created in 2007, CADRI is an inter-agency programme of UNDP, OCHA, UNICEF, WFP, and WHO, with participation from IFRC and the World Bank Global Facility for Disaster Risk Reduction (GFDRR). Drawing on the capacities of its partner organizations

and their networks, CADRI provides advisory services to national authorities and organizations on capacity assessments and strategy development; assists in training and facilitation services; generates learning packages and capacity development methodologies; and promotes knowledge exchange and networking to foster partnerships and to disseminate good practices.

Findings from an independent evaluation indicate that during the first implementation phase (2007-2012), CADRI successfully brought the UN system and national stakeholders together at country level to develop a robust and coordinated framework for capacity development for DRR. CADRI developed a capacity development concept and methodology that was operationalized in a number of countries, with a focus on capacity assessments; prioritization of capacity development needs; and action planning. CADRI also provided advisory and training services targeting UN agencies, including their Country Teams, governments and other stakeholders at country and regional levels. This ensured that beneficiaries acquired adequate conceptual and operational understanding of DRR in order to implement programmes. Close collaboration among the partner organizations also helped to create momentum and synergies in countries being supported through their respective programmes.

In **Colombia**, UNDP worked with the local Government of the city of Manizales to develop and implement a community programme to address the risk of landslides.



At least 200 female heads of household were trained to act as ‘guardians of the mountainsides’ in their communities. These ‘guardians’ were tasked with promoting risk awareness, monitoring and identifying areas at risk of collapse, maintaining the infrastructure built to stabilize the mountainside, and sharing information to avoid families settling into high-risk areas. The main result of this intervention has been a reduction in the number of landslides happening in Manizales and the alleviation of the threat this hazard poses to human security in the city. Also, there has been a considerable decrease

in human and economic losses, and environmental degradation, through effective monitoring and the maintenance of 49 high-risk mountainside areas.

The compilation and dissemination of knowledge is fundamental to DRR, as acknowledged by the fact that it is the focus of the HFA’s third priority for action. Although in and by itself the dissemination of good practices does not suffice, it can be a catalyst of change, pointing out areas where investments can render positive results in reducing risks and, ultimately, disaster losses.

▲ *Children learn best practices for handling natural disasters—drought, flood, landslide and lightning—through a game similar to “Snakes and Ladders”.*

Credit: © UNDP Sri Lanka



In focus:

# India

**The Indian sub-continent is highly prone to disasters. Poverty, high population density, particularly in urban areas, and environmental degradation are a few of the factors that increase vulnerability to the impact of natural hazards, including floods, droughts, cyclones and earthquakes.**

UNDP has been supporting DRR programmes in India since the mid-1990s, yet it was not until a series of disasters occurred that disaster risk reduction (DRR) was significantly prioritized. A cyclone in Orissa in 1999 and the 2001 Gujarat earthquake both had a deep impact on the country's perception and commitment to DRR. Shortly after the earthquake, the Indian Prime Minister convened a special high level committee tasked with providing recommendations to improve the country's risk reduction systems. Among other things, the recommendations called for the establishment of a Ministry of Disaster Management; the creation of Emergency Operation Centres at state and district levels; the development and integration of disaster management plans (DMPs) at national level; the preparation of DMPs at sub-national and community levels to ensure last-mile implementation; and the passing of a national act for disaster management.

In response to the recommendations, in 2002 an ambitious Disaster Management Programme was launched by the Government of India and UNDP. This massive programme covered approximately 30 percent of India's population, spread over 176 disaster-prone districts in 17 states, and integrated policy, institutional, and community level programmes.

As a result of the programme, the Government was able to establish disaster management centres in 176 districts, including 105 emergency operational centres at district level and strengthened centres in 12 cities. As well, multi-hazard disaster management plans were prepared at district (175), block (1,571), panchayat (32,374), village (157,241) and Urban Local Body (941) levels. As a growing sign of the importance of DRR, the National Disas-

ter Management Plan was highlighted by the Planning Commission of India in its Eleventh Five-Year Planning document (2007-2012), while the Government emphasized the importance of scaling up community based DRR activities, making it a national priority.

The Government/UNDP programme was the cornerstone of a much larger goal of the Government to achieve overall sustainable risk reduction in the most hazard-prone districts of the country. Another programme, the Urban Earthquake Vulnerability Reduction Project, also supported by UNDP, aimed to mainstream earthquake risk reduction initiatives in target Indian cities. As a result, 37 city disaster management plans were prepared, whilst 11 cities amended building development regulations to ensure safer urban habitats. Guidelines for hazard-resistant technologies and training manuals were developed and are being used by city administrations to promote safe construction practices. As well, emergency centres in 23 cities were equipped with information technology systems to address coordination gaps in urban disaster response management.

UNDP supported the completion of hazard risk and vulnerability assessments in Andhra Pradesh, Jalandhar (Punjab), and four districts of West Bengal. These have provided better understanding of risks, which help the respective state governments to formulate appropriate mitigation programmes.

In addition, UNDP provided technical assistance to the National Institute of Disaster Management on the preparation of sector-specific modules to facilitate trainings at national and state levels. Sectoral trainings in the health and education sectors have helped the departments to in-



*Communities empowered to rebuild their homes using disaster resilient techniques and indigenous materials.*

Credit: © Jay Mandal/UNDP India

stitutionalize these trainings in their regular programmes. Most importantly, the central Government established, with UNDP support, a national school curriculum to be implemented in all states of India, which incorporates chapters on hazards and risks, as well as a teachers training module applied by the National Board of Education.

The inclusion of gender was also an important priority of the disaster management plan, recognizing it as a crucial component to ensure coverage of those most vulnerable. For instance, an estimated 75 percent of those most affected by the 2004-Indian Ocean tsunami were women and children. Two programme components received particular attention: first, disaster management teams and committees ensured adequate representation of women at all levels; and second, capacity development of these committees and teams ensured women were trained on first aid, shelter management, and search and rescue. Field-level gender equity initiatives were documented by UNDP in a report, *Women as Equal Partners*, published in 2008 and showcasing women's active involvement in the DRR Programme activities. For example, in the Bhadrak district of Orissa, women were active

members of the village disaster management teams. This led to them emerging as role models for other women and the larger community, helping transcend the traditional gender divide between men and women, and enabling them to participate in the decision making process.

The capacity built by the programmes at the community and government levels proved to be highly effective. In West Bengal, during the floods of 2006 and 2007, the people of Burdhan district effectively responded to the situation using their rescue training and the provision of temporary shelter materials. Similarly, in 2008 the Irrigation Department of West Bengal, with the support of the DRR task forces, repaired breaches along local embankments to protect the area from floods, preventing a disaster. The village of Samiyarpetti in the Cuddalore district of Tamil Nadu provides the best example of the positive impact of DRR. In this case, training to villagers was provided just a month before the 2004 tsunami, as a result, lives lost were relatively lower than similarly exposed towns. An un-trained village just two kilometres away suffered three times as many casualties.

## Milestones

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- 1995** National Centre for Disaster Management established by the Ministry of Agriculture and Cooperative
  - 1999 - 2001** Under leadership of PM, a review of DRR mechanisms in India was conducted, and set recommendations for improvement
  - 2002** Responsibility of Disaster Management handed over to Ministry of Home Affairs from Ministry of Agriculture
  - 2005** Disaster Management Act
  - 2005** NDMA established, led by PM, and DRR Institutions at District levels created
  - 2007** DRR integrated into 11th Five-Year Plan (2007-2012)

Programme evaluations concluded that UNDP's comprehensive support to DRR in India successfully generated a change in mind-set amongst target government authorities and rural communities, placing disaster management higher on the agenda and increasing coping capacities. The programmes made their largest contribution in disaster preparedness, by helping communities and cities identify risk and take necessary precautions.

