

Integrating Disaster Risk Reduction into the Common Country Assessment and United Nations Development Assistance Framework

Disaster Risk Reduction
2009



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List of Acronyms

The following abbreviations relate to those used in the main text and in the annexes. This list does not include the acronyms of United Nations agencies, which are listed at: www.un.org

CBO	Community Based Organization
CCA	Common Country Assessment
CP	Country Programme
CSO	Civil Society Organization
DMT	Disaster Management Team
DRR	Disaster Risk Reduction
GDP	Gross Domestic Product
HFA	Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters
HRBA	Human Rights Based Approach
ICT	Information and Communication Technologies
IDP	Internally Displaced Person
IMF	International Monetary Fund
IOM	International Organization for Migration
IPCC	Inter-Governmental Panel on Climate Change
ISDR	International Strategy for Disaster Reduction
LDC	Least Developed Country
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
NGO	Non-Governmental Organization
ODA	Official Development Assistance
RBM	Results-Based Management
SIDS	Small Island Developing States
SWOT	Strengths, Weaknesses, Opportunities and Threats
UNCT	United Nations Country Team
UNDAF	United Nations Development Assistance Framework
UNDG	United Nations Development Group
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollars

Foreword

This guidance note is intended to support those United Nations Country Teams (UNCTs) embarking on, or reviewing, their Common Country Assessment (CCA) and United Nations Development Assistance Framework (UNDAF) in countries where disaster risk constitutes an important challenge to national development and poverty reduction. Because of the close relationship between disaster and climate change the guidance note is also anticipated to be of use when considering climate change adaptation.

The purpose of this document is to provide step by step advice on how to integrate disaster risk reduction (DRR) into the process of CCA/UNDAF preparation, formulation, and monitoring and evaluation. This guidance note is intended to complement and provide additionality to the United Nations Development Group's (UNDG) *Guidelines for UN Country Teams on Preparing a CCA and UNDAF*. The document can also be useful to the wider development community by providing helpful insights on integrating DRR into broader development analysis, strategic planning and programming.

The Secretary-General's 1997 reform agenda sought to make the United Nations (UN) an effective institution for the new challenges and developments of the 21st century and to articulate a coherent vision and strategy for a unified approach towards common development goals at country level. To this end the CCA and UNDAF were adopted as strategic planning tools so that the UN system could better support national development efforts within the context of the Millennium Development Goals (MDGs).

Disasters caused by vulnerability to natural hazards exert an enormous toll on development. They pose significant threats to poverty alleviation and the achievement of the MDGs and this challenge is likely to be exacerbated as the impacts of climate change are increasingly felt.

In many countries, the process of development itself has a huge impact, both positive and negative, on disaster risk. Countries that face similar patterns of natural hazards often experience widely differing impacts when events of similar scale occur. This varying impact depends in large part on the kind of development choices they have made. The solution to this challenge is to make a concerted effort towards integrating DRR interventions into broader development approaches. An important step towards this is for the UNCT to integrate DRR as part of the CCA/UNDAF.

Summary

In 2009 the UNDG revised its *Guidelines for UN Country Teams on Preparing a CCA and UNDAF* (hereafter referred to as *CCA/UNDAF Guidelines*). The *CCA/UNDAF Guidelines* highlight the importance of DRR as a cross-cutting theme. The present guidance note is for UNCTs engaged in the CCA/UNDAF process in countries where disaster risk is considered a significant challenge to national development and poverty reduction. Its purpose is to provide step by step advice, including links to resources, on how to integrate DRR into the process of CCA/UNDAF preparation, formulation, and monitoring and evaluation. The guidance note complements, and should be read in conjunction with, the *CCA/UNDAF Guidelines*. It may also be of use to the wider development community when undertaking comprehensive development assessment, planning, programme management, and monitoring and evaluation.

This note provides substantive guidance and examples of how to integrate DRR into the CCA/UNDAF process. It recognises that there is no one blue-print for successful integration of DRR into development. Each UNCT needs to tailor its programmes to the specific needs of the country involved, and the priorities and capacities of the national government and its population.

The document focuses on disasters caused by vulnerability to natural hazards rather than those related to conflict or civil unrest. Because of the close relationship between climate change and disaster risk and the fact that DRR is an essential element of climate change adaptation, the guidance note will also be helpful to UNCTs wishing to address climate change impacts in their analysis and future plans. It will also be useful for UNCTs dealing with related risks, like food insecurity and technological risk.

The guidance note identifies critical steps for integrating DRR into the analytical and strategic planning process and will help UNCTs to:

- **Analyse disaster risk**—including the root causes of disasters and why and how they are likely to affect sectors, assets and communities. This should include assessment of hazards, elements exposed to those hazards (i.e. sectors, assets and communities) and the factors that influence vulnerability of those elements. In particular the document highlights the need to consider how the trends and patterns of hazards and vulnerability are likely to be affected by **climate variability and change**.
- **Review how disaster risk interacts with development**—examine the two-way relationship between disasters and development looking at how critical sectors of development are likely to be affected by disasters and, conversely, how disaster risk can be exacerbated or reduced by development actions.
- **Examine national capacities and risk reduction options**—examine existing capacities of relevant actors at all levels to better protect lives, livelihoods and assets.
- **Identify priorities for intervention**—based on identified needs, government priorities, the UNCT comparative advantage and planned activities of other development partners.
- **Agree on the most appropriate areas for UNCT support**—review the value added of resident and non-resident UN agencies in DRR. This involves effective prioritisation of short, medium and long term deliverables.
- **Include DRR as an integral part of the UNDAF monitoring and evaluation process.**

This guidance note is structured as follows:

- **Introduction** provides an overview of the relationship between disasters and development and outlines the key international commitments to DRR.
- **Part 1** describes how DRR relates to the CCA/UNDAF key principles for engagement.
- **Part 2** explains how DRR can be effectively captured in strategic country level analysis for development planning (including in the CCA, if one is undertaken).
- **Part 3** explains how DRR can be incorporated into the preparation of the UNDAF, including reflection on whether DRR should be considered as a cross-cutting area, a separate pillar or a combination of the two.
- **Part 4** provides an indication of effective monitoring and evaluation of DRR efforts.

The document also considers how DRR relates to the inter-related principles of human rights, gender equality, environmental sustainability and capacity development. A number of **Annexes** are included. These are substantive, providing helpful additional advice and practical examples.

Editorial Note

This guidance note will be regularly updated to respond to new developments and reflect feedback from practitioners. The latest version is available for download on the UNDG website:

www.undg.org/drr

We welcome your comments on the usefulness of the guidelines and suggestions for improvement to this guidance. Please send to: doco@undg.org

Introduction

This section provides an overview of the relationship between disasters and development as well as outlining the key commitments made by the international community to DRR. It also shows the utility of this document to those UNCTs addressing climate change adaptation.

Disasters occur when vulnerable communities are affected by a hazard or shock. While there are many kinds of hazards that can lead to disaster, this document deals with disasters resulting from 'natural' hazards. These include hydro-meteorological hazards (including wind-storms, floods and droughts) and geological hazards (including earthquakes, landslides, tsunamis and volcanic eruptions). This guidance may also be of use to UNCTs looking at other risks or shocks where a risk management approach can provide a useful basis for action, including technological disasters (such as industrial incidents), food insecurity-related shocks and climate change-related impacts.

Why do disasters matter to the UNCT?

Nearly 1.2 million people have lost their lives in natural hazard-related disasters over the past two decades. Associated economic losses are estimated to total approximately 70 billion USD per year, with poor countries bearing the bulk of the losses. In 2004 alone, disasters killed nearly 245,000 people; while in 2005 economic damages worth 215 billion USD were recorded¹.

Disaster risk is increasingly global in character. Factors such as climate change and globalisation mean that actions in one region may have an impact on disaster risk in another, and vice versa. This is compounded by growing vulnerability resulting from unplanned urbanisation, under-development and competition for scarce resources and points to a future where disasters will increasingly threaten the world's economy and population. The UN Under-Secretary-General for Humanitarian Affairs reports that **9 out of every 10 disasters are now climate-related**. Climate change has the potential to exacerbate disaster risk; not only because of the expected increase in frequency and intensity of extreme climate events but also due to its effect on the drivers of vulnerability—including food insecurity, loss of ecosystem services and new patterns of migration. The 2008 food price crisis is an example of how the cumulative effects of multiple shocks (including natural hazards) can have dramatic impact on the most vulnerable. Equally, in many countries, disasters and conflicts co-exist, having a mutually reinforcing impact resulting in increased levels of insecurity.

