



Empowered lives.
Resilient nations.

UNDP AND THE HYOGO FRAMEWORK FOR ACTION

10 Years of Reducing Disaster Risk

If it isn't risk-informed, it isn't sustainable

WHY UNDP?

The United Nations Development Programme (UNDP) offers direct and sustained risk reduction through development in investment totaling US\$5 billion annually, building resilience and driving change throughout its 177 country offices. It has committed to doubling its support to the implementation of DRR at a country level over the next five years through the following:

COMPREHENSIVE PROGRAMS OF RISK GOVERNANCE	Moving away from stand-alone programming and towards long-term engagements at a country level	RISK-INFORMED DEVELOPMENT
UNDERSTANDING OF THE COMPLEXITY OF COUNTRY-LEVEL RISK REDUCTION	Bringing experience from contexts of conflict, poverty and climate change	
FOCUS ON EVIDENCE AND INNOVATION	UNDP will invest heavily in ensuring not only that its activities are underpinned by lessons learnt and evidence, but are also continually informed by cutting-edge innovation	
RENEWED EMPHASIS ON LOCAL-LEVEL IMPLEMENTATION	Building sustained capacity for risk reduction for all actors where it most counts	
ASSISTING GOVERNMENTS IN MAKING THE SUCCESSOR TO THE HFA BOTH A NATIONAL AND A LOCAL PRIORITY	Building on its ongoing engagement, and recognizing that different countries are at different stages of evolution in their DRR practice	

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INTRODUCTION: UNDP AND DISASTER RISK REDUCTION

A changing climate and rapidly growing exposure to disaster risk present the world with an unprecedented challenge. Disasters affect all countries, but for developing countries, which are both more likely to be affected and less able to cope with the impact, the challenge is particularly severe. These countries face mounting losses from a range of natural hazards—from earthquakes to severe flooding, from storms to droughts—as well as a climate threat that impacts both agriculture and health, both energy and water resources. Decades of development progress hang in the balance, and could very well be rolled back.

The United Nations Development Programme (UNDP) works to integrate issues of climate, disaster risk and energy at a country level, and to focus on building resilience and ensuring that development remains risk-informed and sustainable. In the 10 years since the launch of the Hyogo Framework for Action (HFA) in 2005, UNDP has invested just under US\$1.7 billion in 163 countries to build capacity to effectively prevent, prepare for and recover from disasters.

UNDP's comprehensive approach to disaster risk reduction (DRR) includes three interconnected strategic objectives, targeted to assist governments to deliver development that is risk-informed.

- **Understanding and communicating risk:** UNDP supports national and local governments (as well as other stakeholders) to identify hazards and the exposure of populations and assets, and to uncover communities' underlying vulnerabilities. In doing so, it works with partners to develop short-, medium- and long-term risk reduction strategies (ranging from the establishment of end-to-end early warning systems to risk-sensitive land use planning), while also establishing geo-referenced damage and loss databases to facilitate trend analyses and to evaluate the efficacy of disaster reduction efforts.
- **Reducing risk:** UNDP supports risk governance at the national and sub-national levels to ensure that all new development is informed by disaster risk considerations, and systematic efforts are undertaken to tackle risk that has been created as a result of past development choices. This work involves putting in place appropriate legislative, policy, institutional and financing mechanisms at the national and sub-national levels, as well as implementing robust transparency and accountability mechanisms. Specific UNDP support also includes drafting and amending policies and laws; building capacity in institutions; and supporting the implementation of targeted risk reduction measures.
- **Managing the remaining risk:** It is not possible to completely eliminate disaster risk. UNDP works with countries to manage and mitigate the remaining risk through preparedness measures, pre-disaster recovery planning, recovery programming and the implementation of post-disaster needs assessments. Particular focus is placed on ensuring that the recovery phase is a catalyst for deepening and widening risk reduction efforts in the long term.

These objectives are linked directly to UNDP's strategic plan, 'Changing with the World, 2014–2017'¹ through a series of outcomes on disaster, climate change and recovery, and they directly contribute to UNDP's long-term objectives of empowering lives and building resilience.

THE HYOGO FRAMEWORK FOR ACTION, AND ITS SUCCESSOR

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 the 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 five priorities for action:

1. Ensure that DRR is both 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.
5. Strengthen disaster preparedness for effective response at all levels.



UNDP has actively engaged in supporting the development of the post-2015 framework for DRR. This has included taking stock of the achievements and lessons learned from the implementation of the HFA, as well as providing a forum in which Member States can voice their aspirations for the future of DRR. UNDP has supported regional and country-level consultations and has provided technical advice and support to Member States during negotiations over the post-2015 framework.

For UNDP, disaster risk and development should be treated as inseparable in the successor agreement to the HFA; this will help to ensure that both current and emerging risks inherent to development are addressed. For this to take place, there is a need to shift the emphasis from advocacy to implementation, with particular attention to disaster risk governance and building resilience through recovery. To be successful, the successor agreement to the HFA has to focus on the strengths of a global framework: advocacy, communications and the setting of standards. It should be a supporting tool, organized to help national governments set and meet their commitments and bringing together a wider range of international and national stakeholders around a shared set of objectives. For this to happen, the successor to the HFA must evolve past having solely a disaster risk focus and be reoriented toward development in general, which will help build synergies across complex contexts.

UNDP strongly believes therefore that the successor to the HFA must be both compatible with and integral to other global development frameworks (on sustainable development and climate) while also providing a practical vision for implementing policies at the country level.

USING THIS REPORT

This report outlines UNDP's engagement in implementing the HFA and highlights the results that it has achieved in the years 2005–2014. Based on the report, 'Protecting Development from Disasters: UNDP's Support to the Hyogo Framework for Action², it includes updated information in terms of countries in which the organization has worked and the range of its activities.

The report examines the work of UNDP at both global and regional levels, through the investment it has made in DRR and the activities it has undertaken, in the three strategic areas of understanding and communicating risk, reducing risk and managing the remaining risk. This is followed by country examples that highlight how UNDP works to deliver on DRR across every kind of context. These examples, identified through a particular intervention in the understanding, reduction or management of risk, provide a snapshot of UNDP's engagement in that country, and almost always form part of the bigger picture of helping countries to ensure that development is risk-informed. At the end of the report, some of the global initiatives through which UNDP works are outlined, as well as the organization's work on climate change and especially on climate risk management.

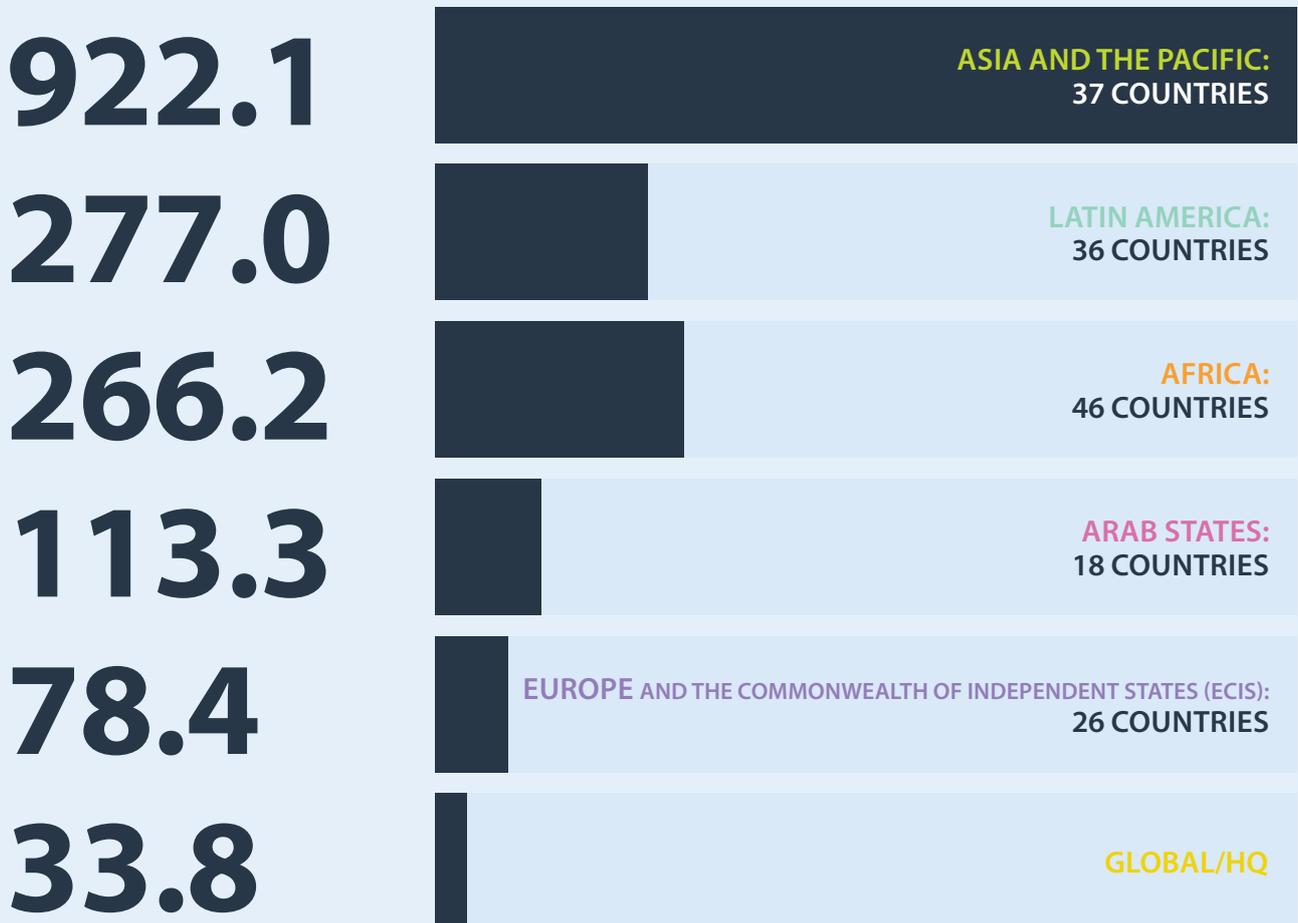
The data for this report are taken largely from a review of UNDP's DRR portfolio, with certain elements informed by the organization's recent analysis of disaster risk governance. This is supplemented by direct input from global, regional and national UNDP offices.

UNDP'S INVESTMENT IN DISASTER RISK REDUCTION: A GLOBAL OVERVIEW

THE BASIC NUMBERS 2005–2014

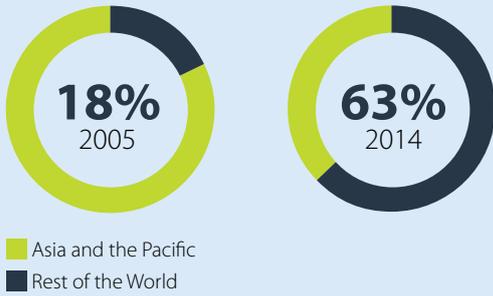


TOTAL EXPENDITURE BY REGION IN \$ MILLIONS, 2005–2014



THE YEARLY TRENDS

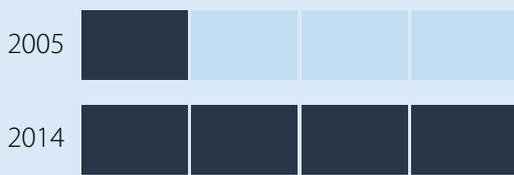
DRR becomes a global priority:



UNDP'S DRR EXPENDITURE IN 2014:

\$195 million

THIRD HIGHEST ON RECORD

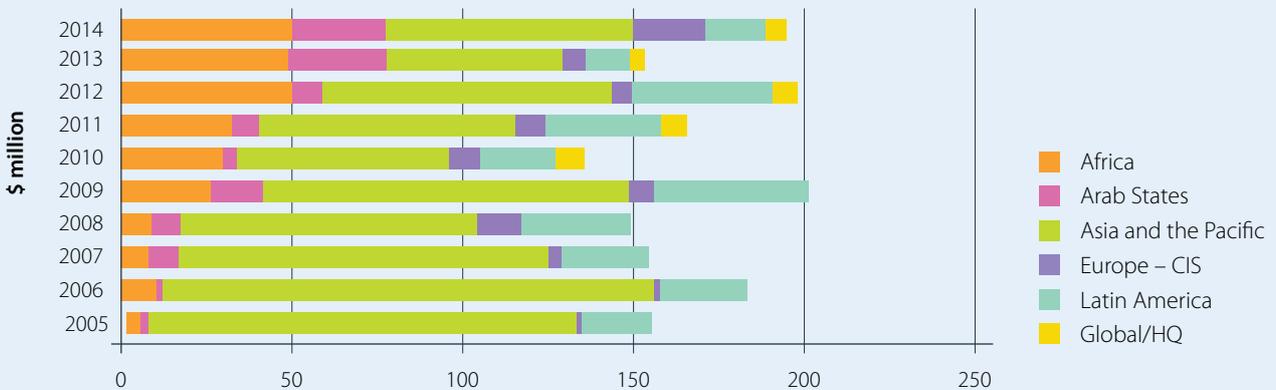


Excluding Asia and the Pacific, total annual expenditure has increased by more than a factor of four since 2005.