In addition to the support provided to increase understanding of risk and to strengthen preparedness and recovery capacities, UNDP has also been working to strengthen institutional and legal systems for DRR. A series of consultations with NGOs and academia were recently organized to create awareness about the HFA and to obtain views on post-HFA priorities. Likewise, technical assistance has also been provided for the integration of DRR into the 12th Five-Year Plan and state DRR policies have been formulated in Karnataka, Kerala and Madhya Pradesh. Finally, disaster risk reduction plans have been prepared or revised by governments of 21 states, 75 districts and 45 cities.

To continue building on achievements, UNDP will continue to support the Government at the national and state levels to ensure that the required human resource base of DRR experts is available to secure long-term capacity. UNDP and relevant partners should continue to support emerging national priorities and policies related to risk reduction, and to provide adequate technical support to address emerging challenges, such as the enhanced risks resulting from climate change and variability. Evaluations of UNDP-supported programmes have highlighted the importance of addressing DRR as a development and governance issue, and of maintaining investments in the area over an extended period in order to achieve tangible results. **Today, India has a well-identified DRR structure, committed financial resources, state-wide disaster management plans, and basic facilities that testify to the progress made in the area of DRR.**

## GENDER, SOCIAL EXCLUSION AND DRR

When disasters strike, women, children, youth, the elderly, people with disabilities, and other socially excluded groups tend to be disproportionately affected. Socio-economic and cultural factors discriminate against these groups, preventing them from accessing resources needed to protect themselves and recover from disasters. Women are often poorer, receive less education, and are excluded from political and household decision-making processes that affect their lives. Such economic and social inequities translate into women possessing fewer assets and meagre means which can increase their vulnerability to hazards.

In order to adequately understand risks, it is essential to incorporate gender considerations into analyses of community vulnerabilities and capacities. UNDP supports this approach, considering it critical to ensuring that the differentiated needs of women and men are mainstreamed through the whole spectrum of DRR and recovery. Through this process, efforts are also made to engage women as part of the technical and decision making process.

For example, through a UNDP-supported project in **Lebanon**, an assessment was conducted to review the gender-sensitivity of key documents related to DRR, including policies, plans, laws and regulations, and decision making processes. The assessment, which included interviews with 25 main stakeholders, showed a lack of gender sensitivity in most documents. Simultaneously, it also highlighted that a number of women experts in the fields of fundamental sciences, geophysics,

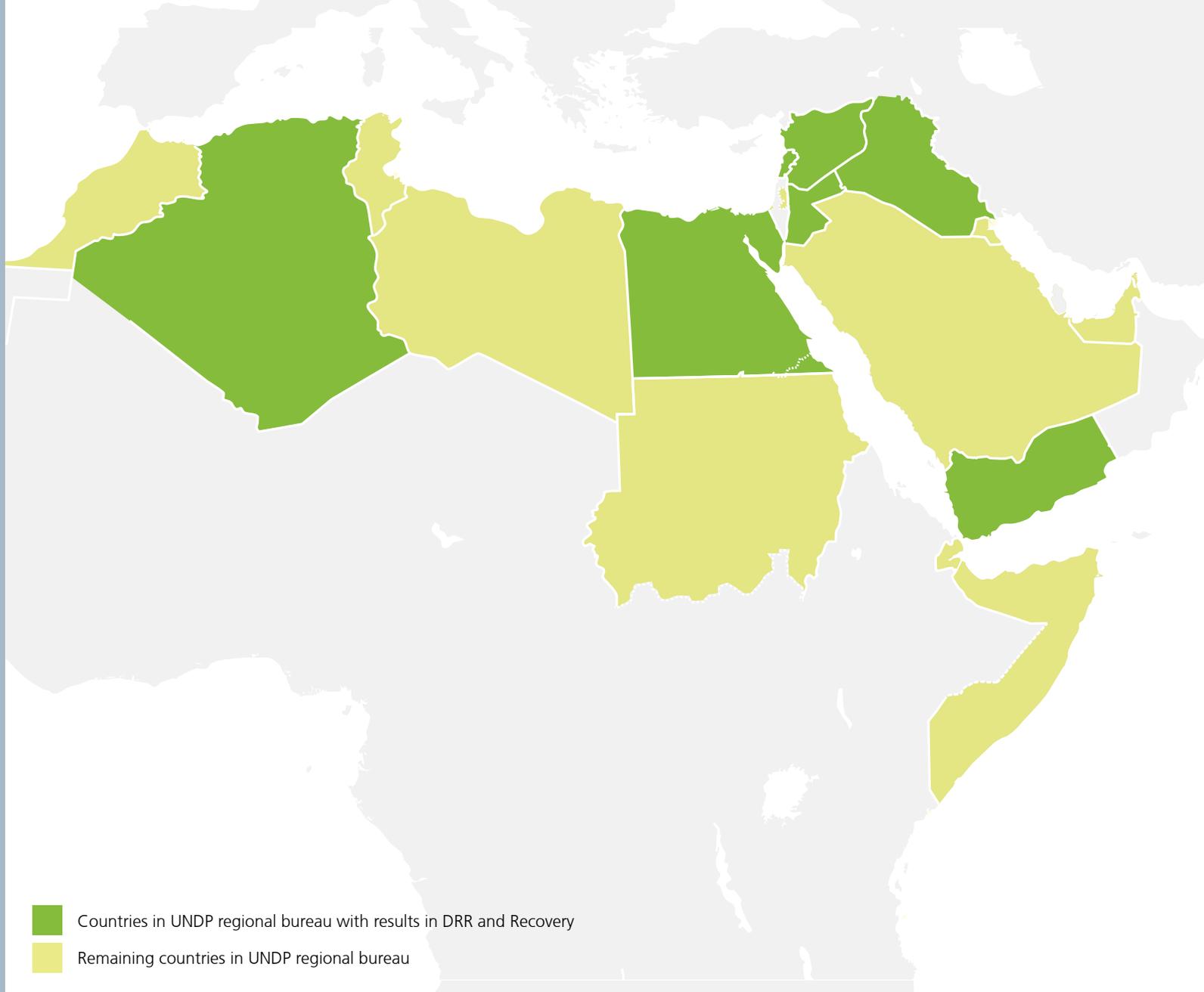
engineering and architecture, were available and could contribute to developing gender sensitivity and preparedness among main state departments and civil society organizations. The report concluded that since disasters are a national concern, sensitization and preparedness should be extended to both public and private sectors institutions, with special attention paid to raising the profile of gender issues among DRR specialists, academia, and NGOs. Through the same project, UNDP worked with the National Commission for Lebanese Women to prepare a National Plan of Action, aiming to incorporate a DRR component into the National Strategy for Women.

Another good example is the **former Yugoslav Republic of Macedonia**, where gender experts were hired by UNDP as part of the DRR project team. The project provided technical guidance to national authorities to ensure the needs of socially vulnerable and ethnic minorities were integrated into vulnerability assessments and crisis management policies. The Crisis Management Centre then established a gender team, appointed a gender coordinator, and adopted a policy on gender budgeting to ensure a percentage of resources were allocated to gender issues.