Whilst mortality and economic loss are intensively concentrated in a few large-scale catastrophes, extensively distributed small-scale disasters are responsible for increased losses in livelihood assets. As a result, even if a country's overall levels of growth remain positive, disasters can undermine efforts towards poverty reduction, by specifically affecting the most vulnerable segments of society. There is clear evidence that the impacts of disaster are borne disproportionately by women, children and the poor².

There is a strong correlation between disasters and development. Development plays an important role in decreasing or increasing disaster risk. Inappropriate development can increase levels of vulnerability to disaster risk and, in turn, disasters can negatively affect poor countries' development³. The Kashmir earthquake, for example, where many schools collapsed causing high loss of life, demonstrated the consequences of failing to address disaster risk in the construction of

¹ Office for Foreign Assistance/Centre for Research on the Epidemiology of Disasters have a mandate from UN to monitor disaster impacts. This paragraph has therefore been revised based on latest data from Centre for Research on the Epidemiology of Disasters' EM-DAT database over the two past decades 1988-2007, excluding 'accidents'.

² Neumayer, Eric and Thomas Plümper, *The Gendered Nature of Natural Disasters*, London School of Economics (2007).

³ This is illustrated in *Reducing Disaster Risk: A Challenge for Development*, United Nations Development Programme, (2004),

essential infrastructure. The earthquake caused an estimated 5 billion USD in damage to Pakistan, roughly equivalent to the total development assistance to the country for the preceding three years. Furthermore, large-scale disasters divert investments away from key development sectors, towards recovery and reconstruction efforts⁴.

These challenges become progressively more significant as we move toward 2015, the deadline by when the MDG targets are to be met. It is now largely recognised that the world as a whole, and some regions in particular, are unlikely to achieve certain targets. In a number of countries disasters contribute to this challenge⁵. Least Developed Countries (LDCs) and Small Island Developing States (SIDS) are especially disaster-prone and vulnerable.

As a result, there is growing recognition that whilst early warning systems, emergency response and humanitarian efforts are important, there is an urgent need to reduce underlying vulnerabilities and other risk factors. This can only be achieved through integrating DRR into ongoing development plans and interventions. Supporting national capacity to reduce risk should be at the heart of any such effort, and this includes supporting local community efforts to build their own capacity to withstand existing and potential disaster risk.

The main international framework guiding work and measuring progress on DRR is the internationally negotiated *Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters* (referred hereafter as HFA). This framework was adopted by 168 countries in 2005, and subsequently endorsed by the UN General Assembly. It provides an overview of the main elements required for DRR at all levels. The HFA specifically calls upon international organizations and UNCTs to 'integrate disaster risk reduction considerations into development assistance frameworks, such as the Common Country Assessments, the United Nations Development Assistance Frameworks and poverty reduction strategies.'

International support for the integration of DRR into sustainable development frameworks is also noted in a number of other international agreements, including:

- The *UN Millennium Declaration and Road Map Towards the Implementation of the United Nations Millennium Declaration* which emphasised the need to 'intensify our collective efforts to reduce the number and effects of natural and man-made disasters'.
- The Fifty-Ninth Session (2004) of the *General Assembly [Resolution 59/233]* which prioritised the mainstreaming of DRR into country programmes and action plans.
- The *Johannesburg Programme of Implementation of the 2002 World Summit on Sustainable Development* which identified the importance of integrating DRR into development.
- The *Bali Action Plan 2008* which explicitly linked climate change, DRR and development.

In recognition of the importance of this agenda the Secretary-General's Policy Committee made specific decisions on DRR and climate change adaptation in 2007. These included:

- to highlight the importance of raising greater political attention/advocacy, led by the Secretary-General, to the benefits of DRR and the consequences of not investing in it;
- to commit the UN to enhance links and synergies between DRR and climate change; and
- to promote better mainstreaming of DRR and the HFA in UN policies and practices.

The CCA/UNDAF provides an important opportunity for mainstreaming DRR into the UN system's practice at the national level. In recognition of this the revised *CCA/UNDAF Guidelines* make

⁴ See for example, as demonstrated by the World Bank's *Hazards of Nature, Risk to Development* (2006)

⁵ This is highlighted in *Disaster Risk Reduction: a Development Concern*, Department for International Development (2006).

explicit reference to the importance of DRR. The *CCA/UNDAF Guidelines* indicate that disaster risk should be reflected in all stages of the CCA/UNDAF process, including: (a) at the stage of analysis: here the expected result from the UNCT involvement in the national analytical process should be to include 'recognition of the risks of crises and natural disasters, as well as capacities for crisis prevention and disaster preparedness', and (b) at the stage of programme formulation: here 'UNDAs should reflect risks of crises and natural disasters, as well as capacity gaps for crisis prevention and disaster preparedness, as identified in the analysis.'

What is Disaster Risk Reduction?

Disaster risk reduction is defined by the International Strategy for Disaster Reduction (ISDR) as, 'Action taken to reduce the risk of disasters and the adverse impacts of natural hazards, through systematic efforts to analyse and manage the causes of disasters, including through avoidance of hazards, reduced social and economic vulnerability to hazards, and improved preparedness for adverse events'. A list of DRR terms and concepts is given in Annex 1.

A hazard or shock becomes a disaster when it affects vulnerable communities. Community vulnerability is exacerbated by poor social, economic and physical development planning decisions. At the heart of DRR is the need to consider: (a) in what ways communities and their development are vulnerable to disasters; (b) how communities' development choices increase or decrease the levels of disaster risk to which they are exposed/vulnerable; and (c) to what degree community capacity can be strengthened to better deal with existing and future risk. There is also a realization that 'community' is not a homogeneous entity. Its composition includes women, men, boys, girls, the elderly, poor, rich and the disabled, all of whom have differential access to power and resources, which in turn affects their vulnerability and capacity.

DRR includes efforts to minimise risks and related vulnerabilities. This includes efforts to **prevent** disaster risk, and to limit the adverse impact of hazards when they occur, through **disaster mitigation, preparedness and response**. Meaningful progress requires these efforts to be embedded in national development processes and fully institutionalised by government.

A comprehensive approach to reduce the risks of disasters and measure progress towards putting DRR processes in place is set out in the HFA. A diagram showing the critical areas of DRR, as identified in the HFA, is given in Annex 2.

The HFA five priorities for action are:

- 1) **Ensuring that there is appropriate national and local prioritisation for DRR and that the necessary institutional basis for implementation is in place.** Countries will only be able to reduce risk sustainably if they have appropriate institutional capacity, which includes having: appropriate legislation supported by mechanisms to enforce compliance; appropriate resources (e.g. financial and human); and the political will to allocate resources to DRR.
- 2) **Undertaking risk assessments and having mechanisms in place for effective risk monitoring and early warning.** DRR includes having knowledge and know-how to respond to the main hazards (e.g. earthquake risk) and the vulnerabilities (physical, social, economic and environmental) that a country or geographic area face. This includes the ability to monitor and track changes to hazards or levels of vulnerability, and the ability to communicate effectively early warning to at-risk populations and decision-makers.
- 3) **Building a culture of safety through education (both formal and informal) as well as knowledge and innovation generation and promotion.** DRR relies on the awareness of all

critical actors to appreciate and fulfil their roles and responsibilities. This ranges from the ability of government officials to integrate DRR into their sectoral plans, to the knowledge of school children on how they should react when an earthquake strikes. Both informal and formal education has a key role to play in achieving this culture of safety.

- 4) **Reducing the underlying risk factors.** DRR aims to reduce the loss from disasters by addressing their root causes, for example by ensuring that critical infrastructure is disaster-proof (resistant to disaster risk), supporting diversification of livelihoods in drought prone areas, managing natural resources and adopting integrated approaches to planning.
- 5) **Preparing responses at all levels.** When a disaster strikes the scale of its impact is, in part, determined by the speed and effectiveness of the response of all actors—communities and governments alike. Preparedness is a key prerequisite to effective response. This includes effective emergency management planning and stockpiling essential relief items.

The link with climate change

Climate change and disasters are integrally linked. Climate change affects physical hazards and the coping capacity of communities to deal with disasters. It is important that national level efforts to adapt to climate change and reduce disaster risk are effectively harmonized. This is of particular importance in LDCs where government capacity is especially strained, and SIDS, which are extremely vulnerable to climate-related disasters. Risk management approaches are an important component of climate change adaptation. As a result, climate change is considered as a cross-cutting theme throughout this document, and it is hoped that it will provide a useful contribution to those UNCTs also seeking to address climate change risk in their future work.