Africa increasing: Annual expenditures of \$50 million in each of the last three years. In 2014, this accounted for 26% of global expenditure.

EXPENDITURE IN \$ MILLION PER REGION PER YEAR, 2005–2014



UNDP EXPENDITURE BY REGION IN 2014, TOTALING \$195 MILLION

GLOBAL/HQ
3%

LATIN AMERICA
9%

EUROPE-CIS
11%

ARAB STATES
14%

ASIA AND THE PACIFIC

37%

AFRICA

26%

A SNAPSHOT OF UNDP'S WORK IN DRR



GLOBAL RISK-INFORMED DEVELOPMENT

UNDERSTANDING AND COMMUNICATING RISK

<p>SIGNIFICANT RISK ASSESSMENT WORK HAS BEEN CONDUCTED IN</p> <p>57 COUNTRIES</p>	<p>Estimation of the likelihood of future losses and their causal factors through examination of the hazard, exposure and vulnerability. Through coordinated collaboration of the scientific community, government and wider stakeholders, UNDP's work develops capacities to prepare systematic sustained risk assessments and apply them to decision-making.</p>
<p>DISASTER LOSS DATABASES HAVE BEEN SET UP IN</p> <p>30 COUNTRIES</p>	<p>An essential component of understanding risk, disaster loss databases provide historical information on hazard-related loss and damage over time. These data can then be used for validating risk assessments and to monitor the effectiveness of DRR measures. Disaster loss data provide evidence on which to base investment decisions, leading to a cost-effective and efficient approach to development.</p>
<p>EARLY WARNING SYSTEMS (EWS) HAVE BEEN DEVELOPED IN</p> <p>32 COUNTRIES</p>	<p>Early warning systems (EWS) allow at-risk populations to be forewarned and to take both preparatory and preventive measures before hazards strike. Lives and livelihoods are protected and the potential impact of disasters when they occur is reduced. UNDP's work in EWS ranges from supporting the establishment of technical warning facilities and processes through to the 'last mile' of communicating risks to communities.</p>

REDUCING RISK

INSTITUTIONAL DEVELOPMENT
HAS BEEN A CORE ACTIVITY IN

117
COUNTRIES

UNDP's support to governments has evolved from a disaster management approach to broader public policy risk management, working through inter-ministerial committees, departments with disaster risk management (DRM) roles and multi-stakeholder platforms. Throughout this evolution, UNDP has continued to focus on capacity-building, training, coordination, decentralisation, the establishment of multi-stakeholder mechanisms and facilitating the participation of key actors.

LEGAL FRAMEWORKS
HAVE BEEN ADVANCED IN

58
COUNTRIES

The reduction of disaster risk requires a sound legal foundation. Through the establishment of institutional mandates, allocation of resources and facilitation of participation by all sectors of society, legal frameworks not only encourage compliance but also incentivize risk reduction activities throughout development processes.

DRR POLICY AND STRATEGY
HAVE BEEN ADVANCED IN

77
COUNTRIES

Through the setting of overall goals and objectives for DRR, specific DRR policies and strategies guide national and local efforts and outline mechanisms, structures and resources for the understanding of risk, risk reduction and the management of remaining risk.

MAINSTREAMING DRR
INTO DEVELOPMENT HAS BEEN A
CORE ELEMENT OF PROGRAMMING IN

62
COUNTRIES

DRR must be an integral part of development to reduce disaster losses and protect investments in 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. UNDP has worked to mainstream DRR into sectoral and development policies, plans and budgets at national, regional and local levels, delivering on long-term sustained risk reduction.

**LOCAL AND URBAN RISK
MANAGEMENT**
HAS BEEN A DETAILED
COMPONENT OF WORK IN

75
COUNTRIES

The impact of disasters is felt locally, and efforts to understand, reduce and manage risk are essential at the local level. Through working with local government and communities at the local level, both in urban and rural areas, it is possible to address risk and vulnerability, taking advantage of local capacities, knowledge and culture.

MANAGING THE REMAINING RISK

DISASTER PREPAREDNESS
HAS BEEN INITIATED IN

42
COUNTRIES

Preparedness is based on the analysis of disaster risks and includes activities such as contingency planning, stockpiling of equipment and supplies, the clarification of institutional responsibilities and mandates, coordination and recovery financing arrangements. UNDP works to provide policy guidance, support the establishment of regulatory frameworks and coordination, and develop capacity for recovery long before a crisis occurs.

**POST-DISASTER NEEDS
ASSESSMENTS (PDNAs)**
HAVE BEEN COMPLETED

41 TIMES IN **34**
COUNTRIES

In complex post-disaster settings, there is an immediate need not only to deliver emergency support but also to assess recovery requirements. Post-Disaster Needs Assessments are a tool used by the affected government (supported by UNDP and the World Bank) to assess long-term recovery needs across a range of physical and human development sectors.

RESILIENT RECOVERY
HAS BEEN UNDERTAKEN IN

112
COUNTRIES

Recovery represents not only a task to be achieved but also a critical opportunity. UNDP works not only to assist communities and countries to recover from the effects of a disaster but also uses this to build long-term resilience, firstly by building back better and secondly by mainstreaming DRR through the recovery efforts.

AFRICA

DISASTER RISK

Climatic and hydrological hazards, in particular drought, floods and cyclones, dominate the disaster profile of the Africa region, affecting on average around 12.5 million people each year. In the 10 years of the HFA, Africa has seen substantial flooding, such as in Nigeria in 2010 and 2012, Mozambique in 2007 and Namibia in 2009 and 2011, and record extreme temperatures across the Sahel.⁶ Drought is perhaps the dominant hazard. The 10 countries globally with the highest percentage of their population affected by drought⁷ are all African: Malawi, Niger, Swaziland, Somalia, Kenya, Eritrea, Djibouti, Zimbabwe, Mauritania and Lesotho. All of these have had more than 5% of their entire populations annually affected by drought. At the same time flooding has increased considerably, with some of the major urban centres of West Africa and southern Africa particularly affected. In some of these contexts fragility and conflict have intersected with drought to complicate issues of risk and resilience.

The future is a complex one. Africa is home to seven of the world's 10 fastest-growing economies,⁸ and growth is likely to contribute to new risks through rapid urbanization and industrialization, intensive use of natural resources and degradation of eco-systems. This will be compounded by a changing climate, which will not only likely contribute to droughts, floods and cyclones but also to an increase in vector- and water-borne diseases and reduced crop productivity, livelihoods and food security.⁹

DISASTERS: 2005–2014⁵



711
Events



40,000+
People killed

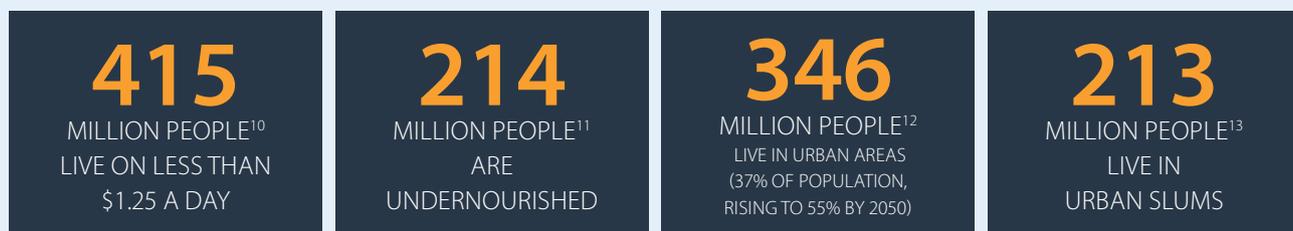


137 MILLION+
People affected



\$2.9 BILLION
Total damage

VULNERABILITY AND EXPOSURE



MAJOR DISASTERS¹⁴

67 DROUGHTS affected **28 COUNTRIES** and over **120 MILLION** people in the region between 2005 and 2014.

More than **10 MILLION** people were affected by **FLOODS** in West Africa in 2012 (7 million of them in Nigeria).

Since 2000, over **14 MILLION** people have been affected by **FLOODING** in southern Africa, with an average of 500,000 people affected every year by floods and cyclones between 2011 and 2014.

ANOTHER VIEW¹⁵

DROUGHTS IN AFRICA DURING THE LIFESPAN OF THE HFA

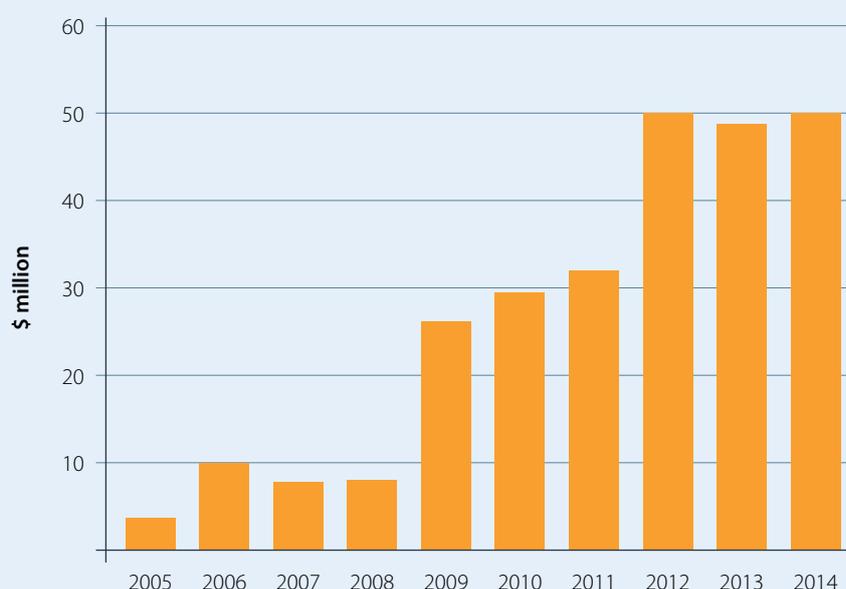
	People affected (in millions)	Droughts per country
ETHIOPIA	21	5
KENYA	17	5
NIGER	14	3
SOMALIA	11	5
MALAWI	8	3
23 COUNTRIES	53	46

COUNTING IMPACT: Large-scale disasters tell only a part of the story of disaster impact. The uncounted 'attrition' of small-scale localized disasters accounts for 54% of houses damaged, 80% of people affected and 83% of those injured, and may increase total disaster losses by as much as 50%.¹⁶

UNDP'S DRR INVESTMENT: 2005–2014



AFRICA: DRR EXPENDITURE PER YEAR



UNDERSTANDING AND COMMUNICATING RISK

RISK ASSESSMENTS

15
COUNTRIES

DISASTER LOSS DATABASES

2
COUNTRIES

EARLY WARNING SYSTEMS

10
COUNTRIES

MADAGASCAR

TURNING DRM INVESTMENT INTO MULTI-SECTORAL, COMPREHENSIVE, RISK-INFORMED DEVELOPMENT

UNDP's more than decade-long DRM engagement has ensured:

- The design of a national strategy leading to the creation of a national office of DRM;
- Establishment of the first local disaster management committees, design of EWS for floods and cyclones and the standardization of contingency planning and annual simulation exercises;
- Capacity-building of 81 disaster management committees, leading to development of local disaster management plans;
- The implementation of three regional multi-hazard contingency plans;
- Post-disaster recovery plans, an emphasis on resilience through a mix of alternative livelihoods, reforestation and water management;
- Integration of DRR into the school curriculum, while Antananarivo University has launched the first masters degree in DRR;
- Multi-stakeholder coordination and knowledge management through completion of provincial risk profiling and the integration of DRR into sectoral policies and programs.