As illustrated by these examples and others throughout this report, UNDP strives to place women at the heart of DRR programming. UNDP also uses disasters and DRR projects as an entry point to change existing and unequal gender relations, leading to long-term positive results beyond the sphere of disasters.

### Toolbox - Gender Mainstreaming in DRR

- *Making Disaster Risk Reduction Gender-Sensitive: Policy and Practical Guidelines*, UNISDR, UNDP, IUCN, 2009.
- *Integrating gender in disaster management in Small Island Developing States: a guide*, UNDP, 2012.
- *Guidance note on Recovery: Gender*, IRP, UNDP and UNISDR, 2010.
- *The gendered dimensions of disaster risk management and adaptation to climate change - Stories from the Pacific*, AusAid and UNDP, 2008.
- *Gestión de Riesgo con equidad de género: GREG (Risk Management and gender equality)*, CRMI, 2009.
- *Superar la desigualdad, reducir el riesgo: gestión del riesgo de desastres con equidad de género*, UNDP México, 2007.
- *Overview of linkages between Gender and Climate Change*, Global Gender and Climate Alliance (GGCA) and UNDP, 2012.
- Gender community of practice: [www.americalatinagenera.com](http://www.americalatinagenera.com)
- *Women as equal partners: gender dimensions of disaster risk management programme*, Government of India and UNDP India, 2008.
- *Recognise the strength of women and girls in reducing disaster risks: stories from Viet Nam*, Care, ECHO, Oxfam, UNDP Vietnam, UN Women, et al., 2012.



## Arab States



**5,000+**

From 2005-2012 more than 5,000 people killed by disasters



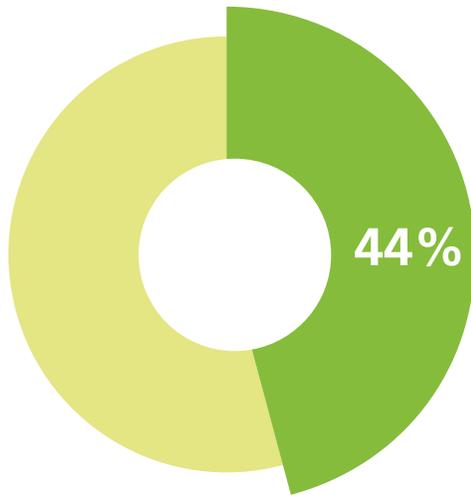
**22 million+**

From 2005-2012 over 22 million people affected by disasters



**US\$3 billion**

Total damage 2005-2012  
US\$3 billion



Percentage of countries with UNDP work on **Disaster Risk Reduction & Recovery**

UNDP has supported

8

countries in building

**DISASTER RISK REDUCTION** capacity

**POST-DISASTER NEEDS ASSESSMENTS**

have been completed following disasters in

**Djibouti** and **Yemen**

**RISK ASSESSMENT & MAPPING** completed in

6

countries in the region

**Jordan** and **Syria**

have mainstreamed

**DISASTER MANAGEMENT DEVELOPMENT** into **POLICIES**

**DISASTER LOSS DATABASES**

have been set up in

4 countries

in the region, including **Lebanon**

UNDP has assisted

4

countries

in preparing

**LEGAL FRAMEWORKS**

to support disaster management

**URBAN RISK MANAGEMENT PROGRAMMES**

have been set up in

**Algeria** and **Jordan**



*Training on rescue operations.*

Credit: © UNDP Pakistan

# Managing Remaining Risk

## Advancing Priorities 4 and 5 of the Hyogo Framework for Action

Even when understanding of risk is improved and communicated, and effective management systems are in place, there is always a measure of risk that remains. Disaster management authorities and communities therefore develop preparedness, response and post-disaster relief and recovery capacities, in order to adequately respond to both expected and un-expected disasters.

### **DISASTER PREPAREDNESS**

Building on its expertise in DRR and its presence in countries before disasters occur, UNDP has been mandated by the General Assembly to work on preparedness.<sup>1</sup> By providing policy guidance, support to the establishment of regulatory frameworks,

and coordination support to preparedness and recovery, UNDP is helping to ensure that the institutional and planning aspects of post-crisis recovery are being addressed before disasters occur.

Within the context of disaster risk reduction, UNDP supports governments to develop capacities to efficiently manage all types of emergencies and achieve a smooth transition from the emergency phase through to effective and sustainable recovery. Preparedness is based on analysis of disaster risks and encompasses a wide range of activities – from contingency planning to stockpiling of equipment and supplies; the clarification of institutional responsibilities and mandates; coordination; and recovery financing arrangements.

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<sup>1</sup> A/RES/52/12B (9 Jan 1998);

UNDP works with local authorities and communities to ensure adequate planning is in place to deal with disasters. In the **Maldives** for example, UNDP supported the development of School Emergency Preparedness and Response Guidelines, which are educating school administrators, staff and students, on the procedures to follow during an emergency. In addition, community-based disaster preparedness plans have been developed in 39 islands across seven atolls, while two atolls have conducted simulation exercises. All of these UNDP-supported measures are helping local communities residing in hazard-exposed areas to be better prepared for storms, tsunamis and earthquakes. Similarly, UNDP, in partnership with UNICEF, has also provided support to the Governments of **Papua New Guinea** and the **Solomon Islands** in the development of education sector DRR plans. These plans have led to the allocation of national development funds for additional preparedness planning for schools in the Solomon Islands.

*Mongolia emergency response simulation.*

Credit: © UNDP Mongolia



In many countries, UNDP supports community-level emergency preparedness initiatives within broader DRR programmes. To mention one example, in the **Dominican Republic**, in addition to supporting the development of a degree on health and disaster risk reduction, through a partnership with the OPS (Organización Panamericana de la Salud) and the European Union, UNDP worked with authorities in the North-East region to strengthen preparedness and response capacities. In total, 60 of the most vulnerable communities were identified and supported to develop risk management plans. These included emergency and contingency plans, and operating procedures for preparedness and response. Evacuation routes have also been identified and, in partnership with the Dominican Red Cross, emergency simulations have been conducted. Reports from community members, local authorities, partners and government officials, document an improvement in the region's DRR capacity following the implementation of the UNDP programmes.

Taking an innovative approach to disaster preparedness and to its work with the private sector, UNDP has partnered with Deutsche Post DHL, the global courier company, under the programme **Get Airports Ready for Disasters** (GARD). The programme aims to improve the operational capacity of airports in potential disaster-sites. Frequently, airports become an essential lifeline in the aftermath of disasters, acting as the main entry point for international assistance, a communications hub, and evacuation

route when needed. Yet as huge volumes of relief goods arrive on an ad-hoc basis, bottlenecks may occur, leading to delays in the delivery of aid. The GARD program focuses on training airport staff, as well as local and government officials, to assess local requirements and create detailed contingency plans. **Through GARD, 15 airports in five different countries (Bangladesh, Indonesia, Lebanon, Nepal and Turkey) have been fully assessed and their staff trained. As well, representatives from 31 local airports have been trained so that they can pass on their knowledge to their airports.** The effectiveness of the GARD trainings will be assessed once participating countries have to respond to large-scale disasters, which have fortunately not occurred to this date.