Part 1: UN Cooperation at Country Level

This section describes how DRR relates to the CCA/UNDAF key principles for engagement. It introduces the critical elements that should underpin the UNCT approach to integrating DRR into its plans. Each of these will be examined in more detail in later sections of the document.

1.1 Elements of performance, principles for engagement and DRR

The *CCA/UNDAF Guidelines* identify a number of critical elements that should be prioritised by all UNCTs embarking on, or reviewing, their UNDAF—these are outlined below. The majority of these areas are also explicitly mentioned as priorities in the HFA.

The *CCA/UNDAF Guidelines* identify three basic country level elements which are prerequisite for effective UNCT performance: national ownership, core comparative advantage and maximum effectiveness and accountability. The issue of national ownership is especially important, as noted in the HFA which recognises the state's primary responsibility for taking effective measures to reduce disaster risk, including the protection of its population, infrastructure and other national assets.

The *CCA/UNDAF Guidelines* identify five inter-related principles that must be applied throughout the UNDAF. These principles are also considered within the HFA.

- 1) **Human rights based approach (HRBA).** Incorporating HRBA into DRR interventions helps to foster awareness and ownership by DRR 'duty-bearers' to meet their obligations towards vulnerable communities. It also helps to ensure that 'rights-holders', particularly the most vulnerable whose rights are often ignored, are empowered to demand greater levels of safety before, during and after disasters. Within this context, the HFA stresses the importance of taking into account cultural diversity and age.
- 2) **Gender equality.** Men, women, boys and girls experience the risk and effects of disasters differently. Women and children account for 60% of disaster-related fatalities and more than 75% of displaced persons. Gender has a strong influence on an individual's perception of risk and exposure to disaster risk. Traditional gender roles mean that women often have less access to disaster information and less access to resources in the aftermath of a disaster. Women, girls and boys are too often seen as the passive 'victims' of disaster. Instead they have a valuable contribution to make in helping to build community resilience. Disasters provide a valuable entry point to further prioritise gender in future development.
- 3) **Environmental sustainability.** Disasters both affect and are affected by environmental conditions. Risk reduction measures, such as sea-walls, can have adverse environmental consequences that can be avoided through integrated planning. Equally, poorly planned recovery can result in devastating effects on the local environment. Conversely, investments in ecosystems management afford important protection from disasters to local communities. These investments also bring significant complementary benefits to a range of development objectives, including poverty alleviation and health.
- 4) **Capacity development.** Capacity development is the central thrust and main benefit of UNCT cooperation. This emphasis is highly relevant for DRR, given that: (a) disaster risk will only be effectively reduced if there is strong national and local ownership/capacity; and (b) effective emergency response, when disasters do occur, relies on the appropriateness and timeliness of national and local interventions. The HFA makes specific reference to empowering communities and local authorities to manage their own development by supporting their access to necessary

information, resources and authority to implement DRR actions as a part of their development decision-making. Capacity development should be at the centre of DRR planning and programming, not inserted as an afterthought or as an add on.

- 5) **Results-based management (RBM)**. RBM is a strategic management approach that UNCTs must use with partners to plan, cost, implement, monitor and measure the changes from cooperation, rather than only the inputs provided or activities conducted. The approach's focus on results is highly beneficial for DRR planning and programming, ensuring that progress towards risk reduction is achieved and measured.

Conflict and disasters are also highlighted in the *CCA/UNDAF Guidelines* as important elements for high-quality analysis. Although causality is disputed, conflicts and disasters do have important interrelationships. These two dimensions of crisis often occur in the same geographic location and have common influencing factors, such as poor governance (including lack of accountability to the poorest), and environmental stress.

1.2 Critical elements for the UNCT to incorporate DRR into the CCA/UNDAF process

Incorporating DRR into the CCA/UNDAF is a requirement for all UNCTs where disaster risk provides an existing or potential barrier to development and poverty reduction. Examples of UNDAFs that include DRR issues are available in Annex 3. Drawing on the HFA, UNCTs should ensure that their efforts to integrate DRR into the CCA/UNDAF process are guided by the following critical elements.

- 1) Identification of the **root causes** of disaster risk in terms of hazard, exposed elements and vulnerability of populations, infrastructure and economic activities.
- 2) Promotion of a **multi-hazard approach** to DRR which addresses all the major disaster risks which the country faces.
- 3) Development of lasting **in-country capacity** at individual, institutional and societal levels.
- 4) Reduction of the **vulnerabilities of the poorest** and other marginalised groups. Reducing disaster risk and enhancing the coping mechanisms of poor communities should be analysed within the context of poverty alleviation programmes.
- 5) Reduction of specific risks and vulnerabilities that may undermine efforts to **achieve the MDGs** and other international conventions to which the country is party.
- 6) Identification of **how UN agencies can contribute to the reduction of disaster risk** including ensuring that UN programming outcomes will not create new or increased risks and vulnerabilities, and protecting the UNDAF outcomes from the threat of crisis (natural and man-made disasters) and climate change.
- 7) Building on existing experiences, capacities and mechanisms, including utilising **lessons learned** on DRR from past development and humanitarian cooperation⁶.

⁶The websites of the World Bank, Inter-American Development Bank, ISDR, UNDP, FAO, a number of NGOs such as ProVention Consortium, Tearfund, ActionAid, and regional organizations such as Organization for African States, Asian Disaster Preparedness Centre, Asian Disaster Reduction Centre and Centro de Coordinación para la Prevención de los Desastres Naturales en América Central, feature a wealth of information with case studies and evaluations of projects that have attempted to incorporate DRR into their programmes.

Part 2 Country Analysis

This section explains how DRR can be captured in strategic country level analysis for development planning. In particular it spells out how the UNCT can: analyse disaster risk; review how these risks interact with development; review national capacities and risk reduction; and start to identify priorities for intervention.

2.1 Purpose and expected results

The UNCT engagement in country analysis will build on, support and strengthen national analytical processes and products. It will seek to strengthen the national development framework by generating consensus about priority problems, their causes and the capacity development needs required to generate action at all levels.

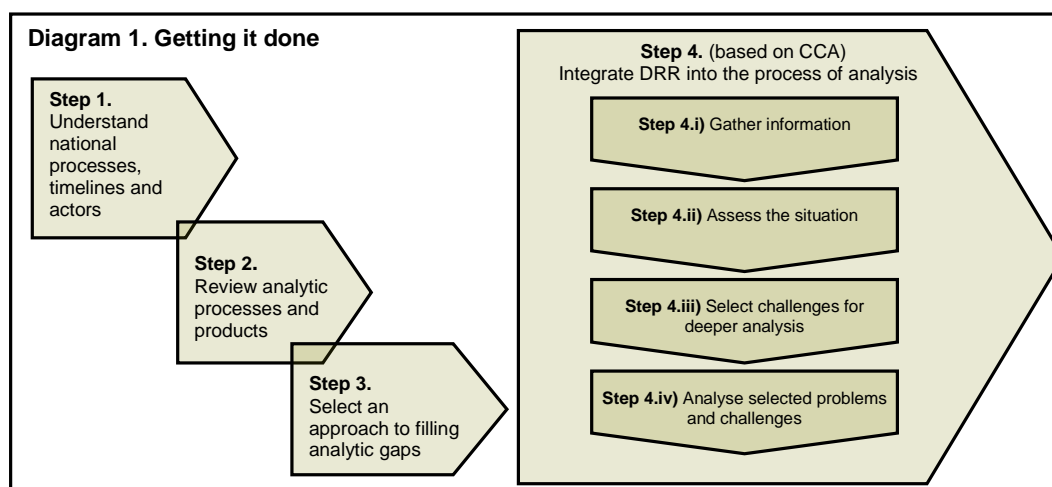
Analysis undertaken in support of the UNDAF (or other development plans/strategies) rarely provides the opportunity to undertake a full risk assessment, which can require a far more extensive process. For strategic planning purposes, analysis based on a secondary review of existing information is generally sufficient to identify broad issues and gaps and to suggest areas where the UNCT has comparative advantage. If, based on this screening, the UNCT feels that more detailed analysis is needed, this can be included as an action for implementation in the UNDAF.