GHANA

BETTER KNOWLEDGE OF RISKS HAS STRENGTHENED EARLY WARNINGS AND RISK MITIGATION

UNDP has worked with the Ghanaian government to increase knowledge of exposure and vulnerability to flood and drought hazards at national and local levels:

- 15 urban and rural districts have been mapped for risk.
- A national-level assessment has been made of vulnerability, hazard and risks.
- An EWS has been designed to provide advanced and timely information to forecasting centers, utilizing both indigenous knowledge and automated weather station data.
- Disaster-related information has been disseminated to communities via SMS.
- A number of high-risk districts and communities have been identified through risk assessments to undertake in-depth risk profiling and a variety of mitigation measures.

REDUCING RISK



MOZAMBIQUE

DISASTER AND CLIMATE RISKS BECOME AN INTEGRAL PART OF NATIONAL PLANNING

Over the 10 years of the HFA, supported by UNDP, Mozambique has made a significant shift from response to risk-integrated development, linking disaster and climate risks with national priorities, through:

- Improvements in policy design, institutions and legal systems, and investment in building the capacity of key institutions to collect and manage information on climate and disaster risks for use in decision-making;
- Key policies that recognize extreme weather events as a threat, leading to the strengthening of resilience through targeted investment;
- Climate change adaptation (CCA) mechanisms and DRR that are increasingly integrated into the country’s policy, development and investment frameworks;
- The embedding by nine key ministries of DRR objectives into their development strategies;
- Development plans in all provinces, municipalities and districts that have embedded DRR objectives.

GHANA

INCORPORATION OF DRR AND CCA INTO POLICY AND PRACTICE

Rural poverty, urbanization and declining ecosystems, with a high dependence on natural resources in rural areas, are some of the factors contributing to increasing vulnerability¹⁷ and to the likelihood and intensity of drought and flood. UNDP’s sustained engagement in the country has led to:

- DRR being incorporated into the national climate change policy;
- The integration of climate change and DRR into Ghana’s official growth policy;
- 30% of districts having mainstreamed a dedicated budget line for CCA into their financial planning;
- A building guide being developed for inspectors of new construction and disseminated to district officers, local masons and building consultants throughout the Greater Accra Region and the Northern Region.

MADAGASCAR

DELIVERING RISK REDUCTION AND ENHANCING FOOD SECURITY

Madagascar is subject to extreme weather events related to climate variability, including cyclones, flooding and droughts. A high percentage of the population are considered undernourished and are living below the national poverty line.¹⁸ UNDP has worked to tackle risk reduction while delivering on enhanced food security by:

- Working with government to ensure that DRM becomes a priority policy issue;
- Enhancing the responsibility and accountability of local authorities through efforts with central government;
- Delivering community-led work on crop adaptation and the preservation of local natural resources, to deliver on improved nutrition and food security.

MILESTONES



MANAGING THE REMAINING RISK

DISASTER PREPAREDNESS

11
COUNTRIES

POST-DISASTER NEEDS
ASSESSMENT

13
COUNTRIES

RESILIENT RECOVERY

40
COUNTRIES

KENYA

RESILIENT RECOVERY AFTER DROUGHT

From 2008 to 2011 Kenya faced one of its severest droughts, which affected over 3.7 million people. UNDP supported projects to stabilize the livelihoods of affected communities, while building long-term resilience to future disaster risks. This resulted in:

- Restoration of productive assets, such as access to water and pasture, for over 80,000 people;
- Establishment of alternative sources of livelihoods such as small businesses and conservation farming to strengthen resilience to future drought and floods;
- Development of contingency plans and frameworks for early recovery;
- Strengthened capacities of national and local authorities to anticipate, prepare for and recover from future disasters.

UGANDA

DISASTER-AFFECTED COMMUNITIES SUPPORTED IN RECOVERY

Uganda has experienced crisis over an extended period of time through conflict and disaster, and this has weakened communities and institutions. UNDP has provided support to undertake and coordinate recovery, peacebuilding and DRR at all levels:

- 390 quick-impact community projects have supported more than 50,000 households to improve their asset base and incomes.
- DRR management information systems have been strengthened.
- National and district teams have been trained in undertaking Post-Disaster Needs Assessments (PDNAs) and in implementing the country's incident command system.
- A national emergency operations plan has been developed.
- Contingency plans and resource maps have been prepared in 10 districts.
- Vulnerability, hazard and risk mapping has been conducted, covering another 15 districts.

THE FUTURE FOR THE REGION: WHAT IS NEEDED OVER THE LIFE OF THE NEXT FRAMEWORK?

Considering that the scale of vulnerability and exposure to natural hazards is expected to continue to increase over the coming decades, notably due to climate change and rapid economic growth, Africa may potentially face unprecedented large-scale crises.

Strengthening preparedness capacities to cope with crisis and recover rapidly is therefore a critical element of building resilience, helping spearhead efforts to decrease vulnerability and reduce risk. The Africa Ministerial Declaration on the post-2015 framework for DRR¹⁹ stresses the need to shift towards risk reduction that focuses on integrating risk management in development planning. This positive change in focus, evident in many countries, entails a considerable change in the practice of development across the continent. The main challenges that need to be overcome include limited incentives and political will; gaps in technical skills and knowledge on climate and disaster risk across sectors; inadequate financing mechanisms for DRR; and the complexity of implementing multi-sectoral and multi-stakeholder approaches to address climate, disaster, environmental and conflict risks that interface in this region in protracted crisis.

ARAB STATES

DISASTER RISK

Over the lifetime of the HFA the Arab states region has suffered from disasters as diverse as flash floods, drought, storms, sandstorms and earthquakes.

Unsurprisingly, climate change has a large impact on natural hazards in the region, with increasing frequency and intensity of extreme weather events. Rainfall has become considerably more variable, resulting in flash floods. Severe flooding affected Saudi Arabia in 2008 and 2009, causing estimated total damage of \$1.3 billion.²¹ In addition, several of the region's major cities are situated in low-lying coastal zones, and a rise in sea levels could have serious ramifications. High-temperature summers, already an issue in the region, have become hotter and drier. Drought is also a major hazard; Jordan and Syria recorded the worst droughts in many years during 2007 and 2010, which caused considerable food insecurity. The impact in these countries is dwarfed, however, by drought in Sudan and Somalia, where more than 40 million people have been affected over the lifetime of the HFA.²²

Seismic activity is another major concern; for example, activity in the Jordan rift valley places Jordan, Lebanon, Palestine and Syria at considerable risk from earthquakes. Countries in the Maghreb (Algeria, Morocco and Tunisia) face similar risks.²³

DISASTERS: 2005–2014²⁰



145
Events



28,000+
People killed



24 MILLION+
People affected



\$3 BILLION
Total damage

VULNERABILITY AND EXPOSURE

6

MILLION PEOPLE²⁴
LIVE ON LESS THAN
\$1.25 A DAY

33

MILLION PEOPLE²⁵
ARE
UNDERNOURISHED

187

MILLION PEOPLE²⁶
LIVE IN URBAN AREAS
(56% OF POPULATION,
RISING TO 68% BY 2050)

36

MILLION PEOPLE²⁷
LIVE IN
URBAN SLUMS

MAJOR DISASTERS²⁸

An earthquake in Algeria in 1980 affected **930,000** people, while another earthquake in 2003 killed nearly 2,300 people and left more than **200,000 homeless**.

Droughts in Somalia affected **11.5 MILLION** people from 2001 to 2012, and in Sudan **29.9 MILLION** from 1985 to 2012. More than half of Somalia's population, 4 million people, were severely affected by the 2011 drought,³⁰ with 750,000 affected by famine.

Floods in Somalia affected **1.2 MILLION** people in 1997 and **3.5 MILLION** people in Sudan over the period 1988–1998.

ANOTHER VIEW

CLIMATE RISK AND THE ARAB STATES²⁹

Eight of the 10 most water-stressed countries in the world.

87% of the region is desert, with high levels of aridity and poor vegetation cover.

Recent droughts in Jordan, Djibouti, Syria, and Somalia were some of the worst recorded. Algeria, Morocco, Sudan and Yemen have all suffered devastating flash floods.

Annual average temperatures are projected to increase by between 4°C and over 6°C by 2100 if greenhouse gas emissions continue to rise.³¹

Climate change will bring shorter winters, drier and hotter summers, more heatwaves, pressures on water resources, increased food insecurity, increased weather variability and more frequent extreme weather.

UNDP'S DRR INVESTMENT: 2005–2014



ARAB STATES: DRR EXPENDITURE PER YEAR



UNDERSTANDING AND COMMUNICATING RISK

RISK ASSESSMENTS

6

COUNTRIES

DISASTER LOSS DATABASES

4

COUNTRIES

EARLY WARNING SYSTEMS

2

COUNTRIES

ALGERIA

SEISMIC AND FLOOD RISK REDUCED

Algeria has been exposed to major earthquakes and numerous floods, with significant numbers of people affected and billions of dollars in losses. UNDP has helped to strengthen national capacities for the analysis of vulnerabilities and risks related to natural disasters, and has supported the country through:

- Creation of a law on prevention of major risks and disaster management, which mandates the development of detailed plans for a wide range of hazards, including data collection and analysis required to inform policy and decision-making;
- Conducting of risk assessments and development of national seismic hazard and micro-zoning maps, especially for vulnerable urban areas, which have led to the government updating its own databases for risk and analysis;
- Dedicated work in nine *wilayas* (districts), assessing risks and vulnerabilities and local risk reduction practices;
- Undertaking of detailed mapping, which has been adopted at the central level for monitoring natural hazards and risks;
- Integration of disaster risk considerations into long-term development planning.

MILESTONES³²

1985	Disaster reduction and management plan adopted
1990	Training of students, engineers, researchers, disaster managers in development and seismic skills
2004	Law on disaster management and new building regulations National scheme for land use planning and first integrated DRR
2005	HFA adopted UNDP DRM project initiated in nine districts District committee members trained in DRM using geographical information systems (GIS)
2006	Disaster insurance introduced
2008	Seismic regulations revised
2009	EUROMED-PPRD South cooperation initiated – Euro-Mediterranean Partnership Programme on Prevention, Preparedness and Response to Natural and Man-Made Disasters Sectoral risk assessment completed. New land use planning regulations take account of physical vulnerabilities and technological risks
2010	UNDP DRM project concludes after integrating DRR into the National Planning Scheme 2030
2011	National Platform for DRR process initiated
2012	'Making Cities Resilient' campaign with UNISDR initiated
2013	Post-HFA national consultation Training on pre-disaster recovery planning

LEBANON

THE COMMUNICATION OF RISK HAS BEEN USED TO DELIVER CONSIDERABLE RISK REDUCTION

Throughout this period UNDP has been delivering sustained support to DRR in different areas, including the:

- Creation of a national disaster loss database covering a period of 30 years, which is used to inform development decisions;
- Development of a national risk profile, providing an analysis of the risks to critical national infrastructure and, together with the database, leading to the preparation of a national DRM strategy;

- Preparation of a national flood hazard and risk map;
- Restoration of forests and terracing, construction and restoration of dams, stone walls and water reservoirs, and slope stabilization through flood risk management, water harvesting and soil conservation projects;
- Inclusion of 249 Lebanese urban areas in UNISDR's 'Making Cities Resilient' campaign.