In southern **Mexico**, UNDP along with a regional team of experts and NGOs, implemented a local risk reduction programme in several indigenous villages. The programme followed a participatory approach, which focused on the development of local risk reduction capacities to cope with disaster risk and included measures to address gender inequality. At the local level, communities and cooperatives conducted risk analysis and prepared emergency plans, damage evaluations, and recovery proposals, all of which differentiated data by sex, allowing for an analysis of gender conditions and needs. Gender-sensitive issues within DRR have been tackled in each village in case-specific ways, responding to local capacities and needs. **As a result of the UNDP supported programme, women**

**in the communities now receive better quality and timely information about prevention, preparedness, response and recovery, thus reducing their vulnerability and hazard exposure.** Women are also reportedly more highly involved in decision making processes and in the negotiation of asset distribution, participating in formal and informal discussions on rehabilitation and recovery plans.

### RESILIENT RECOVERY

Despite their devastating consequences, disasters offer unique, albeit ephemeral, opportunities for change and transformation, especially for strengthening capacities for DRR. Disasters reveal the inherent vulnerabilities present that must be addressed through the recovery process if future disasters are to be avoided. Hence, recovery processes are key opportunities for increasing resilience. This requires moving beyond a process limited to restoring pre-existing structures and services, towards one that will re-orient or re-align fundamental development processes. This can be challenging since resilient recovery requires careful planning and coordination, whilst in the aftermath of disasters there is an urgency to act quickly and 'get back to normal.' Yet evidence has shown time and again the great value added of recovery processes that integrate a transformative mind-set. By mainstreaming DRR into recovery processes, resilience can be increased.

As part of its strategy, UNDP provides post-crisis support to governments for the assess-

*Since the establishment of the Cluster Approach, UNDP has supported the establishment of Early Recovery coordination mechanisms in 37 countries*

ment of recovery needs and for planning, programming and implementing initiatives to facilitate recovery. In addition, UNDP recognizes the opportunity presented by disasters to introduce, through the recovery process, broader DRR programmes. With the memory of the disaster highly present in public and government mind-sets, and the resulting broad public support for DRR in the aftermath, recovery programmes provide an entry point to develop comprehensive DRR programmes and to change what was not working before into resilient development and risk-reducing strategies.

As a result of the 2005 UN humanitarian system review, UNDP was designated the Cluster Lead for Early Recovery (ER), reflecting a shared understanding of the close link between humanitarian, recovery and development interventions. At the global level, UNDP leads the Cluster Working Group on Early Recovery, which focuses on providing guidance to the UN Resident Coordinator and the UN system as a whole; defining and coordinating early recovery work not covered by other clusters, such as governance and DRR, and providing guidance for the integration of early recovery into the work of other clusters.

As part of its responsibilities, UNDP is charged with supporting national authorities in initiating early recovery and transition activities - from short-term, post-crisis recovery to longer-term development. By January 2011, Early Recovery (ER) coordination mechanisms had been established in 37 countries and nearly 100 ER deployments had been completed, backed up by

the Early Recovery Team led by UNDP. These included the deployment of ER Advisors, who provide inter-agency support to the UN humanitarian system; Cluster Coordinators, who support UNDP-led clusters; and ER Specialists, who support UNDP Country Offices in programme implementation. Lastly, as the global lead for the ER cluster, UNDP is responsible for influencing the global policy agenda on humanitarian financing, civilian capacities, and strategic planning; to strengthen the potential for, and impact of, early recovery within international crisis response and recovery efforts.

In addition to this role in inter-agency coordination, UNDP works at the country level through three inter-connected and mutually supportive components: (i) **Strengthened post-crisis governance**, which includes support to reinforce national policy and planning processes and local level implementation capacity; (ii) **Effective local level early recovery**, where UNDP facilitates early recovery programmes at the local level, founded on local government coordination and management; and (iii) **Coordinated Early Recovery Planning**, strengthening the capacity of the Office of the Humanitarian/Resident Coordinator to undertake systematic assessment, analysis, coordination, and planning for early recovery activities, to enable a coordinated approach to early recovery and the establishment of a foundation for a long-term recovery.

Through early recovery programmes, UNDP is able to develop and strengthen synergies with existing programmes implemented in affected countries, building on existing

development processes. For example, in **Bangladesh** UNDP has set up an Early Recovery Facility to help generate self-sustaining, nationally owned, resilient processes for recovery. It does so by providing policy and programmatic support for local and national level recovery, and by promoting the introduction of development oriented interventions in post-disaster situations that promote equity, social inclusion and transparency. **In the past six years UNDP has leveraged and disbursed US\$66 million over three major disasters, benefiting hundreds of thousands of people in Bangladesh.**

For example, as part of the early recovery response to floods in 2007, UNDP worked with communities to construct 3,962 family houses in five affected districts of Bangladesh, as well as assisted community restoration by providing cash for work opportunities for 40,000 men and women. Cash for work initiatives help to immediately reduce the vulnerability of disaster victims by providing them with income, while placing communities at the centre of rebuilding their own infrastructure and shared community resources. In consultation with the Government, other UN agencies, and NGOs, the Early Recovery Facility supported the establishment and effective functioning of an Early Recovery Cluster in Bangladesh, facilitating a more coordinated approach to post-disaster risk reduction.

When disasters occur, they also provide opportunities for undertaking broad reviews of organizational structures, policies, processes, strategies, etc. When acute

phases of disaster recovery are over, and priority shifts once again to development programmes, UNDP is ready to continue supporting disaster risk governance using information drawn from PDNAs, as well as studies made on the impact of a disaster on the attainment of the MDGs, as a stepping stone for the design and revision of disaster risk reduction plans and structures. UNDP works closely with national authorities to ensure that medium and long-term recovery needs are integrated into the planning and implementation of relief response.

For example, in the aftermath of tropical storms Olga and Noel, which hit the **Dominican Republic** in late 2007, UNDP worked with the National Civil Defence to establish five provincial and 23 municipal Disaster Prevention, Mitigation and Response Committees. These committees are

*Pakistan rebuilds livelihoods from devastating floods in 2010.*

Credit: © UNDP Pakistan 2011



tasked with overseeing all DRR work in their areas. Through this support, disaster response coordination was greatly improved in comparison to previous years. Subsequently, UNDP continued to support the creation of these coordination mechanisms across the country, building their capacity to conduct local risk and capacity assessments, and to develop municipal emergency response and risk management plans.

In **China**, when an earthquake struck the Sichuan region in early 2008, UNDP responded to the Government's request for support to strengthen coordination efforts, conduct rapid assessments and initiate early recovery frameworks. With UNDP's support, the State Council Leading Group Office of Poverty Alleviation and Development developed a plan to support the Government in early recovery and DRR. Assessments and policy studies were conducted at the national level by the National Disaster Risk Reduction Centre of China, with a focus on poor rural communities. Based on the findings, UNDP helped build leadership and capacity at the local level through a series of workshops for Government officials and community leaders. Direct technical assistance was also provided to communities for the development of contingency plans and the conducting of exercise drills. As a result of the recovery programme, one of the pilot villages was recognized by the Ministry of Civil Affairs in China as a model community for comprehensive DRR. Another pilot village, which was flooded in July 2010, was able to utilize knowledge and capacities acquired from previous trainings and exercises to improve the response.

For the first time in **China**, UNDP introduced the methodologies of participatory vulnerability analysis, which was broadly applied in post-earthquake assessment and planning. UNDP's promotion and analysis of participatory, community-based disaster risk reduction pilots, contributed toward a policy shift in China in this direction. This was reflected in China's Five-Year National Plan for Comprehensive Disaster Risk Reduction (2011-2015), and the first National Guidance Note on Strengthening Community-Based Disaster Risk Reduction in China. Also, for the first time DRR was incorporated into the new national poverty alleviation strategy (2011-2020), as a key approach to reduce the vulnerabilities of the 1.5 million poor residing in disaster-prone rural China.