DRR analysis should focus on:

- 1) Agreement with partners about the **root causes of disasters**, including the underlying vulnerability of assets, sectors and communities to natural hazards.
- 2) Agreement with partners on the (historic and potential) **impacts of disasters on development**, in particular on: (a) government development priorities as identified through national development strategies; and (b) critical sectors and priority areas for poverty reduction (e.g. health, agriculture and education).
- 3) Broad-brush agreement with partners on how **development interacts with disaster risk**, including how key sectors exacerbate or reduce the main elements of disaster risk.
- 4) Determination with other stakeholders of how **climate change** is likely to affect the intensity and/or frequency of hydro-meteorological hazards and community resilience.
- 5) Identification of **existing capacities and capacity gaps** to analyse, monitor, manage and reduce disaster risk. This should include national and local government, and non-governmental organizations (NGOs), for example, the private sector, civil society organisations (CSOs) and community groups.
- 6) Identification of **key challenges and gaps** based on a review of past interventions and experience, current challenges, government priorities, and planned activities of partners.
- 7) Identification of **risk reduction options or priority actions** required to address: (a) the main challenges identified; and (b) to reduce the vulnerability of (and potential risks caused by) planned/ongoing development interventions. This will include identification of where the UNCT has the greatest comparative advantage in addressing these priority actions.

2.2 Getting it done

The *CCA/UNDAF Guidelines* outline the basic steps to be undertaken by the UNCT to integrate DRR into national level development analysis. These steps are summarised in Diagram 1. The remainder of Part 2 suggests how DRR concerns can be considered at each step.



Step 1: Understanding national processes, timelines and actors

In order to identify gaps in addressing disaster risk and to assess the comparative advantage of the UNCT to fill these gaps, the *CCA/UNDAF Guidelines* recommend a review of processes, timelines and actors involved in the national planning process. Some useful guiding questions are included in Annex 4 (see especially those in point 2).

Since DRR is a multisectoral process, achieving the expected results from the analytical process requires contributions from a range of stakeholders. UNCTs have flexibility to decide with partners how to achieve these results (see Annex 5 for more detail). An important element of this step will be for the UNCT to undertake a review of its own comparative advantage in DRR. This will provide the basis for deciding programme areas which will be supported in the future by the UNCT. If it so chooses, the inter-agency team leading on this issue can undertake a DRR-specific analysis of strengths, weaknesses, opportunities and threats (SWOT).

Step 2: Reviewing analytic processes and products

The UNCT and partners should review existing country level analysis of critical aspects of national development (including analysis related to the poverty reduction strategy, gender analysis and household surveys), and assess to what degree they address disaster risk concerns. This will help the UNCT to identify analytic gaps and to consider an appropriate level of UNCT involvement in further analyses. The aim is not to criticize what exists, but to work with national partners to highlight gaps where UNCT support can bring added depth and quality. A checklist on how to identify the status of DRR analysis in-country, including whether it is adequately covered within wider development analysis, is provided in Annex 4. Major analytic gaps that are identified may be addressed as future activity areas in the UNDAF.

Step 3: Selecting an approach to filling analytic gaps

As outlined in the *CCA/UNDAF Guidelines*, in order to respond to any gaps identified, the UNCT and partners may choose any or all of the following options:

- Option A. Participate in government-led and harmonized donor analytical work.
- Option B. Undertake complementary UN-supported analytical work.
- Option C. Undertake a full CCA process.

If Option A is selected, the UNCT can encourage partners to examine risks further. The checklist in Annex 4 provides a guide to explore this in more detail. If Option B or Option C is selected, the UNCT can use its resources to fill the analytic gaps, including through additional studies.

Step 4: Integrating DRR into the CCA

The time and resources available to the UNCT will dictate the level of detail and depth of analysis feasible for the exercise. As illustrated in Diagram 1, four sub-steps are identified in the *CCA/UNDAF Guidelines*, in order to undertake analysis within the CCA:

- i) Gather information
- ii) Assess the situation
- iii) Select challenges for deeper analysis
- iv) Analyse selected problems and challenges to identify root causes

The following discussion shows how DRR can be identified in each of these sub-steps. Throughout this process the expected results of the analysis, outlined in Section 2.1, should be considered.

i) Gather information

Disaster risk is comprised of four elements: physical **hazards**; **exposure** to those hazards (of national assets including populations, infrastructure and sectors); and **vulnerability** of those assets. The extent of a disaster's impact will depend on the levels of resilience or **capacity to resist/cope** with the risk. An assessment of disaster risk should consider all four elements.

There is a high probability that some assessments have already been conducted for specific hazards and/or for specific regions or urban areas. These efforts should be identified and be taken into account on a priority basis, as they usually provide more detail and involve local knowledge. A quick evaluation should be done to determine the quality of these different assessments and whether they are up to date. Annex 5 identifies whom best to consult during the assessment process. Additional information for more detailed analysis is provided in Annex 6.

Hazard Information: Information on the full range of hazards that affect the country should be examined. Hazards are characterized by magnitude, duration, location and timing. In addition to considering historical trends, it is important to consider how new developments, including climate change, will affect hazard frequency and intensity.

Exposure Information: Exposure data identifies the elements at risk—the 'who, what and where' of likely impact. In an ideal situation, the identification of elements at risk would be achieved through consultation with stakeholders; however, for analysis at a broad level, accounts of historic damages

and losses provide a reasonable indication of exposure⁷. Future exposure will be affected by social, economic and ecological changes.

Vulnerability Information: Vulnerability is a multifaceted concept that examines exposure and its causes more closely. Social, gender, economic and environmental factors play a critical role in determining how susceptible certain populations are to a hazard event. Whilst traditional coping capacities, social safety nets and even traditional early warning systems can greatly reduce the vulnerability of a community, social conditions can make particular social groups more vulnerable than others. Women, for example, may be more vulnerable than men.

Capacity Information: Capacity assessment information identifies existing capacities and gaps of governmental and NGOs (including private sector, CSOs, CBOs and women's organizations) to manage and reduce disaster risk⁸. Capacity analysis for DRR should be framed in alignment with the HFA, which identifies critical capacities required to undertake each element of risk reduction. It is important to ensure that capacities at sub-national and community levels are considered alongside those of central government, as the local level is the first line of response to disasters. It is also important to ensure that a community is not considered as a homogeneous entity but that the different capacities of women, girls, men, boys, the elderly and the disabled are taken into account.

Information for assessing each of these four elements will come from a wide variety of sources. Hazard assessments and related analyses are usually available from national scientific and technical services, such as meteorological and hydrological services, and national geological services. In addition, global and regional data sources often provide rough information about major hazard types in each country⁹ and significant regional information. Information on vulnerability, exposure and historic disaster impacts may be available through the statistical services of various ministries, academic networks and other agencies, including the Red Cross/Red Crescent.

ii) Assess the situation

This assessment will help to determine whether DRR should be prioritised as a specific UNDAF outcome area, as well as being addressed as a cross-cutting theme. It will also spell out how to address the risk and vulnerability concerns in other UNDAF outcomes.

Based on the information gathered in earlier steps, the UNCT will be in a position to determine whether there is sufficient information available to: characterize risk to development sectors; evaluate capacities to cope with these risks; and based on these, identify future areas of action. Annex 7 provides indicative examples of how disasters affect different sectors. It also illustrates how DRR can contribute to development efforts in these areas. Annex 6 includes guidance on assessing capacities and related gaps.

The data on the population and livelihoods at risk should be considered through an HRBA and gender lens, recognizing that the exposure of these elements, vulnerabilities and capacities to manage the risks, are distributed unequally. The poor and marginalized often suffer disproportionately.

⁷ For example: International Emergency Disasters Database, Preview or global risk analysis such as World Bank's Hotspots, the Inter-American Development Bank Instituto de Estudios Ambientales Americans Program, UNDP's Disaster Risk Index and European Commission's Humanitarian Aid Office.

⁸ There is no single approach to building the capacities of people, organizations and communities to deliver the services required for reducing risk, there are several useful instruments available, such as FAO's Disaster Risk Management Systems Analysis Guidebook.

⁹ A simple web-based tool is available from ISDR (<http://www.unisdr.org/eng/country-inform/introduction.htm>). Other useful web-based sites include Global Risk Identification Programme (<http://www.gripweb.org>) and Global Resource Information Database (<http://maps.grid.unep.ch/scripts/esrimap.dll?name=Preview2&Cmd=Redraw&CTRY=Country>).

Even if data at sub-national level is not available, analysis of information and resource flows between administrative levels will help to understand if the policies and systems in place are supportive of local level action.

iii) Select challenges for deeper analysis

Based on the consensus agreed in Step 2, the UNCT and national partners will identify particular problems or challenges for deeper analysis. To guide the selection of priorities, stakeholders and vulnerable groups should be encouraged to engage in a dialogue regarding acceptable levels of risk (i.e. how much risk a society is willing to tolerate). This will vary between countries). In addition to the criteria identified in the *CCA/UNDAF Guidelines* for selecting issues for deeper analysis, some risk-related issues include:

- Historic patterns of losses that reveal most intensive loss of lives or livelihoods.
- Areas subject to high frequency but low intensity events that repeatedly erode development gains and livelihood capacities.
- Critical infrastructure and lifeline services.
- Disparities in patterns of vulnerability, such as those based on gender.
- Patterns that suggest key development outcomes will be affected.
- Indications that development choices may further exacerbate vulnerability.
- Evidence that climate change will result in more frequent or intense hazard events.