REDUCING RISK



JORDAN

MANAGING THE URBAN DISASTER RISK

Aqaba, Jordan's only coastal city, is growing rapidly and is a special economic zone, with investment of \$21 billion, but it is particularly vulnerable to earthquakes. UNDP's collaboration with the Aqaba Special Economic Zone Authority (ASEZA) has led to:

- The successful integration of seismic risk reduction into planning and business processes;
- Seismic risk assessment being conducted at the city level and a three-year DRM Plan being developed and implemented;
- Establishment of a multi-stakeholder disaster management committee and a dedicated DRR unit;
- Actions to implement the Aqaba DRM master plan, including integration of the seismic risk assessment into land use planning, relocation of vulnerable communities, DRM training of 2,000 officials, a school safety and awareness campaign targeting all 25,000 students in Aqaba city, and the establishment of community search and rescue teams;
- Aqaba being declared the first Arab role model city.

ARAB STATES

WORK EXPANDS THROUGHOUT THE REGION

With support from UNDP and in collaboration with the Swiss Agency for Development and Cooperation (SDC) and UNISDR, work in the region continues through:

- Implementation of a proposed 16 targets by local authorities in the region by 2017;
- Peer leadership, with the Aqaba Declaration on DRR in Cities being adopted by 250 delegates at the first Arab conference on DRR, held in Aqaba in March 2013.

EGYPT

BUILDING CAPACITY FOR CRISIS, DISASTER AND RISK MANAGEMENT

UNDP's sustained work in Egypt has helped the country reduce the impact of floods, earthquakes and other natural hazards. This work has included:

- The preparation of a national strategy for crisis, disaster and broad risk management;
- Preparation of a national plan for capacity development;

- Preparation of a national disaster damage and loss database, with analysis of disasters over the past 30 years;
- The development of a comprehensive EWS for all hazards;
- Strengthening of emergency response coordination centers in selected high-risk governorates.

MANAGING THE REMAINING RISK

DISASTER PREPAREDNESS

2

COUNTRIES

POST-DISASTER NEEDS
ASSESSMENT

2

COUNTRIES

RESILIENT RECOVERY

13

COUNTRIES

DJIBOUTI

FIRST PDNA GLOBALLY ON DROUGHT LEADS TO INTEGRATED RISK REDUCTION

Djibouti is subject to a number of natural hazards, including droughts, which are exacerbated by scarce water resources and limited capacity to react to natural disasters.³³ An unprecedented period of drought beginning in 2007 affected more than 120,000 people and caused damage and losses equivalent to 3.9% of GDP, or \$177 million. UNDP's support has helped to ensure:

- Adequate assessment of key sectors—agricultural, environmental, livestock, water resources and DRM;
- Clear recommendations made to government not only for recovery but also for future prevention of drought, including reservoir construction, the use of dams and rainwater harvesting;
- The adoption of a regional drought resilience concept by the Intergovernmental Authority on Development (IGAD), an eight-country regional development organization.

ALGERIA

STRENGTHENING RESILIENCE THROUGH PREPAREDNESS

Algeria has systematically demonstrated its commitment to planning for greater disaster resilience since the early 1980s and has learned from disasters such as floods in 2001 and 2008, the earthquake in 2003 and annual forest fires. UNDP has conducted training and capacity development in schools, municipalities and *wilayas* (districts). UNDP support has ensured:

- That training for first aid is currently being conducted at 942 national centers, with an emphasis on training women;
- The undertaking of six-monthly *wilaya* simulation exercises as part of national preparedness;
- The development of *wilaya* disaster management plans, and capacity for updating;
- That Algeria has developed its own recovery capacity through pre-disaster recovery training.

THE FUTURE FOR THE REGION: WHAT IS NEEDED OVER THE LIFE OF THE NEXT FRAMEWORK?

The Arab states region is already the world's most arid, and this is being considerably worsened by climate change. About 90 million people in the region remain highly vulnerable to drought. In addition, a large number of cities are exposed to recurrent flash flooding and earthquakes, which threatens to trigger catastrophic disasters.

Centralized urban planning remains the most important governance challenge for urban DRR. Vast urban slums inhabited by internally displaced persons (IDPs) and refugees remain of considerable concern. Rural–urban migration, urban poverty and weak local governance remain important drivers of vulnerability in cities in the region.

Risk analysis, risk-sensitive land use, safer construction, decentralization, environmental preservation and poverty reduction remain the key strategies for DRR.

However, the most obvious driver of vulnerability is conflict, with nine out of 18 countries in the region currently experiencing conflict and about 20 million people being displaced. A risk reduction strategy that combines multi-risk analysis, complex early warning systems, emergency preparedness and sustainable agriculture, water resources management, pastoralism and conflict resolution/peacebuilding would be the most effective course for the region.

ASIA AND THE PACIFIC

DISASTER RISK

In the 10 years of the HFA, this region has suffered some of the largest and most damaging disasters in recent history, including the Indian Ocean tsunami of 2004, the 2005 Kashmir earthquake, the 2010 flooding in Pakistan and a wave of devastating tropical cyclones that affected many countries.³⁵ The 2011 Great East Japan earthquake and tsunami reminded us that developed countries are not isolated from risks. Economic growth, rapid urbanization and considerable levels of inequality are major contributors to increased exposure and vulnerability to natural hazards.

Climate change is a major concern for the region. Variability in weather patterns and intensity is on the one hand increasing cyclone and flood damage to infrastructure, livelihoods and settlements while on the other hand exacerbating the issue of drought-related water and food shortages. Small island states are in a particularly precarious situation, with climate risks including the loss of livelihoods, settlements, infrastructure, ecosystem services and economic stability, particularly in low-lying coastal areas.³⁶

DISASTERS: 2005–2014³⁴



1,300+
Events



331,000+
People killed

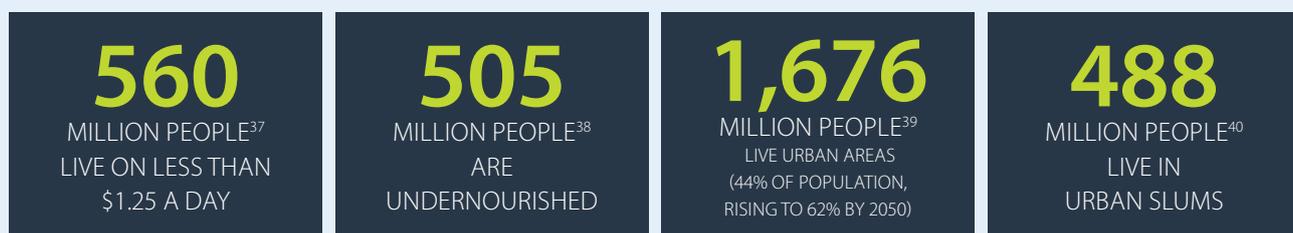


1.4 BILLION+
People affected



\$429 BILLION
Total damage

VULNERABILITY AND EXPOSURE



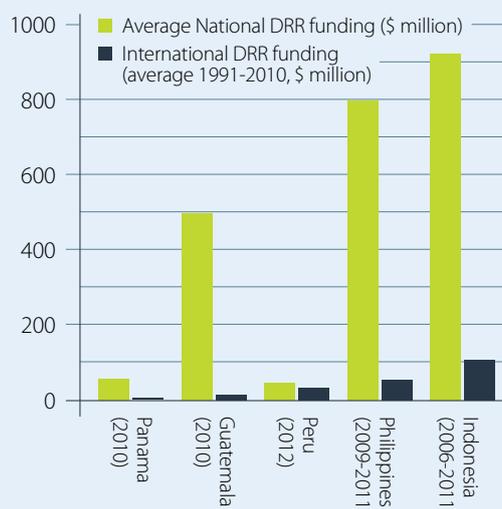
MAJOR DISASTERS⁴¹

- Droughts in India affected **300 MILLION** people in 1987 and a further 300 million in 2002.
- Flooding affected **1.3 BILLION** people in China from 1998 to 2011, 9 million people in Thailand in 2010, 8 million people in Bangladesh in 2012–2014 and 20.4 million people in Pakistan in 2010.
- Tropical cyclones affected 5.4 million people in Bangladesh from 2009 to 2013, 8 million in China in 2013, 13.2 million in India in 2013 and **16.1 MILLION** in the **PHILIPPINES** in 2013.
- The 2004 Indian Ocean earthquake and **TSUNAMI** affected over 500,000 people and **KILLED 230,000** in 14 countries. The Kashmir earthquake in 2005 killed as many as 100,000 people in Pakistan.

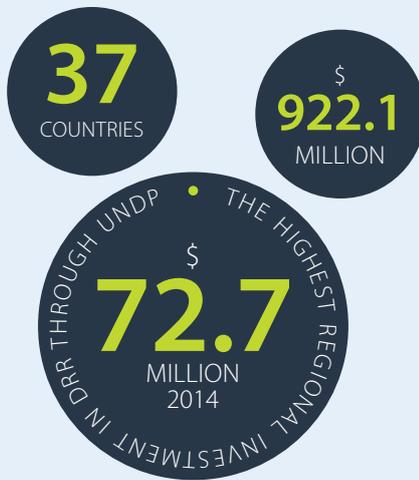
ANOTHER VIEW

NATIONAL FINANCING OF DRR⁴²

■ Developing countries in Asia and the Pacific have seen some of the most substantial investments of domestic revenues into DRR.



UNDP'S DRR INVESTMENT: 2005-2014



ASIA AND THE PACIFIC: DRR EXPENDITURE PER YEAR



This is one of the regions where UNDP has worked with governments both longer and deeper on DRR, well before the HFA was agreed in 2005. This, together with the very high levels of disaster risk throughout the region and UNDP's substantial presence, accounts for the high volume of investment.

UNDERSTANDING AND COMMUNICATING RISK

RISK ASSESSMENTS

17

COUNTRIES

DISASTER LOSS DATABASES

14

COUNTRIES

EARLY WARNING SYSTEMS

14

COUNTRIES

BANGLADESH

HYDRO-METEOROLOGICAL EARLY WARNING SAVE LIVES AND LIVELIHOODS

UNDP, through its Comprehensive Disaster Management Programme (CDMP), has worked with partners in Bangladesh to achieve the following:

- 110 million cell-phone users can directly access early warning systems.
- Flood forecast lead times have been extended from three to five days.
- This could potentially save the lives, livelihoods and assets of 88 million people living in four river basin areas.
- There is potential to reduce crop losses by 20% in the case of severe flooding.

PHILIPPINES

MULTI-HAZARD MAPPING DELIVERS ON RISK-INFORMED DEVELOPMENT

UNDP's sustained work on DRR in the Philippines has ensured that:

- 73 (out of 80) provinces have completed disaster risk/vulnerability assessments.
- Results feed immediately into risk mitigation and planning and regulatory processes.

- Guidelines have been developed on mainstreaming climate and disaster risks into comprehensive land use plans.
- A mobile app provides geo-coded information for areas exposed to disaster and climate risk, such as population, buildings, infrastructure and economic activities.
- The same app includes an inventory of key policies, evacuation sites and resources for recovery and rehabilitation.

SAMOA

EARLY WARNING DRIVES INTEGRATION OF CLIMATE RISK INTO HEALTH AND AGRICULTURE SECTORS

UNDP has increased the technical and organisational capabilities of the Samoa Meteorology Division, which has enabled:

- Enhanced monitoring of climate change risks through an upgrade to the Climate Early Warning System (CLEWS), improving early warning to the agriculture, tourism and health sectors;
- The creation of a learning, evaluation and adaptive management system;
- The establishment of a specific EWS to improve forest management;
- Participation by nearly 2,000 villagers and farmers in climate resilience land use and forestry planning;
- Preparation of a climate adaptation strategy for health, focusing on prevention and response.