In **Tajikistan**, UNDP initiated an Early Recovery-oriented Communities Programme focused on local government capacities and infrastructure to address the effects of recurrent disasters. The programme has assisted local populations in recovering critical public facilities, improve food security and livelihoods, restore infrastructure, and improve DRR and sanitation. The project led to important results, namely the approval of the National Disaster Risk Management Strategy, which included clear recognition of recovery as a major pillar of the DRR process. As well, DRR has also been integrated in the pilot government guidelines for district development planning. These achievements directly contributed to prompt and efficient responses to the Vanj earthquake in January 2010 and the flash floods in Kulyab in May 2010.

UNDP also played a catalytic role in shelter recovery following major disasters in **India**, through the provision of technical assistance with an emphasis on community-driven construction of safer houses. After the devastating Kosi floods in 2008, when nearly 3.3 million people across five districts of Bihar were severely affected, UNDP supported the state Government in instituting an owner-driven reconstruction programme. The support provided to the Government of Bihar through the Owner Driven Reconstruction Collaborative (ODRC), a consortium of NGOs, contributed to technical guidelines for multi-hazard resistant housing, the establishment of social facilitation centres at community level, and institutional capacity building programmes at the panchayat and district levels for recovery implementation. UNDP-ODRC piloted the shelter reconstruction process by undertaking reconstruction of 170 households in affected villages. **Subsequent to the success of the pilot, UNDP provided technical and operational support for scaling up a Government/World Bank-funded programme, which enabled 100,000 families to take the lead role in building their own disaster-resistant houses.**

In addition to the institutional support provided in the aftermath of disasters, UNDP works closely with affected communities to identify and restore local livelihoods. The employment generation programmes led by UNDP in the aftermath of disasters represent one of several effective response options available in the early phase of recovery and helps generate quick wins for affected

populations. These livelihood activities complement humanitarian interventions and provide a bridge from relief to recovery. Cash for work programmes also have the advantage that they can be integrated into more comprehensive safety net programmes and linked to wider social protection schemes.

In **Haiti** for example, the tremendous impact of the 2010 earthquake extended the relief and early recovery phase for over two years. Under the early recovery cluster and working closely with national authorities, UNDP is leading efforts to accelerate the transition towards recovery with the largest job creation programme it has in the world. Since the earthquake, over 300,000 people, over 40 percent of them women, were temporarily employed through more than 230 projects implemented by UNDP in partnership with other UN agencies, local authorities and civil society organizations.

*Villagers in China's Sichuan province work to rebuild a house, part of a UNDP cash-for-work programme after the 2008 earthquake.*

Credit: © UNDP China



Income-generation activities in **Haiti** are not an isolated disaster response intervention, but part of a holistic approach which seeks to tackle DRR as well. **By clearing water canals, sewage systems and roads from debris, the risk of spread of communicable diseases is reduced and potential future disasters averted.** Also, through an initiative of UNDP and the Government of Haiti, Community Support Centres, known locally by the French acronym CARMEN, have been empowering quake-affected communities in Port-au-Prince and the western town of Léogâne to directly take charge of house repairs, backed with engineering assessments and safe construction trainings. Through the project, **5,000 participants have been trained in construction techniques and over 2,000 damaged houses were evaluated. In addition, over 1,000 Haitians received a US\$500 grant to buy certified quality local construction materials through the project's innovative mobile-money transfer scheme,** which takes advantage of mobile phones- the first ever for large-scale post-disaster housing recovery efforts.

In **Ecuador**, UNDP supported a process of resilient recovery following the eruption of the Tungurahua Volcano in 1999. As volcanic ash spewed onto surrounding villages and deteriorated grazing pasture, damaged agricultural land and suffocated planted crops, UNDP worked closely with the local municipality to help diversify livelihoods. Farmers were given the opportunity to learn new skills and supported as they

began new income-generating activities, such as raising small animals, meat processing, production of animal feed, and shoe-making, amongst others. Thanks to the diversification of livelihoods options and the sustained support provided by UNDP to the municipalities, the inhabitants of Cevallos improved their socio-economic status and as a result, were not forced to seek disruptive livelihood alternatives or migrate to other areas of the country. Most importantly, villagers were able to increase their resilience to the continuing eruptions of the volcano, as their reduced dependency on agriculture meant the threat to their livelihoods has decreased.

In **Mongolia**, UNDP worked with national authorities to address the impact of the 2009-2010 dzud, a continuous condition during winter and spring when livestock lack pasture and water resources, losing weight, and perishing in large quantities. This particular dzud led to 8.4 million livestock deaths. Through a UNDP early recovery programme, support was provided for the removal of livestock carcasses, building capacity for alternative livelihoods, strengthening early recovery planning, and implementing a disaster prevention grants programme. Through a livelihoods programme, over two million carcasses were removed and buried, whilst alternative livelihood programmes were implemented for a targeted 1,000 herders affected by the dzud.

In **Honduras**, a gender sensitive early recovery project was developed at the local level, including an online course on gender and DRR. In total, 10 national counterparts

were trained in the use of these gender-sensitive recovery guidelines and were able to apply this methodology for planning the response to storm Agatha in 2010. **As a result of the implementation of this methodology, 40 percent of the cash-for-work days have directly benefited families headed by women**, while specific work activities were designed to allow the access of women to resources.

As illustrated by these examples, resilient recovery needs to be grounded in a demand-driven, nationally-owned disaster needs assessment, in order to avoid rebuilding risk through reconstruction and recovery efforts. It also requires local level planning and piloting of small innovative initiatives, led by communities and local governments, that are part of larger reconstruction plans. In addition, coordination mechanisms need to be established, ideally before disasters occur, to adequately assign roles and responsibilities, avoid overlap, promote more efficient use of resources, and define clear lines of accountability.

### **POST-DISASTER NEEDS ASSESSMENTS**

Frequently, in the aftermath of disasters, humanitarian assessments aiming to cover the immediate relief needs are conducted, while economic assessments, which look at the physical damages and losses, are also carried out. Experience has shown that there is a need for a more unified support to Governments, as well as a more articulated support from the development community, to facilitate a comprehensive assessment as a basis for the recovery process.

Changing the post-disaster process is not easy. Following a disaster, the setting is a complex and demanding environment where the most urgent task is to rapidly assess humanitarian needs and bring life-saving relief assistance to those affected. However this should also include a more comprehensive assessment of the effects of the disaster and the development of a recovery plan. Typically the process has been informed by numerous needs assessments and planning exercises undertaken by individual and/or groups of agencies in parallel. Such assessments have varied in scope and rigor and have been undertaken at different times during the response and recovery phase.

Recognizing the need to build strong partnerships and strengthen coordination and coherence in post-crisis settings, the European Commission, the World Bank and the United Nations Development Group, signed an agreement to harmonize post-crisis assessment methods and recovery planning to better support governments and affected populations with a standardized approach. The Post Disaster Needs Assessment (PDNA) guidelines, developed with UNDP leadership, represent one concrete result of this endeavour.