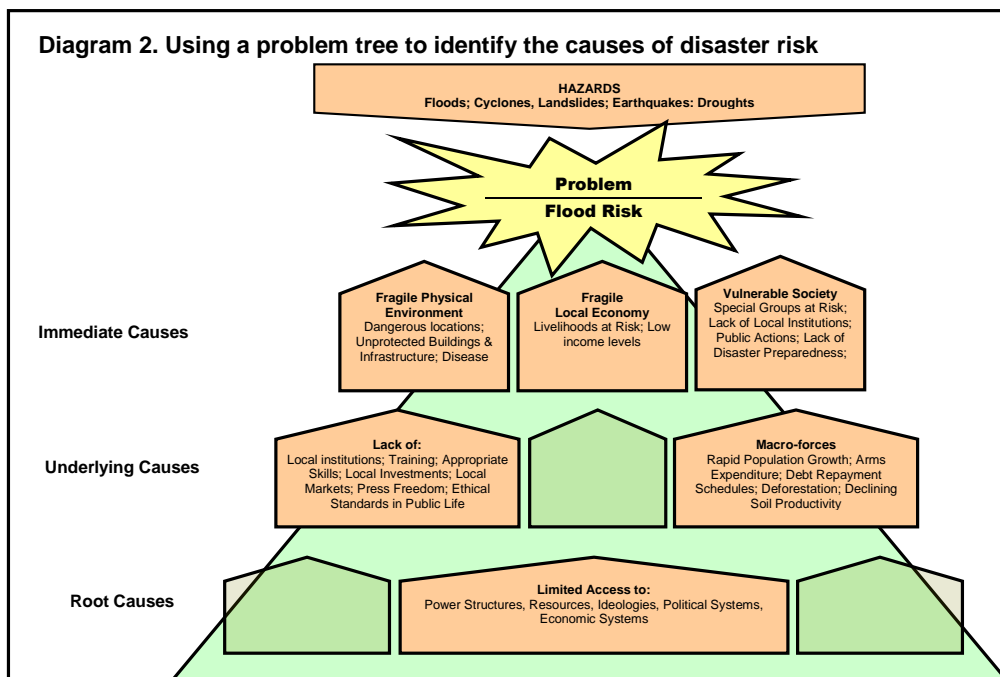
iv) Analyse selected problems and challenges to identify root causes

The quality of the CCA depends on the depth and quality of the analysis. The analysis organizes the main data, trends and findings into relationships of cause and effect. It identifies the **manifestation** of the problem (or its effect on people) and the underlying and root causes. These elements should be disaggregated as much as possible by sex, age, geographic area and ethnicity, among others. The problem tree is one of the tools recommended by the *CCA/UNDAF Guidelines*, as it can provide useful insights into the causes of disaster risk and possible solutions. See Diagram 2 for an example of a problem tree related to DRR).

The problem tree focuses on three levels of analysis:

Immediate causes—the unsafe conditions and/or elements at risk. These may be physical causes such as unprotected buildings or dangerous locations, fragile socio-economic conditions such as low incomes and precarious livelihoods, or these may be groups that are especially vulnerable.

Underlying causes—social and economic structures or conditions that push vulnerable groups or assets into unsafe locations. Local landowners, commercial companies and local government can influence vulnerability through their policies, practices and decision-making. Macro-forces are also a factor—for example, issues such as rapid population growth, deforestation and declining soil productivity may all play a role. Other dynamic pressures may include lack of local institutions or lack of training and skills.



Root causes—concern attitudes and behaviour at different levels from family, communities and governments. Political ideology, economic principles and culture all influence behaviour. Decisions and actions, particularly by those in positions of authority, can create the pressures that push people to unsafe conditions. In some cases, the underlying or root causes may be the same for different development challenges. Identification of overlaps will increase the likelihood that policy or programmatic responses will yield multiple positive impacts.

The identification of causes through this type of analysis can help the UNCT to identify potential solutions for reducing risk where it has a comparative advantage.

2.3 DRR as an element of high-quality analysis

In preparing analytical work to determine the causes of major development problems, including disaster risks, it is important to consider how DRR is linked to the other UNDAF inter-related principles (as discussed in Section 1.1). This section considers how DRR is connected to analysis of four substantive principles: HRBA, Gender, Environment and Capacity Development. The fifth principle, RBM, which is process oriented, is dealt with as a cross-cutting issue throughout this guidance note.

2.3.1 Human Rights Based Approach

The *CCA/UNDAF Guidelines* characterise identification of rights-holders, and duty-bearers as a specific step in the process of analysis for the CCA. An HRBA recognizes people as **rights-holders** (also referred to as claim-holders, or subjects of rights) and as key actors in their own development. They are not passive recipients of benefits, or in the case of risk, passive 'potential victims'. At the

same time, it recognizes the corresponding human rights obligations of the **duty-bearers**, which include both state and non-state actors, to respect, protect and fulfil human rights.

Box 1. Using HRBA to analyse DRR

Using HRBA means asking the crucial questions of 'what, why, who and what capacities'? In the context of disaster risk, this means a risk analysis based on human rights.

What disasters pose the biggest risk, where are these disasters happening, and who is most vulnerable and therefore the most affected?

Why are these problems occurring? What are the underlying and root causes of the vulnerabilities which are leading certain groups to suffer from disaster risk?

Who or which individuals and/or institutions have the duty to reduce these disaster risks?

What capacities are needed to address disaster risk, both for those who are being denied their rights through disaster vulnerability, and those who have the duty to address these problems?

2.3.2 Gender

Taking an integrated approach to gender analysis and disaster risk can provide critical insights on how vulnerability to disasters affects women, men, boys and girls, as well as their different capacities to support response or mitigation. Gender analysis involves, among other tools, the gathering and use of sex-disaggregated data (both quantitative and qualitative) that reveals the roles, activities, needs and opportunities, including their access to resources, of men and women. Gender-based analysis does not consider women and men as homogeneous groups. Instead it considers their roles in the context of culture, class, ethnicity, income and education. As a result, gender analysis can provide a valuable basis through which to look at vulnerabilities and opportunities to respond to disasters across a country context. In carrying out gender-based DRR analysis, efforts should be made to consider both the needs and vulnerabilities of men and women related to disasters risk, as well as their potential contributions to risk reduction.

Box 2. Using a gender-based approach to analyse DRR

High-quality analysis of disaster risk should include:

- Sex-disaggregated data in order to better understand the vulnerabilities and capacities of women, as well as to measure the impact of programmes.
- Addressing gender in DRR policy, programmes, plans, institutional arrangements and M&E.
- Gender analysis that is sensitive to social factors, economic status, age and disabilities.
- Causality analysis sensitive to the different ways that men and women experience, are affected by, and can respond to disaster risk.
- Identification of rights-holders and duty-bearers in regard to disaster risk, in a way which recognises patterns of discrimination, and how men and women relate. Recognition of the different capacities of men, women, boys and girls in order to appropriately address gaps as well as capitalize on unique skills and knowledge of these groups.
- Identification of those women who are marginalised and particularly at risk from gender-based violence, including those belonging to ethnic minorities, girls who have lost a parent, women and girls from very poor households, and female headed households.
- Outline of an action plan for specific responsibilities to promote gender sensitive DRR by the relevant stakeholders.

2.3.3 Environment

Using an environmental lens to view the challenges of disaster risk can provide valuable insights into causes and consequences of disasters. This helps to ensure that proposed UNDAF outcomes and outputs are designed to avoid adverse environmental consequences. If at all possible, an ecosystem-based or territorial approach to analysis should be considered since neither natural hazards nor environmental degradation can be fully appreciated within the confines of administrative or jurisdictional boundaries.

Ideally, an environmentally-informed approach would serve to improve environmental conditions and enhance ecosystem services¹⁰. Moreover, measures that strengthen the capacity of environmental managers in various sectors should be encouraged, because they play an important role in disaster reduction through their efforts to protect ecosystem services, and can provide technical expertise about the physical dimensions of risk.

Box 3. DRR analysis through an environmental lens

An environmental approach to disaster risk can be used to understand better the environmental causes and consequences of disaster risk.