REDUCING RISK



PAPUA NEW GUINEA

FOUNDATION FOR RISK GOVERNANCE STRENGTHENED

UNDP's work has led to a comprehensive re-working of PNG's disaster and development foundations, which has ensured:

- Inclusion of disaster risk in legislation in public planning and investment;
- Development of a five-year DRM strategy and corresponding proposals for the national disaster center;
- Strengthening and capacity-building of provincial disaster offices through training, provision of equipment and establishment of coordination mechanisms, with four at-risk provinces developing their own DRR strategies;
- Development of a specific climate change and DRM policy;
- The Government of PNG has pledged \$7 million of its own finance for DRR for the next four years.

COOK ISLANDS

NATIONAL CLIMATE CHANGE AND DRM POLICY ENHANCES RESILIENCE

In the Pacific region, UNDP is working with small island states to manage the impact of disasters and climate change, which includes a strategic pillar dedicated to enhancing the resilience of communities. This has led to the:

- Integration of climate change resilience and DRM into commu-

nity development plans at local government level, with eight out of 11 outer islands having developed their own plans;

- Installation of water storage tanks in 300 households, providing additional storage capacity in times of drought;
- Incorporation of DRR into the government's annual development budget allocation.

INDIA

REDUCING RISK ACROSS 42 OF THE MOST EARTHQUAKE-PRONE CITIES

As part of UNDP's long-term support to DRR in India, it has worked with the Indian government to institutionalize urban risk reduction and promote safe urban built environments; this is increasingly relevant for a country that is seeing rapid urbanization and where 377 million people already live in urban areas:

- Technical support has been provided to integrate risk assessment into urban development, institutional strengthening for urban risk management and urban community-based initiatives.
- The Urban Earthquake Vulnerability Reduction Project has strengthened the capacity of urban communities, urban local bodies and district administrations.
- UNDP's DRM program has focused on mitigation, preparedness and response to earthquakes, with disaster management plans created in 42 cities.
- The project has pioneered the enforcement of building codes to ensure a safe urban built environment.

MANAGING THE REMAINING RISK



LAOS

PREPAREDNESS LEADS TO ENHANCED COMMUNITY RESILIENCE

UNDP, in partnership with the International Federation of Red Cross and Red Crescent Societies (IFRC) and Viet Nam, has supported the development of a Disaster Management and Climate Change Law in Laos. UNDP's support has ensured:

- That 57 villages across three districts in two northern provinces have completed training in community-based DRR;
- The delivery of education on the importance of forest cover in mitigating natural disasters, such as landslides and flash floods;

- The production of a video, 'Safe From Harm', in Lao and English to enhance community understanding;
- Preparation of district-level disaster management plans with strong community ownership and participation, including women in particular in training activities and a sustained Training-of-Trainers component.

INDIA

THOUSANDS OF COMMUNITIES ARE PREPARED TO MANAGE DISASTER RISK

Through one of the largest community-based DRM programs

in the world, UNDP's work has helped ensure that millions of people are equipped to manage disasters:

- It has reached 300 million people across 150,000 villages in high-risk areas.
- Communities are made aware of disasters and trained on first aid, search and rescue and safe evacuation practices.
- They are also trained in handling emergency response equipment, understanding warning alerts and taking action.
- English- and local-language training manuals have been widely disseminated.
- Community-based preparedness has saved lives and reduced vulnerabilities in the aftermath of Cyclones Phailin and Hudhud.
- State governments are now constructing cyclone/flood shelters and improving EWS.

BANGLADESH

COMMUNITY MOBILIZATION DELIVERS DRM

UNDP's Comprehensive Disaster Management Programme has led to considerable investment in large-scale community efforts to reduce risk, including:

- The promotion of community-based management across key areas of the country;
- Training and development of 30,000 urban community volunteers in emergency preparedness and response;
- Successful involvement by volunteers in search and rescue operations in response to fire, landslide and building collapse incidents, including the catastrophic Rana Plaza collapse;
- Preparedness training for 6,540 volunteers;
- The successful evacuation of 1.1 million people during Cyclone Mahasen (2013), which resulted in significantly reduced disaster mortality.

MILESTONES

- | | |
|-------------|--|
| 2006 | Community Risk Assessment Guideline developed and adopted |
| 2008 | Bangladesh Climate Change Strategy and Action Plan (BCCSAP) developed |
| 2009 | BCCSAP revised |
| 2010 | Standing Orders on Disasters revised; National Plan for Disaster Management 2010–2015 adopted
UNDP's flagship Comprehensive Disaster Management Programme commences |
| 2011 | DRR integrated into Five Year Development Plan for 2011–2015 |
| 2012 | Disaster Management Act enacted |
| 2015 | Input papers recommend integrating Bangladesh's BCCSAP into its 7 th Five Year Development Plan for 2016–2020 |

THE FUTURE FOR THE REGION: WHAT IS NEEDED OVER THE LIFE OF THE NEXT FRAMEWORK?

The region's governments and stakeholders have shown increased commitment to the reduction of disaster risk. However, current practices and institutional arrangements are not sufficient to address the rapid increase in exposure and vulnerability. A significant gap remains in the mainstreaming of DRR and CCA into development, particularly in poverty reduction and gender equality strategies. There are many examples: provision of basic services does not include consideration of risks; social protection mechanisms built to help poor people withstand stresses and shocks rarely consider DRM or climate impact elements; and short-sighted or unplanned socio-economic development (such as land use planning and public and private sector investments) that are not sensitive to the underlying risks of climate change remain commonplace.

Significant resources (national and international) remain focused on managing the more immediate effects of disaster and climate change mitigation, despite lessons from the region on the benefits of investing in DRR. There is a need to increase gender-sensitive and socially inclusive investments to systematically reduce risk, with a focus at the local level. Improvements in risk governance and management practices are urgently needed, particularly for low-income and developing countries that have limited capacities to invest in public goods. On the other hand, rapid economic growth in middle-income and developed countries does not necessarily result in reducing vulnerabilities sufficiently, and can actually expose public investments to emerging risks.

EUROPE AND COMMONWEALTH OF INDEPENDENT STATES (ECIS)

DISASTER RISK

This region, with a wide range of countries and contexts, from countries seeking to join the European Union through to central Asian former members of the Soviet Union, is exposed to a wide range of natural hazards, such as droughts, storms, floods, earthquakes, extreme temperatures and wildfires, with significant human and economic losses.⁴⁴ Though it is largely a region of relatively fast-growing middle-income countries, it has pockets of considerable vulnerability, highlighted by recent flooding in Bosnia-Herzegovina and Serbia in 2014, wildfires in Macedonia in 2007 and snowstorms in Kyrgyzstan and Tajikistan in 2012. Earthquakes account for the largest number of disasters in the region, however, with Turkey, for example, suffering 38 earthquakes between 1984 and 2013 that affected nearly 6 million people and caused \$24.5 billion of damage.⁴⁵ The threat of future earthquakes is significant; a recent report suggests that Tajikistan could lose as much as 20% of its GDP as the result of a major seismic event.⁴⁶

Climate risk is already leading to increased damage throughout the region, whether from river and coastal floods or from extreme heat events and wildfires.⁴⁷ Drought is of increasing concern, especially in some of the Central Asian republics, and the region will likely face increased water restrictions and issues of long-term food security.

DISASTERS: 2005–2014⁴³



316
Events



60,000+
People killed

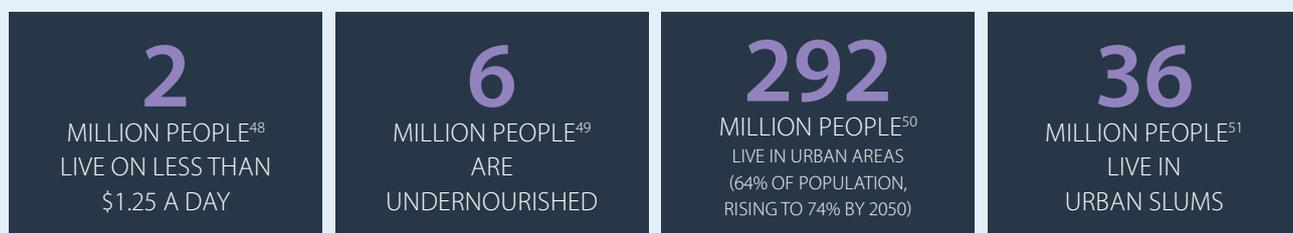


11 MILLION+
People affected



\$25.2 BILLION
Total damage

VULNERABILITY AND EXPOSURE



MAJOR DISASTERS

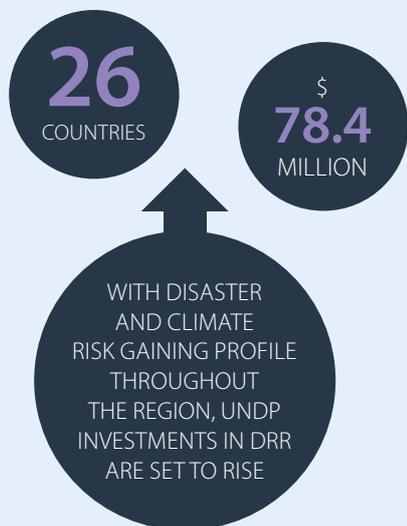
- Drought in Albania affected **3.2 MILLION** people in 1989 and 1 million people in Russia in 2003.
- Storms in Moldova affected **2.6 MILLION** people in 2000.
- Floods in Ukraine affected **1.7 MILLION** people in 1995, and **2.6 MILLION** people combined in Bosnia-Herzegovina and Serbia in 2014.
- Turkey suffered **38 EARTHQUAKES OVER 20 YEARS** affecting 6 million people; a 1998 earthquake in the Soviet Union affected 1.6 million people.
- Wildfires in Macedonia affected **1 MILLION** people in 2007.

ANOTHER VIEW

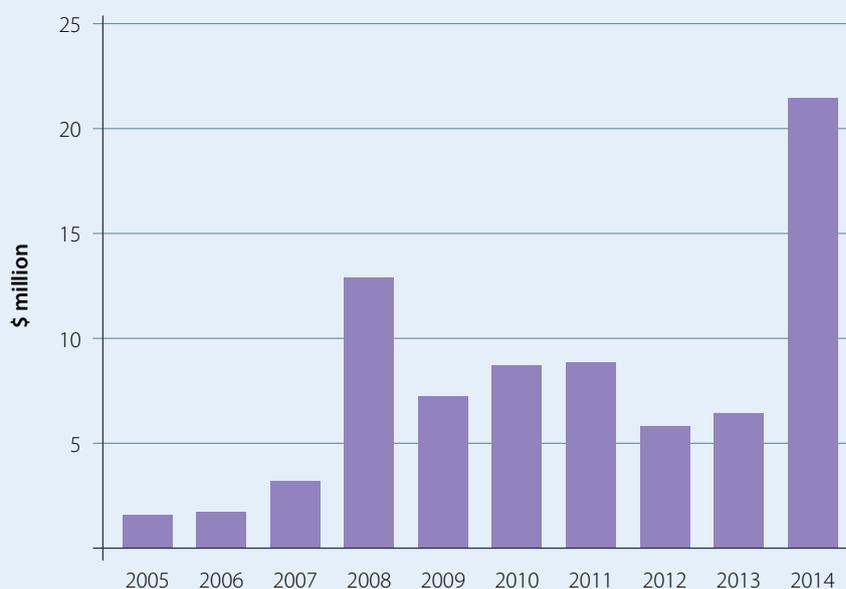
CLIMATE RISKS ACROSS THE REGION⁵²



UNDP'S DRR INVESTMENT: 2005–2014



EUROPE (ECIS): DRR EXPENDITURE PER YEAR



UNDERSTANDING AND COMMUNICATING RISK



TAJIKISTAN

LOCAL RECOVERY BUILDS NATIONAL EARLY WARNING

An earthquake measuring 5.7 on the Richter scale struck the eastern part of Tajikistan in May 2012, destroying houses, blocking highways and cutting off hundreds of families. UNDP worked with local government and communities to:

- Assist families to receive more appropriate land for housing;
- Build new quake-resistant houses for the victims of the earthquake;
- Establish a secondary early warning system throughout the region, which can be used to notify communities quickly in the event of dam failure, potential landslides, etc.