**These guidelines harmonize the process and methods used by the United Nations and the World Bank to assess, plan and mobilize support for the recovery of countries and populations affected by disasters.**

Since 2008, the PDNA partners have been working jointly to implement, upon the request and under the leadership from governments, a single assessment process

*Since the launch of the PDNA methodology in 2008, 28 PDNAs have been conducted in disaster-affected countries, all with UNDP support.*

that integrates two perspectives into one report. First, on the one hand, this includes the valuation of physical damages and economic losses (the Damage, Loss Needs Assessment or DaLA); and secondly, the identification of human development recovery needs (or HRNA), which gathers information from affected populations and development experts' assessments. The great value added of the PDNA results framework is that it pulls together valuable information on the physical impacts of a disaster, the economic value of the damages and losses, the human impacts as experienced by the affected population, and the resulting early and long-term recovery needs and priorities. These assessed impacts provide a basis for a comprehensive recovery framework, which constitutes an integral PDNA output.

Throughout the process, UNDP is responsible for anchoring the PDNA, on behalf of UNDG, with partners and national governments, while facilitating the leadership of the UN Resident Coordinator and the

participation of UN agencies. UNDP is also responsible for conducting specific sector assessments related to governance, community infrastructure, and DRR, in coordination with relevant partners, and for leveraging the financial and human resources needed to conduct the full PDNA. Overall, UNDP is accountable for the provision of technical and process guidance.

Once a PDNA has been completed, the deliverables include a consolidated, government-owned set of sector reports (one report per sector), and a recovery framework presenting the early, medium and long term recovery needs, including related activities in order of priority, cost and timeline, as well as the actors most likely to be involved. The recovery framework then becomes a planning instrument to provide direction for recovery while addressing new needs arising from the disaster and increasing resilience to future risks.

PDNA processes are intended to be led by governments. The resulting recovery plans proposed by the PDNA require the endorsement of government authorities if they are to be enacted and sustained. If this does not occur, recovery frameworks risk not being implemented and the interest of partners and donors in supporting proposed recovery initiatives may be lost or delayed.

Since 2008, a total of 28 PDNAs have provided a single, consolidated assessment and recovery framework following major disasters in countries as diverse as **El Salvador, Haiti, Indonesia, Namibia** and **Lao People's Democratic Republic**, all with UNDP involvement. The **Haiti** PDNA and Government-owned recovery framework

*Aftermath of Hurricane Sandy in Nicaro, Mayarí municipality, Cuba.*

Credit: © Juan Pablo Carreras/UN photo



provided a basis for US\$10 billion in recovery programme pledges following the January 2010 earthquake. PDNAs have been welcomed by affected countries; in a letter to UNDP Administrator Helen Clark following floods in August 2010, the Prime Minister of **Moldova**, Vladimir Filat, wrote “We highly appreciate United Nations assistance and post-disaster needs assessment provided to the Republic of Moldova. The Government of Moldova avails itself of this opportunity to renew to the United Nations Organization the assurances of its highest consideration.”

Through the years, the World Bank, EU and UNDP have observed increased ownership and proactive engagement by affected governments in the PDNA process, with some governments deciding to customize the PDNA to their specific needs, such as **Indonesia**, **Lao People’s Democratic Republic**, **Nepal** and **the Philippines**, and with regional organizations playing an increasingly important role, such as ASEAN in **Myanmar** and ECOWAS for **West Africa**. There has also been increasing interest from global and regional organizations, bilateral donors and neighbouring countries to participate in the PDNA process, as evidenced by the growing number of recovery reports published by these entities in the aftermath of major disasters.

Yet most importantly, PDNAs have successfully helped partners ensure a more disaster resilient recovery process. In **Indonesia**, the Government has led the development of National Post Disaster Needs Assessment guidelines. This assessment protocol has been used in several disasters, the last being the Mount Merapi Volcanic eruption and the Mentawai

tsunami in 2010. Following the assessment, a recovery and rehabilitation action plan was developed and approved by the National Government, with a budgetary allocation of US\$1.54 million towards livelihoods, education and health care recovery for affected communities. Most importantly, in line with the principles of the HFA, the Government has treated this reconstruction and rehabilitation programme as a strategic opportunity to incorporate DRR considerations across all sectors and activities in order to both ‘*build back safer*’ and ‘*build back better*.’

In **Malawi**, following the Nsanje floods in 2012, UNDP and the World Bank assisted the National Government to conduct a PDNA. Led by the Department of Disaster Management Affairs, the PDNA informed the five-year Malawi Resilience Strategy, which took on board the policy priority areas recommended by the PDNA DRR sector report. The Malawi Government has also invested in training its ministries in the PDNA methodology.

When in 2011 the **Horn of Africa** faced a serious drought, the UNDP-supported PDNA helped inform the regional Drought Resilience Concept, developed and adopted by the Intergovernmental Authority on Development (IGAD), an eight-country regional development organization in East Africa. The assessment report also guided **Kenya** in preparing its national report on ending drought emergencies, as part of the IGAD Drought Disaster Resiliency and Sustainability Initiative that is being supported by the Global Alliance for Drought Resilience and Growth.



In focus:

# Ecuador

**Ecuador regularly suffers disasters triggered by natural hazards. The country is prone to both drought and flooding, and for the past decade has suffered the instability of the Tungurahua volcano. In addition, a number of fault lines within the country are capable of generating strong earthquakes, potentially destructive to densely populated urban centers.**

In 2008 Ecuador experienced devastating floods, prompting the president to call for international assistance and to prioritize disaster risk reduction. UNDP responded to the early recovery needs and built on the momentum generated by the recovery process to support broader DRR. Through a programme that sought to strengthen a decentralized DRR system, UNDP provided technical guidance for the development of a legal framework, which included a revision of constitutional articles and the drafting of a Risk Management Law. This resulted in a National Decentralized System on Disaster Risk Management and a technical coordination entity established at the national level, followed by the creation of a national disaster reduction coordination mechanism, led by the National Secretariat for Risk Management (SNGR, Secretaría Nacional de Gestión de Riesgos). Since then, the Government has continued to reinforce its commitment to DRR, as demonstrated by the average annual budget allocation of US\$254 million through the SNGR.

To develop the operational capacity of the SNGR, UNDP supported the establishment of Emergency Operation Centres, equipping them and training staff so as to increase emergency preparedness and response capacities. These centres are supported by an integrated risk reduction information system, which in turn builds on the strengthened capacity of both the National Institute of Meteorology and Hydrology and the Geophysics Institute, which are both developing weather-related reports that inform the national early warning systems. Still under development, this EWS will serve to trigger contingency plans which are already being developed at the local level.

UNDP has also partnered with seven universities in Ecuador to develop vulnerability and capacity assessment methodologies, which are being used by local government authorities to inform the development of DRR plans and development programmes. For example, the National Association of Municipalities has budgeted resources for municipalities to undertake risk reduction programs. The SNGR is now recognizing these universities as important sources of technical support for the replication of vulnerability studies in other regions. Support was also provided by UNDP to target provinces for the development of municipal flood contingency plans, helping strengthen capacity on preparedness for recovery.

In addition, in light of the existing vulnerabilities, UNDP worked with various municipalities to address urban risk issues. For example, in Quito UNDP supported the implementation of an urban risk management programme, which resulted in the development of a Seismic Risk Plan; the identification of 10 public safe-spaces; and a unified system of geographic information that is being used by organizations such as water and sanitation companies to identify seismic risk issues. UNDP also placed particular focus on the education sector, supporting risk and capacity analysis in selected schools. Guidelines for DRR targeting youth and adolescents were developed in close partnership with NGOs and local authorities. The Ministry of Education is now working to incorporate these guidelines into revised training curriculums for school teachers, which will help further increase local capacity for preparedness and recovery.