Consider:

- Would an ecosystems-based approach to disaster risk help to define trans-boundary causes and consequences of disasters?
- Are environmental conditions a factor contributing to disasters in high risk areas or sectors; how has environmental degradation affected the intensity of hazard events and their impacts on local communities?
- Noting the relationship between environmental degradation and poverty, does the loss of ecosystem services affect the resilience of at risk communities?
- What are the environmental consequences of implementing disaster reduction measures/what are the potential environmental consequences of supporting recovery from the increased frequency and intensity of hazard events associated with climate change?
- What capacities do environmental managers have to support the analysis of disaster risk and the implementation of DRR measures identified in the UNDAF?

¹⁰ For further details on ecosystems services and their contributions to human well-being refer to the Millennium Assessment available online at <http://www.millenniumassessment.org>

2.3.4 Capacity Development

Developing capacity for DRR is a society-wide endeavour that requires a multi-stakeholder response. Lessons learnt from past experience demonstrate the importance of local leadership and ownership—outside actors can support but not drive the process. When undertaking capacity development work, two critical questions need to be asked: capacity for/of whom? and capacity for what? The UNCT goal is to support their partners in developing their capacities to lead, manage, achieve and account for their priorities.

Box 4. Capacity Assessment

Using capacity assessment¹¹ to identify DRR needs helps to unpack and examine many of the critical building blocks necessary for sustainable DRR and provides a more comprehensive review of capacity constraints, leading to more holistic capacity development responses:

- Analysis of the capacity needs across **different levels** (individual, organizational and societal). Looking across these levels is particularly important given the cross-cutting nature of DRR.
- Assessment of **core capacity issues** including: access to disaster information; the use of knowledge and technology; and the role/capacity of external and internal actors.
- Assessment of **functional capacities** to create and manage DRR policies, legislation, strategies and programmes including identification of the existence of: resource and budgets to implement DRR plans and strategies; and M&E systems to track progress and capture lessons.
- Assessment of **technical capacities** required for DRR including: early warning, risk assessment, and safe design and construction of buildings.

¹¹ UNDG Capacity Assessment Methodology – User Guide: for national capacity development (February, 2008)

Part 3 Strategic Planning

This section explains how DRR can be integrated into the process of formulating the UNDAF. It provides guidance to help the UNCT to identify the most appropriate areas of support.

3.1 Purpose

The UNDAF provides the UN with the common framework necessary for a collective, coherent and integrated response to national priorities and needs. Because DRR is multi-sectoral and multi-stakeholder such an integrated approach is particularly valuable. Historically, support for efforts to address disaster risk has been piecemeal—partly because many of them have been funded in post-disaster contexts where longer-term planning and capacity development has not always been easy. Experience has shown that achieving meaningful progress in DRR requires a harmonized approach in support of government prioritisation. The UNDAF can play a valuable role in supporting a coherent approach to DRR, led by government.

In identifying how DRR will be addressed within the UNDAF, it will be necessary to prioritise short and medium term deliverables. It will also be necessary to decide whether DRR should, in addition to being considered as a cross-cutting issue, also be identified as a specific UNDAF priority outcome in its own right.

3.2 Expected results

The UNDAF document describes the collective results expected from UNCT cooperation. As indicated in the *CCA/UNDAF Guidelines*, UNDAFs should reflect risks of disasters, as well as capacity gaps for DRR and how they will be addressed.

The UNDAF results are elaborated through a results matrix indicating the outcomes that the UNCT, together with its partners, commit to achieve. The collective outcomes identified in the results matrix should govern individual agency programme and project documents. In the process of formulating the UNDAF outcomes and outputs, the UNCT should consider how it can contribute to the following aspects of DRR:

- Actions that strengthen the resilience (risk-proofing) of other UNDAF priority areas to disaster risk.
- Interventions that ensure that ongoing areas of development (supported by the UN and potentially other stakeholders) do not increase levels of disaster risk.
- Using opportunities within UNCT programmes as entry points for DRR action.
- Supporting specific DRR interventions, including national disaster management institutions, emergency management, disaster preparedness, risk identification and early warning systems.

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3.3 Getting it done and identifying DRR priorities and action

After completion of the country-level analysis (outlined in Part 2), the UN, together with its key partners, will identify critical actions to address the identified core problems. The process may include organising a review and discussion of the analytical work undertaken with relevant government agencies and CSOs, in order to develop a DRR strategy for inclusion in the UNDAF. The prioritisation process should include identification of where the UN system has both a clear collective comparative advantage and the resources to make a difference.

There are a number of advantages in addressing DRR in the UNDAF in disaster-prone countries. In many countries national capacity to respond to and reduce disaster risk remains limited, hence the UNCT can make a valuable contribution to developing this important area. In addition, including DRR in the UNDAF can provide an important sign of political commitment from the UNCT. This is particularly important in countries where the focus of national efforts is predominantly on emergency preparedness and where there is little concerted effort to address the causes of disaster risk. Finally, supporting DRR efforts in highly disaster-prone countries will help to increase the likely success of other areas of UNCT programming, by addressing how they can be protected against the threat of the negative impact of disasters. A number of UNDAFs have included DRR as specific outcomes. Annex 3 provides a list of examples.

The UNCT can play a particularly valuable role in promoting a multi-hazard approach that addresses all major disaster risks to which a country is exposed. As the UNDAF process involves many stakeholders and mandates, it may be necessary to lobby, raise awareness and provide training in order to ensure that sufficient attention is given to DRR. Addressing the disaster risk implications of all UNDAF outcomes will require commitment from senior management. Dedicated human resources may be required to provide technical advice to the working groups for the analysis and formulation of DRR-sensitive outcomes. The timing for engagement is crucial, as it becomes more difficult to incorporate certain aspects once the working groups have agreed on priority objectives and outcomes.

Capacity development should be at the core of the UNCT support to DRR at country level. It is therefore important in developing the UNDAF that the UNCT is clear on its capacity development strategy and how this will contribute to national DRR efforts. To make best use of limited resources, efforts should be made to design development programmes that support multiple development outcomes. For example, programmes which focus on the protection of natural resources should be designed to maximise their DRR and poverty alleviation potential.

Integrating DRR concerns into the UNDAF requires: review of the value added by UN agencies in addressing priority areas identified through the analysis process (identified in Part 2); and identification of planned DRR outcomes and outputs and the role of each UN agency in delivery. Decisions on how to prioritise and sequence interventions will in part depend on national DRR priorities and the greatest capacity gaps in-country, but also partly on the need to identify areas that will demonstrate impact in the short-term to build momentum and political capital.

The linkages between national goals or targets and UNDAF Country Programme Outcomes are elaborated within the results matrix together with resources requirements. The results matrix developed by the UNCT in Georgia, shown in Annex 8, also provides a useful example in which DRR is considered both as a direct outcome of the UNDAF and as a cross-cutting issue. Annex 9 introduces indicative questions that may be used in discussion with UNCT members responsible for other outcome areas, to raise awareness and help consider how disaster risk can affect different development priorities. Annex 10 provides further guidance on integrating DRR into MDG based UNDAFs.

3.3.1 Integrating DRR as a cross-cutting issue

In disaster-prone countries, DRR should always be considered as a cross-cutting issue in the UNDAF, in line with the *CCA/UNDAF Guidelines*. This will require the UNDAF working groups to assess how disasters and disaster issues should be addressed in their areas. Guidance on how to consider this is provided in Section 2.3. This section examines how DRR relates to the UNDAF

inter-related principles and Annex 9 provides examples of how DRR can be integrated into efforts to address key development sectors, thereby making them more resilient.

As a minimum, attempts should be made to strengthen the resilience of all UNDAF outcomes to climate and disaster risk and should avoid creating new vulnerabilities. Equally, the UNCT will want to ensure that its own development actions are not adding to existing levels of vulnerability or exacerbating the risk posed by natural hazards. Taking a more proactive approach, there may be a number of priority areas in the UNDAF, which although they are not in themselves particularly vulnerable to disaster risk, can provide valuable entry points for promoting DRR. For example, a UN governance programme may not be directly vulnerable to disaster risk, but it can provide an excellent entry point by providing an opportunity to integrate DRR effectively at the local level through ongoing decentralisation projects.

3.3.2 DRR as an UNDAF priority

Depending on the local context and national priorities, the UNCT may also decide to identify DRR as a separate UNDAF outcome area in its own right, thereby supporting specific DRR interventions. In many instances the UNCT may decide that DRR requires specific focus so that within all UN programming more concerted efforts are made to enhance the ability of government at all levels, and particularly vulnerable groups, to prepare, respond, and mitigate disaster risk and environmental changes. Again, the UNCT will need to identify where it has the greatest comparative advantage to support DRR interventions, in line with the government's own priorities and the planned actions of other international organizations. The UNCT can play a leadership role by promoting a harmonized approach for support to the government's DRR efforts. The achievement of effective and sustainable DRR practices and mechanisms requires the mobilization of appropriate financial and human resources at all levels. In many countries, the UNCT can play a critical role in supporting these aspects of capacity development.