UZBEKISTAN

MOBILE PHONES USED TO COMMUNICATE LIVE UPDATES ON RISK

UNDP has supported the design of mobile phone apps that allow users to receive updates on hazards and disasters as they happen:

- Dedicated mobile apps have been developed to increase the disaster knowledge of communities as part of a wider public awareness strategy.
- Users can find out the status of an event, receive tips on staying safe and explore past hazard events..
- Access is provided to key contact information such as emergency services, which is integrated with the website of the Ministry of Emergency Situations.

REDUCING RISK



ARMENIA

MAINSTREAMING DRR HAS LED TO RISK-INFORMED DEVELOPMENT

Armenia is located in one of the world's most seismically active regions and is vulnerable to numerous natural hazards. Poverty and urbanization levels are high, increasing exposure and vulnerability. UNDP has a long history of supporting community- and municipal-level DRR, contributing significantly to:

- Institutional reform at a central level, following successful mainstreaming of DRR into municipal development plans;
- The creation of a new Ministry of Territorial Administration and Emergency Situations, with a key task of mainstreaming DRR into local development;
- Training in risk understanding and awareness for 1,000 communities and 10 regional teams;
- An emphasis on gender mainstreaming in DRR project implementation, using gender-sensitive DRR education and awareness campaigns;
- Armenia receiving acknowledgement for best practice in the region in the area of DRR and specifically in governance for DRR;
- Armenia becoming one of six pilot countries participating in the Integrated Climate Risk Management Programme (ICRMP),⁵³ which aims to bring together DRR and CCA for more effective impact, as well as being the pilot country for a review into global disaster gover-

MILESTONES

1990/1991	National Survey for Seismic Protection and Emergency Management Administration (EMA) established
1997	Start of the Disaster Management Training Programme (UN DMTP) in Armenia, which was the first UNDP engagement with the Government of Armenia on DRR
2002	National legislation revised to strengthen DRR regulatory framework
2008	EMA was converted into Ministry of Emergency Situations (MoES)
2010	DRR National Platform established National DRR Capacity Assessment conducted GIS database completed
2011	Establishment of the National Disaster Observatory as part of the Crisis Management Centre, MoES MoU signed between UN and MoES to strengthen collaboration on DRR, preparedness and response
2012	DRR National Strategy approved
2014	The newly merged Ministry of Territorial Administration and Emergency Situations established to support more effective mainstreaming of DRR into local development

THE FUTURE FOR THE REGION: WHAT IS NEEDED OVER THE LIFE OF THE NEXT FRAMEWORK?

The region is very diverse and its countries are affected by a range of hazards, having a range of vulnerabilities and similarly a range of national capacities. Unsurprisingly, risk reduction requirements vary considerably, from managing multiple crises and risks (not solely due to natural hazards) through to long-term initiatives for building community resilience. Clearly one way in which disaster risk can be tackled is through linking risk and vulnerability assessments to both national and local planning processes. To do this, there is a considerable need to deepen and widen the current capacity of all kinds of national and regional stakeholders. Continued special attention needs to be paid to innovative solutions, especially through information and communication, to tackle risk at both national and local levels.

KYRGYZSTAN

THE GOVERNANCE OF DISASTER RISK HAS BECOME CENTRAL FROM NATIONAL TO LOCAL LEVELS

After a first phase of working mostly at the community level, UNDP switched its focus to helping to clarify a sustainable role for local government in DRM. Involving efforts at the national and local levels, UNDP has helped deliver:

- Integration of local government local government into the national DRM effort;
- A stronger ability by local government to plan and budget for DRM;
- Revision of the Law on Local Self Government.

MACEDONIA

TURNING RISK ASSESSMENTS INTO DIVERSE RISK REDUCTION INITIATIVES

In partnership with Macedonia's crisis management center and local governments, UNDP has helped ensure that:

- All 81 municipalities in the country have adopted integrated risk and hazard assessments.
- 10 municipalities have integrated DRM into municipal action plans.

- Specific risk reduction initiatives have been undertaken on issues as diverse as school safety, firefighting and infrastructure, floods and storm water protection, landslides and rock fall protection, etc.

THE ECIS REGION

TURNING TECHNOLOGY INTO LONG-TERM RISK REDUCTION

UNDP is working with governments on smartphone applications to turn technology into risk reduction:

- Armenia is developing DRR 'smart-city' concepts for municipalities.
- Moldova has developed a national- and city-level DRR resilience plan.
- Macedonia is developing a 'big data' tool to guide decision-making on DRR at national and local levels.
- There are plans to expand the project to the Central Asian countries of Kyrgyzstan, Uzbekistan and Georgia.

MANAGING THE REMAINING RISK

DISASTER PREPAREDNESS

8

COUNTRIES

POST-DISASTER NEEDS
ASSESSMENT

3

COUNTRIES

RESILIENT RECOVERY

18

COUNTRIES

SERBIA

PDNA LEADS TO LONG-TERM RISK REDUCTION

Extensive flooding in Serbia in mid-May 2014 affected about 1.6 million people, with 32,000 people evacuated. Health facilities, schools and agricultural lands were damaged. UNDP, together with the European Commission (EC) and the World Bank, prepared, implemented and launched a PDNA, which enabled:

- A clear understanding of need through the assessment of 24 municipalities;
- Recovery and reconstruction recommendations that included improvements to flood control systems and enhanced flood forecasting and prevention activities such as physical planning, to avoid locating homes and production activities in flood-prone areas in future;
- The development of a multi-stakeholder recovery program, with contributions from all parties;
- The development of a newly established Trust Fund for financing recovery.

TAJIKISTAN

PREPAREDNESS MEASURES CONTRIBUTE TO EFFECTIVE DISASTER RESPONSE

UNDP initiated a recovery-oriented community program in Tajikistan, which focused on local government capacities and infrastructure to address the effects of recurrent disasters. Its work ensured that:

- Assistance was provided to local populations to recover critical public facilities, improve food security and livelihoods, restore infrastructure and improve DRR and sanitation.
- A national DRR strategy was approved and DRR was added into government guidelines for district development planning, which were piloted in 13 districts.
- These achievements contributed to prompt and efficient responses to earthquakes and flash floods in 2010.

LATIN AMERICA AND THE CARIBBEAN

DISASTER RISK

The LAC region spans a diverse set of countries, and natural hazards are equally diverse and include earthquakes, hurricanes, floods, landslides, forest fires, droughts and volcanoes. Very extensive floods occurred in Brazil and Colombia in 2010, a significant drought in Paraguay in 2012 and massive earthquakes in Haiti and Chile in 2010. These last two events highlight how two different countries, affected by a similar kind of natural hazard, can be impacted quite differently: the earthquake in Chile, which measured 8.8 on the Richter scale, killed 525 people (with 25 missing), while Haiti's 7.0-magnitude quake killed more than 222,000.⁵⁵ This region is the most urbanized of the developing regions globally, which adds considerably to disaster risk in some countries.⁵⁶ Rapid urbanization and growing demand for housing, social and health services and resource supplies stretch physical, social and regulatory infrastructure, increasing risks and vulnerability. Population growth and urbanization have led, meanwhile, to the rapid expansion of cities into flood plains or mountainous areas susceptible to landslides.

Meanwhile, climate and hydro-meteorological natural hazards in the region have been considerably exacerbated by the recurring El Niño Southern Oscillation (ENSO) phenomenon. The impacts of climate-related risks include reduced water availability and increased flooding and landslides, reduced food productivity and quality and the spread of vector-borne diseases. The small island states of the Caribbean are particularly at risk from loss of livelihoods, settlements, infrastructure, ecosystem services and economic stability, especially in low-lying coastal areas.⁵⁷

DISASTERS: 2005–2014⁵⁴



624
Events



244,000+
People killed

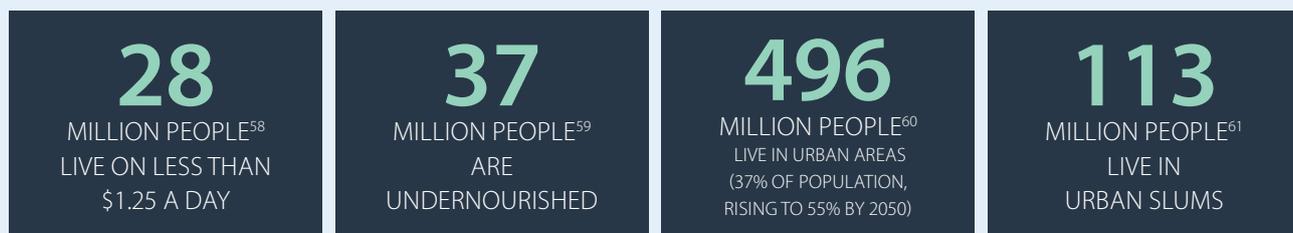


64 MILLION+
People affected



\$99 BILLION
Total damage

VULNERABILITY AND EXPOSURE



MAJOR DISASTERS⁶²

- Droughts in Brazil affected **20 MILLION** people in 1983 and 1.4 million people in Paraguay in 2012.
- Floods in Argentina affected **10.4 MILLION** people in 1983 and 1988, 6.0 million people in Brazil in 1988 and 2.8 million people in Colombia in 2010.
- The tropical cyclone season often has major effects. The **2004** Atlantic hurricane season spawned 16 storms, nine of which became hurricanes and **SIX** of which intensified into **MAJOR HURRICANES**.⁶⁴
- An **EARTHQUAKE** in Chile in 2010 affected **2.7 MILLION** people and the Haiti earthquake in the same year affected 3.7 million people, **KILLING 222,000**.

ANOTHER VIEW

URBAN RISKS ARE GROWING⁶³

	URBAN POPULATION %	
	2014	2050 estimated
CHILE	89	93
DOMINICAN REPUBLIC	78	90
CUBA	77	83
COLOMBIA	76	84
BOLIVIA	68	79
EL SALVADOR	66	78
PANAMA	66	77
PARAGUAY	59	72
NICARAGUA	58	72
HAITI	57	76

UNDP'S DRR INVESTMENT: 2005–2014

36
COUNTRIES

\$ 227
MILLION

Although DRR expenditure increased significantly through to 2012, spending was less in 2013 and 2014. This is likely due to the generally higher levels of wealth of this developing region, high levels of national consciousness on disaster risk and recent increasing domestic spending on DRR.

LATIN AMERICA: DRR EXPENDITURE PER YEAR



UNDERSTANDING AND COMMUNICATING RISK

RISK ASSESSMENTS

13

COUNTRIES

DISASTER LOSS DATABASES

7

COUNTRIES

EARLY WARNING SYSTEMS

5

COUNTRIES

PARAGUAY AND BARBADOS

EARLY WARNING WIDENS AND DEEPENS RISK REDUCTION

In Paraguay, UNDP's help in EWS goes deep into risk reduction:

- It goes beyond warning of hazards to identify risks, vulnerabilities and community capacity.
- It foresees the economic and material impacts on communities affected by adverse events.
- It goes beyond early warning to provide advice on investments to decision-makers.

In Barbados, UNDP's work has gone beyond borders to include:

- Technical assistance to develop a network of real-time exchange of hydro-meteorological data;
- Expanded reach beyond the country to the entire Eastern Caribbean region;
- Training undertaken in emergency response and coordination.

MEXICO

ASSESSMENTS DELIVER LONG-TERM URBAN RISK MANAGEMENT FOR TIJUANA

UNDP's sustained support to urban risk assessment has ensured that:

- Historical earthquake data have been used to locate high-risk zones.
- Estimations have been made of damage to buildings and critical facilities, human deaths and injuries, and people needing emergency shelter in the aftermath of an earthquake through damage scenarios.
- Pre-disaster shelter plans have been prepared as a response strategy, along with legal and institutional frameworks required for the strategy's implementation.
- 1.5 million inhabitants of Tijuana are better protected, with the city having a clear emergency action plan.
- Mayors of five other cities have agreed to replicate the measures, with funding from government.