All of these efforts have been complemented by an innovative financial programme, which seeks to facilitate access to financial resources in the event of a disaster. Through the programme, the Ecuadorian Development Bank has put together an incentive system to motivate prevention and preparedness activities within municipalities. This is achieved by allowing municipalities to access financial credit, with terms based on their capacities and needs.

While progress has been made in understanding and managing risks, disasters continue to affect Ecuador. In 2010, and more severely in 2011 and 2012, floods affected large areas of the country. In contrast with the situation experienced in 2008, these events were managed by the national and local authorities without the need to request external assistance. A fully functional SNGR, and its decentralized structure through the emergency centres, has been capable of managing the effects of recent disasters, an indication that DRR is rendering positive results. In essence, the sustained support provided by UNDP, working at local and national levels, has led to a more integrated and effective DRR capacity in Ecuador.



*People planting trees on slopes to prevent soil erosion and possible landslides.*

Credit: © UNDP Eduardo

## Milestones





-  Countries in UNDP regional bureau with results in DRR and Recovery
-  Remaining countries in UNDP regional bureau

## Latin America and the Caribbean



**240,000+**

From 2005-2012 more than 240,000 people killed by disasters



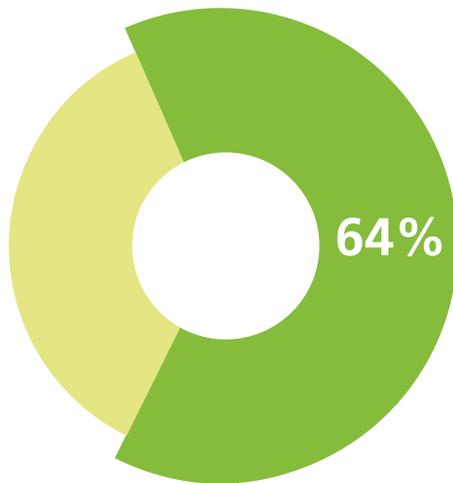
**57 million+**

From 2005-2012 over 57 million people affected by disasters



**US\$85 billion**

Total damage 2005-2012  
US\$85 billion



Percentage of countries with UNDP work on **Disaster Risk Reduction & Recovery**

---

23  
countries

---

in the region with UNDP supported

**DISASTER RISK  
MANAGEMENT**  
results

**EARLY  
WARNING  
SYSTEMS**  
established in

---

5  
countries

---

in the region, including

**Haiti**

**URBAN  
RISK  
PROGRAMMES**  
completed in cities in

---

9

---

countries

---

9

---

countries have

**NATIONAL  
DISASTER  
MANAGEMENT  
AUTHORITIES**

**RISK  
ASSESSMENT  
& MAPPING**  
completed in

---

13  
countries

---

including **Belize** and  
**Uruguay**

**LEGAL  
FRAMEWORKS**  
to support **DRM**  
have been prepared in

---

9  
countries

---

in the region, including  
**Nicaragua**  
and **Paraguay**

---

11

---

countries

have mainstreamed

**DISASTER  
MANAGEMENT**  
into **DEVELOPMENT  
POLICIES**

# The Way Forward

As demonstrated by the results throughout this report, UNDP has been an important global partner in the implementation of the Hyogo Framework for Action, working to achieve the common goal of reducing disaster losses – in lives and in the social, economic, and environmental assets of communities and countries. Founded on strong programmatic, technical and political partnerships at the global, regional, national and sub-national levels, UNDP has been able to advance the integration of DRR into national development frameworks, thus strengthening governance structures and ultimately helping reduce hazard vulnerability and exposure.

## LESSONS LEARNED

Experience from numerous countries has shown that it is possible to achieve substantial reductions in disaster losses, so long as a **systematic, sustained and comprehensive approach is applied**. It is important to unite the efforts of the international system behind a country-led strategy that is based on an assessment of risk and country capacity. The value added of long-term, comprehensive DRR programmes has been showcased by the experiences in Armenia, Ecuador, India, Indonesia and Mozambique.

Successful DRR programmes should also ensure that risk assessments inform development plans and should ideally lead to investments in mitigation measures. In addition, UNDP learned the importance of engaging financial sectors into DRR planning processes to facilitate the leveraging of hard investments to implement DRR plans. Committed financial resources are an important indicator of the progress in DRR.

UNDP has also learned the necessity of country ownership of DRR. Interventions such as risk assessments require the engagement of multiple stakeholders, so that they are not taken purely as technical issues but are linked with other country-level processes – recognizing that there are political dimensions that need to be taken into consideration for risk assessments to be useful. For example, political decisions have an impact on whether findings of risk assessments are taken into consideration in financial allocations and planning processes. Ultimately, **country ownership of DRR programmes has higher chances of leading to development strategies that effectively reduce losses**.

It has also been shown that, to the extent possible, **DRR programmes should be built into existing development instruments**, such as UNDAFs and local development plans, whilst setting up parallel mechanisms and strategies should be avoided, as they can lead to isolation of DRR programmes and limit their effectiveness. Integrating DRR into existing local and national development strategies increases the chances that development will be more disaster-resilient.

Disaster recovery processes need to be conceived as opportunities to improve development strategies and strengthen resilience. Otherwise, investments to recover from disasters rebuild the same exposure and vulnerabilities that caused the disaster in the first place. In addition, we have seen how recovery processes can create opportune entry points to address key systemic and cross-cutting issues, such as the promotion of gender equality, good governance and environmental sustainability.

Experience has also shown that national-level progress does not necessarily trickle down to the local level – as demonstrated by the 2004-tsunami, where DRR systems had been set up at the national level in many countries, yet left some local communities unprepared. Achieving impact on the vulnerability of communities requires working at multiple levels simultaneously – with national authorities and communities alike.

UNDP has also learned the value of developing tailored approaches to DRR programming, which incorporate an understanding of country-specific dynamics and identify the most appropriate opportunities for introducing DRR into governance systems and development processes. Coordinated approaches involving multiple partners, which allow for drawing on multiple areas of expertise from various sources towards a common goal, result in more comprehensive programmes of the scale and scope needed to help countries achieve substantial reductions in losses. By working with partners at the global, regional and national levels, and continuously engaging local communities, UNDP has been able to support more sustainable, locally-adapted risk-reduction programmes. Moreover, this approach allows for the integration of emerging issues related to DRR and recovery, such as urban and climate risk management.

## CHALLENGES UNDP FACES

Despite important lessons learned, there are numerous challenges that UNDP is facing to increase the impact of its DRR and recovery programmes.

While there is a growing consensus on the strong inter-dynamics between climate change adaptation and DRR, these need to be further clarified, conceptually and practically. Country-level actors are already working to address disaster risk and adapt to climate change in an integrated way. However, funding streams for CCA and DRR, like those for recovery and humanitarian response, remain largely disassociated. Yet, as we have learned, climate change is having profound impacts on the way we address DRR. Moreover, from the moment recovery begins there is a need to start working on integrating DRR across sectors and to assist longer term adaptation. Climate adaption funds could be better targeted in this regard, serving a longer term risk-reducing purpose immediately after disaster.

Another challenge UNDP faces is that a high investment in time and resources is needed in order to build strong partnerships and consensus for the successful development of risk assessments, DRR strategies and policies. Yet this need for investment is not always recognized nor prioritized, as results and impact from implemented programmes are expected promptly. UNDP needs to better communicate the value of fostering these partnerships for the success of the DRR programmes UNDP and its partners support.