3.3.3 Identifying DRR action and outputs within the UNDAF

Following identification of disaster risk concerns in the various UNDAF outcomes, the UNCT will need to identify concrete risk reduction measures for implementation. Regardless of the DRR priorities of the government, or the agreed technical elements of programming assistance required, there are a number of areas that the UNCT can support to create an enabling environment for DRR institutional capacity development. A checklist of these elements is provided at Annex 11. The determination of appropriate areas of intervention should be based on existing capacities and capacity gaps. The capacity information section of Annex 6 gives a useful summary of critical DRR capacities to be considered. The HFA provides an overview of the range of activities required to effectively address disaster risk. For a more detailed analysis of how DRR can be addressed in priority sectors of development, see Chapter 4 of the ISDR publication *Words into Action: a Guide for Implementing the Hyogo Framework* which provides useful guidance on reducing the risks in key sectors. Box 5 provides a practical example of how DRR was integrated into the Maldives UNDAF.

Box 5. Example of integrating DRR into UNDAF Results Matrix

United Nations Development Assistance Framework Republic of Maldives 2008 to 2010	
National Priority or Goal 2006 to 2010	
Seventh National Development Plan: Protecting the environment and making people and property safer.	
UNDAF Outcome	By 2010, communities enjoy improved access to environmental services and are more capable of protecting the environment and reducing vulnerability and disaster risks with enhanced disaster management capacity.
Country Programme Outcomes	Country Programme Outputs
4.1. Environment services and protection measures benefit more communities with greater participation of youth in the planning and implementation.	1.1 National environmental standards and guidelines on waste management, water and sanitation, environmental health, land management and coastal modification made available to guide sectoral policies, programmes and local practices.
	1.2 Empower local communities to operate and manage environmental infrastructure in a sustainable manner, namely waste management, water and sanitation and renewable energy technology built during the tsunami recovery; and progressively devolve key environmental management responsibilities to pilot communities.
2. Communities better able to manage impacts of climate change and reduce disaster vulnerabilities.	2.1 Communities have increased knowledge and are better informed on appropriate options and mechanisms for mitigation of, and adaptation to climate change and disasters.
	2.2 National, atoll, island and sectoral disaster management plans and climate change adaptation plans developed and implemented in pilot areas.

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Once the UNDAF is in place, progress towards the results in the matrix will need to be monitored, as outlined in the next section. However, in some instances, events during the period of implementation of the UNDAF may require a revision to the results matrix. Although, as the *CCA/UNDAF Guidelines* point out 'changes to UNDAF outcomes should be made rarely, and only by request of government', one of the justifications for such changes being made could be 'a significant shift in the development environment, such as a ... natural disaster'. Sudden onset disasters, in particular, can radically change national development needs and priorities, and in some circumstances, can necessitate a reshaping of the UN's development assistance.

Part 4 Monitoring and Evaluation

This section provides an indication of how to include effective monitoring and evaluation of DRR efforts as part of the UNDAF process.

4.1 Purpose

UNDAF monitoring and evaluation (M&E) are linked but distinct processes. Monitoring provides an opportunity to track progress towards the results agreed in the UNDAF matrix, and check if the assumptions made at the design stage are still valid and if the project has actually been affected by the risks identified. In this way, monitoring helps the UNCT and implementing partners to make mid-course corrections, including if necessary, revising UNDAF indicators. As a result, the monitoring process can provide a critical entry point to consider DRR if it was not adequately addressed as a cross-cutting theme in the original assessment/strategic planning process. Also, because disaster risk is inherently dynamic, it provides a valuable opportunity to take stock of any changes in risk patterns (for example, resulting from a disaster actually occurring) during the UNDAF cycle. Evaluation determines if the objectives and outcomes were met and whether these resulted in worthwhile contributions to national development priorities. A well-structured evaluation is important for DRR interventions given that they are often felt to be 'invisible', with success measured in disaster events **not** taking place.

UNDAF M&E should always be aligned to existing national systems and priorities. In those cases where national systems do not exist, the focus should be on their development and institutionalization. Because DRR is an evolving cross-cutting issue it is often difficult, especially for countries with weak institutional structures, to have systems in place that adequately monitor disaster risk and successes/failures across sectors/levels of administration. Whilst systems may be in place to monitor emergency preparedness (e.g. stockpiles of relief materials) and emergency response (e.g. tracking of distribution of relief items) systems are often not there to assess risk reduction efforts. A major challenge in many countries is the absence of qualitative and quantitative data on disaster-related issues—meaning that baselines and related indicators are difficult to put in place. Thus, in many countries the UN will have a key role to play in supporting the establishment of national M&E systems for DRR.

4.2 Expected results

For DRR efforts, the M&E process is particularly helpful in:

- Identifying if development programmes and projects are designed with due consideration of disaster risks and regularly assessing the impact of those risks on ongoing programmes;
- Ensuring that development programmes do not inadvertently increase vulnerability to disaster in social, physical, economic and environmental terms;
- Ensuring that disaster and rehabilitation programmes are designed to contribute to developmental aims as well as actively reducing future risk;
- Verifying that the work of UNCT on DRR is really making a difference for men, women, boys and girls;
- Regularly reviewing partners' capacity development needs for DRR; and
- Improving results-based reporting on DRR achievements across the UN system, rather than on a project by project basis.

4.3 Getting it done

UNDAF M&E consists of a number of different components, each of which should be carried out with the full involvement of partners, linking wherever possible to government M&E processes. Each step of the M&E process provides important entry points for considering DRR (regardless of whether it is a separate UNDAF outcome area).

Box 6. Example of how DRR can be integrated into UNDAF M&E process

<p>UNDAF Outcome Groups (one per outcome) are responsible for:</p> <ul style="list-style-type: none">• Joint monitoring with programme partners (based on M&E plan).• Reporting to the UNCT about progress (their findings feed into the Resident Coordinator's annual report).• Identifying capacity development needs among partners (especially government), particularly related to data collection, analysis, monitoring and reporting.
<p>Opportunity for DRR input - Because DRR is a cross-cutting issue, in highly disaster-prone countries efforts should be made to ensure that all relevant outcome groups receive DRR inputs (regardless of whether DRR is an individual outcome in its own right). This might require dedicated human resource (DRR experts) that can provide technical inputs to each outcome group.</p>
<p>UNDAF M&E plan - This is a live instrument, to be updated as needed. Results in the M&E plan must be identical to the UNDAF Results Matrix to ensure consistency and accountability (the M&E plan must be updated in parallel with the Results Matrix). The M&E plan has three components:</p> <ul style="list-style-type: none">• The Narrative Management Plan that describes how UNCT and partners will coordinate UNDAF M&E.• The M&E framework, consolidating monitoring information (results, indicators, baselines and targets; means of verification; and assumptions and risks) in one table.• The M&E calendar that helps to coordinate the different types of studies and evaluations conducted by agencies and their partners.
<p>Opportunity for DRR input - The M&E plan and Results Matrix are intended to be flexible tools that can be amended to take account of change. This is particularly important if a major disaster occurs during the UNDAF.</p> <ul style="list-style-type: none">• In risk prone countries the Narrative Management Plan could include identification of a DRR Monitoring Officer to check: whether development initiatives are exposed to risk; in how far they have reduced or might have created new risk; and what necessary adjustments might be required.• In highly disaster-prone countries DRR should be integrated into M&E frameworks regardless of whether it is a specific UNDAF Outcome. [See Section 4.4 and Annex 8 for examples of risk sensitive indicators]. Because DRR progress is often hard to measure it will be particularly important to put in place sound baselines to measure progress, in some countries these might have to be established. The national HFA progress reports might provide a starting point.• The M&E calendar shows potential synergies to draw in information on how disasters affect all critical areas of the UNDAF e.g. if a partner is doing a study on the impact of disasters on one of the UNDAF priorities.
<p>Annual Progress Report and Review Meeting - Builds on reviews by agencies and their implementing partners at the technical level. The meetings serve to feed into the annual work-plans and for policy advocacy.</p>
<p>Opportunity for DRR input - The Annual Review might provide an opportunity to modify activities in the annual work plans to incorporate DRR if evaluations and studies have shown that progress has been hampered by disaster events or are at risk of being affected in the future.</p>

<p>UNDAF Evaluation - Will normally take place in the fourth year of the cycle. It asks three key questions:</p> <ul style="list-style-type: none"> • Did the UNDAF make the best use of the UNCT comparative advantage in country? • Did the UNDAF generate a coherent UNCT response to national priorities? • Did the UNDAF help achieve the selected priorities of national development? <p>The Evaluation feeds into preparation of the next UNDAF.</p>
<p>Opportunity for DRR input - The UNDAF evaluation provides a good opportunity to:</p> <ul style="list-style-type: none"> • Review the degree to which risk reduction efforts have been successful/made progress. • Help identify in countries where DRR has not been adequately considered, how much of a barrier disasters and risk have been to progress in other UNDAF outcome areas. • Identify to what degree DRR should be considered in the next UNDAF.