REDUCING RISK



HONDURAS

DRR INSTITUTIONAL FRAMEWORKS HAVE LED TO THE INTEGRATION OF RISK INTO DEVELOPMENT

UNDP has delivered sustained technical advice to Honduras that has led to a rapid evolution of its work to reduce disaster risk, ensuring the:

- Incorporation of gender perspectives and a recovery focus;
- Development of joint recovery frameworks;
- Development of financial tools and sectoral plans to complement the national DRM plan;
- Implementation of comprehensive state policy and law on risk reduction;
- Incorporation of disaster risk analysis into investment projects at national, territorial and sectoral levels.

DOMINICAN REPUBLIC

URBAN RISK MANAGEMENT ENSURES THAT PUERTO PLATO IS RESILIENT

Some 70% of buildings are structurally precarious in Puerto Plata, a coastal city with 150,000 inhabitants and a high level of seismic risk. UNDP's project 'Communities that are Resilient to Earthquakes and Tsunamis in Puerto Plata' has ensured:

- Training of several hundred builders, engineers and architects in earthquake-resistant buildings, and training of community facilitators in disaster prevention;

- Thousands of families briefed on construction methods for earthquake-resistant buildings;
- Improvement of eight temporary shelters, to be managed by 200 trained staff; 10,000 people in high-risk areas have been educated on the location and use of shelters;
- Signing of the Puerto Plata Declaration, committing to DRR budgeting and project management;
- Work in the city has led to updated national construction standards and regulations for buildings and earthquake-proof infrastructures.

CUBA

INTEGRATING DRR INTO INVESTMENT PLANNING

UNDP's longstanding work in Cuba has supported significant efforts to reduce risk:

- By law, every public entity has to include actions to reduce risk in its economic planning.
- Municipalities now integrate DRR into investment planning, with strong accountability measures established.
- In-depth consultations ensure greater integration between neighborhood-level concerns and data and municipal DRM and land use plans.
- The DRM plans produced by people's councils in urban neighborhoods inform land use plans throughout the country.

MANAGING THE REMAINING RISK



CENTRAL AMERICA

INSTITUTIONAL RECOVERY CAPACITY STRENGTHENED

UNDP has funded and implemented an initiative to strengthen institutional recovery, promoting a comprehensive and integrated approach with joint sectoral work and collaboration across the region. This has resulted in:

- The building of institutional capacity, leading to the development of the Honduras Comprehensive Risk Management Policy, which emphasizes transformative recovery

- Recovery frameworks developed in both Guatemala and Panama;
- The creation and training of a specialist recovery group of government officials from seven countries, which has led to the creation of the first regional post-disaster taskforce;
- Preparation of sectoral tools, including financial, project implementation, monitoring and reporting mechanisms and promotion of public-private partnerships;
- Tools for intervention being developed in El Salvador, Honduras and Nicaragua and shared with other regions.

HAITI

POST-EARTHQUAKE BUILDING OF RECOVERY OUT OF RESPONSE

UNDP has supported the implementation of structural change with the establishment of institutions responsible for the coordination of reconstruction. Its work has further ensured that:

- More than 1,000,000 people have benefitted directly from recovery with work in debris clean-up, economic revitalization and a return to their neighborhoods.

- Over 300,000 people (40% of them women) have gained temporary employment through more than 230 projects.
- 5,000 participants in community support centers have been trained in construction techniques, with thousands granted funds to buy and use local construction materials.
- A South–South cooperation collaborative agreement has been established between Chile, Haiti and UNDP to effectively bridge the humanitarian response with development.

ECUADOR

RECOVERY DRIVES THE INTEGRATION OF RISK INTO DEVELOPMENT PLANNING

UNDP significantly supported the government following floods in 2008, and built on this to deliver increasingly influential risk-related initiatives.

- The National Secretariat for Risk Management (SNGR) has become functional at national and local levels.
- Requests for external assistance have dropped significantly.
- The government has prioritized investments in DRR, including \$250 million through SNGR, and has designated funding for municipalities to undertake risk reduction.
- Through partnerships with seven universities to develop vulnerability and capacity assessments, government interventions are enhanced and underpinned by evidence.
- Quito's urban risk management program has developed a seismic risk plan, identifying 10 safe public spaces, and partnering with the private sector to access seismic risk information
- Preparedness training for 6,540 volunteers;

- The successful evacuation of 1.1 million people during Cyclone Mahasen (2013), which resulted in significantly reduced disaster mortality.

MILESTONES

2008	Inclusion of risk management within the constitution (Art. 389, 390)
2009	Creation of the Technical Secretariat for Risk Management (TSRM)
2010	TSRM transformed into the National Secretariat for Risk Management (SNGR)
<i>Since</i> 2009	Annual budget allocated to the SNGR reached \$254 million, including investment and current budget allocation
<i>Since</i> 2009	Contingency Local Plans for flooding developed by the government with UNDP assistance
2012	Risk Management Legislation drafted, to be submitted to National Assembly in 2013
2013	Implemented comprehensive measure—plans, strategies, policies, programs and budgets at local level to strengthen DRM/disaster risk governance

THE FUTURE FOR THE REGION: WHAT IS NEEDED OVER THE LIFE OF THE NEXT FRAMEWORK?

Disaster risk is likely to increase across the region. The frequency and intensity of hydro-meteorological natural hazards will continue to grow, based on current climate scenarios, while the serious threat of geophysical hazards remains. Inequality and marginalization will remain an issue, together with rapid and unplanned urbanization.

Priorities in the region are many and interconnected. There is a need to ensure that national development strategies include DRR; institutional capacities to mainstream DRR into sectors are strengthened; central and local-level recovery processes are focused on reducing risk, taking into account livelihoods restoration and specific needs of vulnerable groups; territorial planning including DRR is enhanced; and South–South cooperation mechanisms and the systematization and dissemination of good practices are supported and strengthened.

Addressing the underlying causes of vulnerability to disasters remains crucial to build the resilience of countries and individuals. There is a need to ensure that development processes integrate risk reduction at all levels. High levels of vulnerability to natural hazards can be explained by institutional weaknesses that preclude growth in resilience; the limited capacity of vulnerable communities to prepare for, prevent, recuperate and adapt; and lack of recognition of specific vulnerabilities. Addressing vulnerabilities will include linking DRR and CCA, as well as ensuring that environmental and ecosystem concerns are jointly addressed.

UNDP AND CLIMATE CHANGE: A SNAPSHOT

MITIGATION, ADAPTATION AND BEYOND

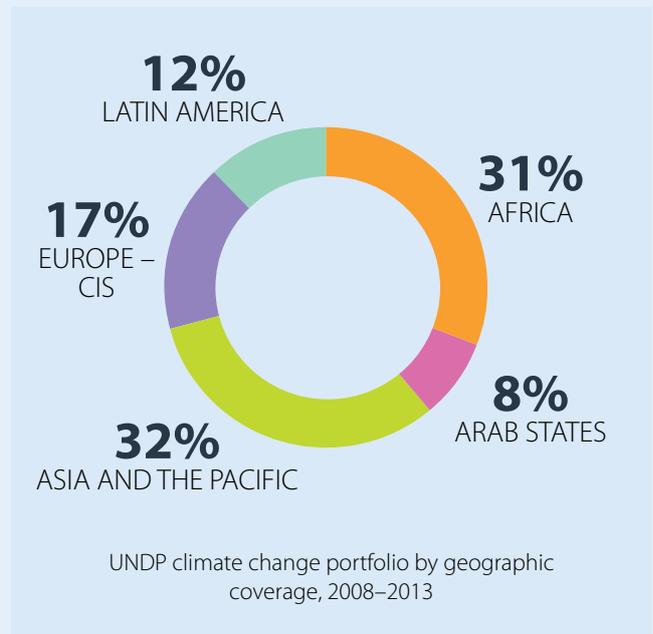
In addition to its work on DRR, UNDP works substantially on climate issues, helping countries to achieve their own solutions to global and national development challenges and to transition toward low-emission and climate-resilient sustainable development. With decades of experience, it has developed a reputation as a trusted neutral advisor, technical expert and convenor.



THE APPROACH

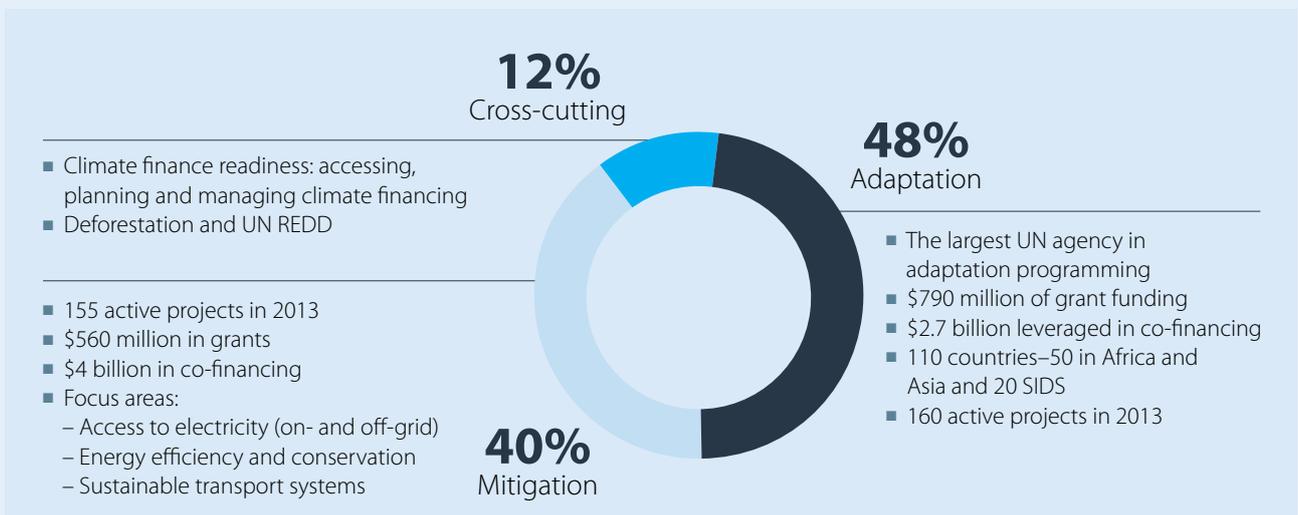
- 1** Implementation of an extensive programming portfolio, through the provision of direct support to governments in the transition to inclusive, low-emission, climate-resilient development.
- 2** Policy and technical support implemented through regional service centers and country offices, particularly focused on small island developing states (SIDS) and least developed countries (LDCs), including knowledge sharing and best practices.
- 3** Strengthened capacity of national stakeholders, especially to enhance their ability to access, use and manage climate finance.