UNDP also needs to better articulate these challenges to donors and partners, making the case that DRR is above all a development issue not a one-time response and needs to be funded as such. Long-term funding and partnership commitments are essential to the successful implementation of DRR programmes.

In the area of recovery, there is still too much focus on visible measures and not enough on reducing socio-economic vulnerabilities. Re-building houses, irrigation systems and dams, to name a few infrastructure-related examples, is usually prioritized over rehabilitating livelihoods and public services such as education. This challenge is linked to the fact that emergency response remains too disassociated from longer term sustainable DRR and recovery. Despite the knowledge that we can prepare for recovery, preparedness capacities remain limited and under-prioritized, and funding for capacity development for preparedness and recovery is extremely limited.

## LOOKING AHEAD

UNDP is already working to address the challenges identified. Programmes in countries like **Indonesia** and **India** have a strong focus on mainstreaming risk reduction measures across sectors. As of 2013, a number of countries are implementing comprehensive DRR programmes, including **Afghanistan, Albania, Bangladesh, Kyrgyzstan** and **Nepal**; while new programmes that seek to strengthen the linkages between DRR and climate change are also increasing, such as with the **Pacific Risk Resilience** programme, funded by AusAid, which will seek to strengthen governance mechanisms for disasters and climate change in four countries of the region.

In the coming years, UNDP will continue to be strongly engaged in the global debates on the post-2015 agenda; using its knowledge and expertise UNDP will advocate for the inclusion of DRR in development frameworks. UNDP will continue to emphasize partnership building across sectors and regions, including south-south cooperation and knowledge sharing. Going forward, recovery processes will remain an important area of work, seizing the window of opportunity presented by disasters to build more resilient societies. UNDP will also continue to prioritize a comprehensive approach to DRR and recovery, establishing stronger linkages with development programmes, articulating a clearer relationship with CCA interventions, and mainstreaming gender issues, to promote stronger, disaster-resilient national strategies.

Following the 2010 evaluation of UNDP's contribution to DRR, UNDP is working on a country-focused DRR and CRM strategy, as well as a UNDP strategy for recovery. A Strategic Framework, presenting the guiding objectives and outputs which UNDP seeks to achieve in DRR and recovery, is also being developed. These documents place emphasis on the value of long-term and sustained engagement in countries, supported by comprehensive DRR programmes that integrate CRM concerns. In addition, the upcoming UNDP Strategic Plan (2014-2017) strongly emphasizes disaster reduction and links it to climate change adaptation, further reinforcing UNDP's commitment to this field of work.

UNDP's commitment and continued support to DRR and recovery responds to a growing demand from the countries where we work. As demonstrated by the latest HFA monitoring country reports, governments across regions are increasingly making high-level policy commitments to address DRR issues. Many of the most vulnerable countries have by now put in place their DRR related policy, planning and regulatory frameworks, established the institutional mechanisms, and are working to better integrate DRR and CCA-related policy concerns in relevant sectoral policies and plans.

As of early 2013, UNDP was supporting DRR programmes with strong CRM components in 33 countries. This growing national commitment and ownership of the DRR agenda presents an opportunity to make larger investments for resilient nations to protect lives and livelihoods from the impact of disasters and climate change.

Through its DRR programmes and building on past experience and results achieved, UNDP will continue to play a leadership role in strengthening the DRR and recovery practice, sharing expertise and knowledge while building on lessons learned. UNDP will leverage its extensive network of partnerships and continue to work alongside national governments to support their ability to understand, communicate and reduce risk; and to prepare for and recover from disasters arising from the risk that remains.



*Haitian student plants a tree as part of a reforestation project. Trees help mitigate disasters by providing protection to weather events and preventing soil erosion.*

Credit: © Logan Abassi/UN photo

# Acronyms

<b>ASEZA</b>	Aqaba Special Economic Zone Authority, Jordan
<b>AURAN</b>	African Urban Risk Analysis Network
<b>AusAID</b>	Australian Government Overseas Aid Programme
<b>BNPB</b>	National Disaster Management Agency, Indonesia
<b>CADRI</b>	Capacity for Disaster Reduction Initiative
<b>CCA</b>	Climate Change Adaptation
<b>CCs</b>	Cluster Coordinators
<b>CDMP</b>	Comprehensive Disaster Management Programme, Bangladesh
<b>CMC</b>	Crisis Management Centre
<b>CMC</b>	Crisis Management Centre, Macedonia
<b>CRA</b>	Community Risk Assessment
<b>CRM</b>	Climate Risk Management
<b>CRMI</b>	Caribbean Risk Management Initiative
<b>CRM-TASP</b>	Climate Risk Management Technical Assistance Support Project
<b>DaLA</b>	Damage, Loss Needs Assessment
<b>DMC</b>	District Management Committees, India
<b>DRR</b>	Disaster Risk Management
<b>DRRP</b>	Disaster Risk Management Programme, India
<b>DRR</b>	Disaster Risk Reduction
<b>ECHO</b>	European Commission for Humanitarian Aid and Civil Protection
<b>ECLAC</b>	Economic Commission for Latin America and the Caribbean
<b>ECOWAS</b>	Economic Community of West African States
<b>EMI</b>	Earthquakes and Megacities Initiative
<b>EOC</b>	Emergency Operations Centre
<b>ER</b>	Early Recovery
<b>ERAs</b>	Early Recovery Advisers

<b>ERRP</b>	Earthquake Risk Reduction and Recovery Preparedness Programme
<b>GEF</b>	Global Environment Facility
<b>GFDRR</b>	Global Facility for Disaster Reduction and Recovery
<b>GLOF</b>	Glacial Lake Outburst Flood
<b>GRIP</b>	Global Risk Identification Programme
<b>HFA</b>	Hyogo Framework for Action
<b>HRNA</b>	Human Recovery Needs Assessment
<b>IFRC</b>	International Federation of the Red Cross
<b>INGC</b>	National Disaster Management Institute, Mozambique
<b>ISDR</b>	International Strategy for Disaster Reduction
<b>MDGs</b>	Millennium Development Goals
<b>MoES</b>	Ministry of Emergency Situations, Armenia
<b>NDMA</b>	National Disaster Management Authority
<b>NDO</b>	National Disaster Observatory
<b>NDRCC</b>	National Disaster Risk Reduction Centre of China
<b>NDRRP</b>	National Disaster Risk Management Plan, Solomon Islands
<b>NDRRS</b>	National Disaster Risk Management Strategy, Tajikistan
<b>OCHA</b>	United Nations Office for the Coordination of Humanitarian Affairs
<b>PDNAs</b>	Post Disaster Needs Assessments
<b>SCDRR</b>	Safer Communities through Disaster Risk Reduction, Indonesia
<b>SNGR</b>	National Secretariat for Risk Management, Ecuador
<b>SU-SSC</b>	UNDP Special Unit for South-South Cooperation
<b>UEVP</b>	Urban Earthquake Vulnerability Project, India
<b>UN ECLAC</b>	UN Economic Commission for Latin America and the Caribbean
<b>UN GA</b>	UN General Assembly
<b>UNISDR</b>	Secretariat of the UN International Strategy for Disaster Reduction
<b>UNDAF</b>	UN Development Assistance Framework
<b>UNDG</b>	United Nations Development Group
<b>UNDP</b>	United Nations Development Programme
<b>URM</b>	Urban Risk Management
<b>USAID</b>	United States Agency for International Development

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