THE REGIONS



THE BREAKDOWN

A breakdown of UNDP's climate change portfolio, where climate is the principal objective of the project:



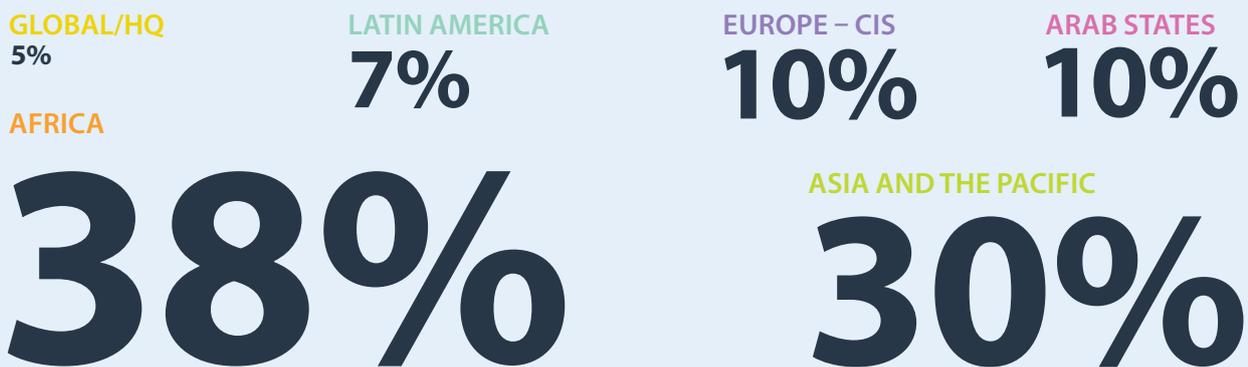
CLIMATE RISK MANAGEMENT AND THE REDUCTION OF DISASTER RISK

UNDP is integrating CCA and DRR to address the risks to development posed by climate variability and change. Its climate risk management (CRM) approach focuses on development outcomes that advance climate-sensitive decision-making and development:

Helping governments:	Bringing together:	Delivering outcomes for:
Develop better policies	Historical and current patterns of climate-related hazards and losses	Agriculture and food security
Improve institutions	Trends that illuminate new patterns of risks and vulnerabilities	Water resources
Facilitate climate-sensitive development planning	Projected scenarios and potential future drivers of risk	Health
Help nations and communities to become more resilient	Lessons learned from DRR, CCA and development interventions	Environment
		Urban development
		Livelihoods

CRM BY REGION

THE TOTAL EXPENDITURE ON CRM AMOUNTED TO \$143.1 MILLION FROM 2005 TO 2014, ACCOUNTING FOR 8% OF THE TOTAL DRR EXPENDITURE OF \$1.7 BILLION



EXAMPLES OF UNDP'S CRM PROJECTS

CLIMATE ASSESSMENTS REDUCE THE IMPACT OF DROUGHT ACROSS AFRICA	GOVERNMENT AND COMMUNITIES IN THE HIMALAYAS JOIN TOGETHER TO MANAGE CLIMATE RISK	THE AGRICULTURAL SECTOR IN ARMENIA HAS BEEN STRENGTHENED AGAINST CLIMATE-DRIVEN SHOCKS
<p>UNDP has worked with governments and communities to assess the climate risk posed to sensitive development sectors, and has identified actions to protect lives and livelihoods:</p> <ul style="list-style-type: none"> Seventeen countries have been assisted. Work has been undertaken in agriculture, water and sanitation, food security, health care, the environment and other sectors. Climate assessments have highlighted drought risk for wetlands that have been supporting commercial forestry and farming. Food crises have fallen in numbers and intensity. Actions to reduce climate risk have been identified—such as improved governance of wetlands, monitoring of environmental and socio-economic conditions and environmental restoration. 	<p>Due to melting glaciers and the potential increased risk of flooding, UNDP has been working with governments and communities, helping them to assess the potential effects of climate change on mountain communities and their assets. UNDP is helping to reduce the risk:</p> <ul style="list-style-type: none"> Across Bhutan, India, Nepal and Pakistan; Through the mapping of glacial and other hazards; By establishing national and international EWS; By building lake and river embankments and planting bamboo and other crops to reduce flood risk. 	<p>Through its Integrated Climate Risk Management Programme (ICRMP), UNDP is working in Armenia, Honduras, Indonesia, Kenya, Nepal and Uganda to strengthen climate resilience and to develop policies and activities that integrate both DRR and CCA. In Armenia, UNDP's support has:</p> <ul style="list-style-type: none"> Delivered applied research showing that climate-driven shocks such as drought, storms, floods and frost will result in a more than 50% reduction in grain and vegetable production in the years ahead; Strengthened the resilience of the agriculture sector by helping farmers understand the risks that they face and develop strategies to cope; Trained farmers in crop diversification, the cultivation of climate-resilient yields and localized climate risk assessments.

A SAMPLE OF UNDP'S GLOBAL INITIATIVES

UNDP's work in DRR is global, national and local. Some of our initiatives work across countries and regions to reduce risk more comprehensively and cost-effectively, drawing on lessons learnt and evidence in one context to bring change to another.

CADRI

CAPACITY FOR DISASTER REDUCTION INITIATIVE

Established in 2007, the CADRI program supports governments in building and implementing a coherent framework for developing national capacities for DRR. In partnership with six UN organizations (United Nations Development Programme, Office for the Coordination of Humanitarian Affairs, United Nations Children's Fund, World Food Programme, Food and Agriculture Organization and World Health Organisation), CADRI's results in 2013 and 2014 included:

- Capacity assessments for DRR undertaken in seven countries;
- Plans of action for capacity development in DRR elaborated in six countries;
- Support to four regional economic communities in Africa, with regional institutional capacity assessments of three;
- Multiple training workshops: five national DRR, two regional mainstreaming into priority sectors, two regional and one global on capacity development;
- More than 400 professionals trained (from government, the UN, NGOs and other national stakeholders).

GARD

GET AIRPORTS READY FOR DISASTER

Local airports can quickly become overwhelmed with incoming relief supplies after a disaster. UNDP, in partnership with logistics company Deutsche Post DHL, developed this program in 2009 to prepare airports and disaster management agencies for the logistical challenges posed by disasters. This resulted in:

- Detailed work in 28 airports in 13 countries, including compilation of reports on the airports' surge capabilities and management structures;
- Training being delivered for more than 500 airport personnel in on-site logistics support;
- Delivery of follow-up GARD-plus (further assessments, simulation exercises and action plan implementation) in five countries (El Salvador, Panama, Lebanon, Armenia and Indonesia);
- Planned work for eight new countries over the next two years and follow-up GARD-plus and support in implementation of airport preparedness recommendations.

GMI

GLOBAL MAINSTREAMING INITIATIVE

GMI delivers guidelines and tools to assist in disaster mainstreaming in development planning, capacity-building support and the promotion of best practice approaches and advocacy. The target audience for this project includes:

- UNDP country offices and regional centers;
- UNDP's practice areas of poverty reduction, democratic governance and energy and environment;
- Selected national governments;
- UNDP's partners, including organizations within the UN system and the International Federation of Red Cross and Red Crescent Societies (IFRC).

In this initiative UNDP contributes, through four principal entry points, to **strengthening the integration of DRR into the future development agenda and the successor to the HFA:**

1. The Mainstreaming Adaptation and Disaster Reduction into Development (MADRiD) program increases political commitment for integration of DRR and CCA into socio-economic planning. UNDP, in partnership with UNISDR, facilitates learning, experience sharing and alliance building.
2. A global analysis of the status of laws and regulations for DRR, launched in 2014, investigates how legislation can enhance the effectiveness of DRR at the national and community levels, as well as indicating legislative gaps and relevant solutions to DRR challenges.
3. Working in Armenia, Indonesia, Mozambique, Nepal and Paraguay, UNDP is piloting targets and indicators on DRR in the post-2015 development agenda. The roll-out process includes consultation workshops and research to understand the viability of specific targets and indicators at the national level.
3. The Global Assessment Report (GAR) on DRR 2015 is a flagship publication of the UN system. UNDP has prepared a major contribution—a global review on disaster risk governance. This captures the development of the concept and progress to date since 2005, when the HFA was endorsed.

KNOWLEDGE CREATION AND DISSEMINATION

Cutting across all its work to understand, reduce and manage risk, UNDP works to ensure that research and evidence become fundamental components of risk reduction, and that lessons learnt are shared across countries. Some of its work in this area includes:

Developing Global Educational Capacity

UNDP technical assistance has helped design DRR curriculums in more than 20 universities across the world, including two in Africa, five in Asia and the Pacific and five in LAC.

DRR knowledge generation and exchange in Brazil

UNDP's work with the National Protection and Civil Defence System has ensured the following:

- Capacity and training needs assessment conducted in 10 prioritized states;
- Course developed on fundamentals of DRR and used to train over 1,200 agents;
- Development of a national strategy for capacity development in DRR;
- Future work will help create and strengthen a national DRR research network, virtual training platform, development of more training modules and training for 9,000 staff and volunteers.

Partnership promotes regional South–South cooperation

A partnership between China, the United Kingdom, Bangladesh, Nepal and UNDP has promoted regional South–South cooperation through the 'Sharing and Learning on Community Based Disaster Management in Asia' project. UNDP's support has ensured:

- Potential benefits to about 20 million people threatened by natural hazards;
- The establishment of a demonstration facility for capacity-building and exchanges among communities, including platforms for information sharing and mutual learning;
- Participation by 1,000 government officials, academics and community practitioners in policy dialogues, workshops and community exchange events;
- The development of technical tools for flash flood risk assessments, as well as materials on risk mapping and contingency planning across countries.

PDNA

POST-DISASTER NEEDS ASSESSMENT⁶⁵

The PDNA, a key commitment on post-crisis cooperation, is an exercise that is led and owned by the government of the affected country, and is supported by the European Union, the World Bank and the United Nations Development Group (UNDG). Following a disaster, the impact is assessed and a strategy for resilient recovery (with estimation of financial resources) is developed.

PDNAs have been conducted in 25 countries to date, including Haiti, Nigeria, Samoa and most recently the Philippines, following Typhoon Haiyan. They produce:

- A consolidated, cross-cutting and comprehensive assessment, based on sector reports (social, infrastructure, productive, macro-economic, finance, cross-cutting themes and human development);
- A recovery strategy, based on the identification of all recovery and reconstruction needs, providing an opportunity to update development plans towards building resilient communities;
- A resource mobilization tool in support of the country's recovery; and
- An outline for a country-led recovery process.

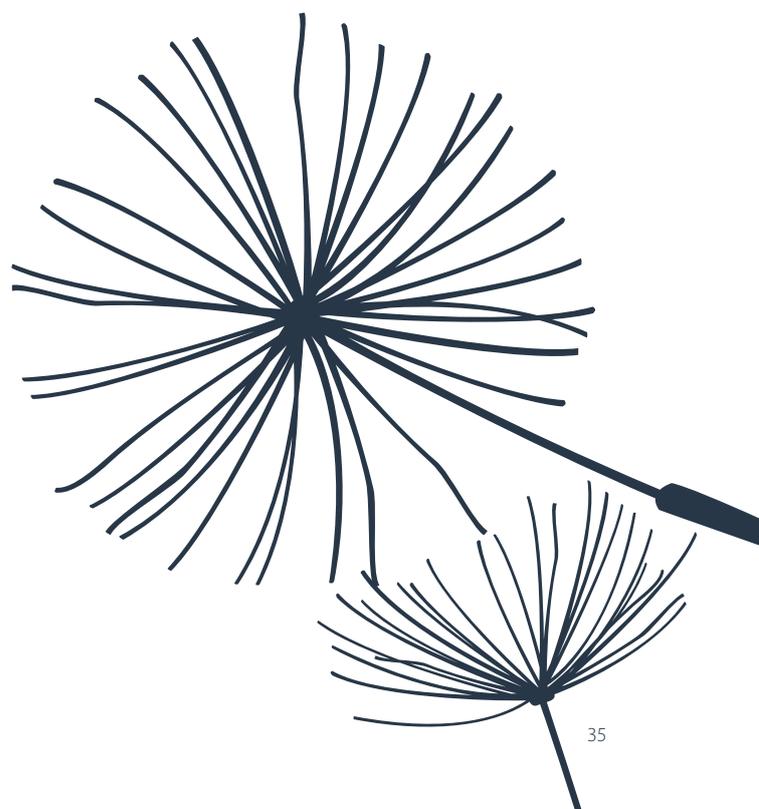
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ABBREVIATIONS

CCA	Climate change adaptation
CDMP	Comprehensive Disaster Management Programme
CRM	Climate risk management
DRM	Disaster risk management
DRR	Disaster risk reduction
ECIS	Europe and Commonwealth of Independent States
ENSO	El Niño-Southern Oscillation
EWS	Early warning system
GFDRR	Global Facility for Disaster Reduction and Recovery
GIS	Geographic information system
HFA	Hyogo Framework for Action
ICRMP	Integrated Climate Risk Management Programme
LAC	Latin America and the Caribbean
LDC	Least developed country
PDNA	Post-Disaster Needs Assessment
SIDS	Small island developing state
UNISDR	Secretariat of the UN Strategy for Disaster Reduction
UNDP	United Nations Development Programme





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