4.4 DRR-related M&E

4.4.1 M&E for DRR in the UNDAF

In highly disaster-prone countries DRR should be integrated into UNDAF M&E frameworks regardless of whether DRR is considered a specific UNDAF outcome or not. At the very least, any country considered disaster-prone/highly vulnerable to climate change impacts must ensure that disaster issues are properly addressed in the assumptions and risk section of the M&E framework. This is because disasters threaten all aspects of development. An example of how DRR has been included into the risks and assumptions section of the M&E framework is provided in Box 7 (the aspects specifically related to DRR are highlighted).

Box 7. Example: DRR in the M&E framework from the Mongolia UNDAF

Outcome	Indicators	Sources of verification	Risks & Assumptions
<p>CP Outcome 2.1 Good governance enhanced for pro-poor development planning and management</p>	<p>2.1.1 Number of MDG based pro-poor</p> <ul style="list-style-type: none"> • national, • sectoral, • and local <p>development strategies and plans approved</p>	<p>Ministries and local government development plans and reports</p>	<p>Development plans and budgets for the delivery of public services include contingency plans and funds for natural disasters and environmental changes</p>

Because DRR is a cross-cutting issue it is also important to consider how DRR should be integrated into other aspects of the M&E framework. In the UNDAF for Georgia, for example, DRR was integrated into the Indicator(s) & Baselines and Assumptions & Risks sections (see Box 8 - the aspects specifically related to DRR are highlighted).

Box 8. Example: DRR in the M&E framework from the Georgia UNDAF

Outcome	Indicators (with baseline)	Sources of verification	Risks & Assumptions
Expected UNDAF Outcome 1 Reduced number of households living in poverty through the realisation of economic potential and provision of social welfare.	1.1. Poverty level: a) Official poverty rate (proportion on of population below official national poverty line defined at 130 Georgian Lari/ month), does not increase in years of major hydro-meteorological and geophysical hazards Baseline (a): 51% (2004) b) Extreme poverty rate (proportion of population below extreme poverty line defined at 63 Georgian Lari per month) does not increase in the years of major hydro, meteorological and geophysical hazards and in geographic areas affected Baseline: 17% (2004)	State Department of Statistics of Georgia, UNDP	Economic conditions are stable or improved Political conflict is stabilised Natural disasters are under control Funding crisis is predicted and minimised Security conditions are ensured to permit /project operation Partners involved are able to deliver services to the target population
	1.2 Poverty gap ratio: Baseline: 20% from official poverty line and 5.6% from extreme poverty line (2004)	State Department of Statistics of Georgia, UNDP	

More examples from the Georgian UNDAF are given in Annex 8. UNDAF indicators must factor in human rights standards and be sensitive to gender, age and disability. When considering DRR this provides key opportunities to measure how interventions have affected the most vulnerable. This is critical where, for example, the overall impact (for example, in GDP) of disasters may have fallen over the UNDAF implementation period, but where the degree of exposure of vulnerable communities may have risen. Equally, when using performance of the indicator(s), for example poverty rate, efforts should be made to carefully examine their correlation with hazard events. This is particularly challenging in disaster-prone countries which face annual disaster events (e.g. floods) where the impact on poverty is harder to monitor than in those countries which face disasters on a less frequent basis (e.g. earthquakes) but where the impact is more noticeable.

In support of agencies seeking to develop indicators for DRR, the ISDR Secretariat has produced *Indicators of Progress: Guidance on Measuring the Reduction of Disaster Risks and the Implementation of the Hyogo Framework for Action on Disaster Risk Reduction*. This includes a list of proposed benchmarks and indicators for each of the HFA outcomes and priorities that can be used or adapted for country specific monitoring frameworks. The indicators for the HFA priorities will be especially useful for UNDAFs that includes separate outcomes on DRR. The publication also provides a section with technical guidance on developing indicators and benchmarks. Box 9 gives example of risk-sensitive indicators for measuring progress towards the MDGs. More examples are provided in Annex 12.

Box 9. Example: Risk-sensitive indicators in the UNDAF

Goals & Targets	Indicators measuring disaster resilience
MDG Goal 1 - Eradicate extreme poverty and hunger	
Target 1: Halve the number of people whose income is below 1 USD per day by 2015	Proportion of population with income below 1 USD per day does not fluctuate with variations in hydro-meteorological phenomenon (rainfall, cyclones and floods) and hazard events like earthquakes.
	Share of poorest section of population in national consumption does not decline in years of extreme weather and hazard events like cyclones and earthquakes.
	Proportion of population whose income is below 1 USD per day provided for by safety nets, by provision of diversified livelihoods through micro-credits, cash-for-work and insurance.
Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger	Prevalence of underweight children (under five years of age) does not increase during occurrence of major hazard events.
	Proportion of population below minimum level of dietary energy consumption does not increase in years of major hazard events.
MDG Goal 2 - Achieve universal primary education	
Target 3: Ensure that, by 2015, children everywhere, boys and girls Alike, will be able to complete a full course of primary schooling	Percentage of primary school buildings certified to be in conformity with hazard-resistant standards relevant for the region.
	Loss of school days at schools used as shelters does not exceed x% over that of other schools.

Measurement of progress in each area of DRR requires a combination of quantitative and qualitative indicators. Measuring progress on DRR can present problems because of its 'reverse logic' i.e. the success of an intervention is that something (the disaster or levels of loss) does **not** happen. However, evidence from subsequent disaster events and the response to them is a strong indicator of the impact of pre-disaster interventions. In addition, the analysis of impacts can provide useful information about disaster risk trends. Operational early warning and response systems can also be monitored, evaluated and strengthened through exercises and drills. With carefully developed baselines, targets and indicators in place, progress can be measured. Another challenge with measuring DRR progress stems from the frequent absence of high-quality, consistent and timely quantitative information. This challenges both developing the indicators in the first place (given that they should stem from available official statistics) and measuring progress towards them. As a result the UNCT will often have a key role in addressing this challenge through their capacity building support.

4.4.2 National level requirements for monitoring the HFA

Progress in M&E for DRR relates to the monitoring framework set up to measure progress towards the HFA priorities. In accordance with the recommendations of the HFA, the ISDR secretariat has established biennial reviews to monitor progress on implementation of the HFA at national level. This process puts the onus for national level monitoring on national authorities. It is hoped that this review will build on existing national disaster information and facilitate monitoring trends in progress across the years and may provide useful information to feed into the UNDAF M&E process.

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Annex 1. Glossary of terms and concepts

UNISDR Terminology on Disaster Risk Reduction (2009)

Introduction

The UNISDR Terminology aims to promote common understanding and common usage of disaster risk reduction concepts and to assist the disaster risk reduction efforts of authorities, practitioners and the public. The previous version “Terminology: Basic terms of disaster risk reduction” was published in “Living with risk: a global review of disaster risk reduction initiatives” in 2004. The following year, the Hyogo Framework for Action 2005-2015 requested the UNISDR secretariat to “update and widely disseminate international standard terminology related to disaster risk reduction, at least in all official United Nations languages, for use in programme and institutions development, operations, research, training curricula and public information programmes”.

The 2009 version is the result of a process of ongoing review by the UNISDR and consultations with a broad range of experts and practitioners in various international venues, regional discussions and national settings. The terms are now defined by a single sentence. The comments paragraph associated with each term is not part of the definition, but is provided to give additional context, qualification and explanation. It should be noted that the terms are not necessarily mutually exclusive, and in some cases may have overlapping meanings.

The Terminology has been revised to include words that are central to the contemporary understanding and evolving practice of disaster risk reduction but exclude words that have a common dictionary usage. Also included are a number of emerging new concepts that are not in widespread use but are of growing professional relevance; these terms are marked with a star (*) and their definition may evolve in future. The English version of the 2009 Terminology provides the basis for the preparation of other language versions. Comments and suggestions for future revisions are welcome and should be directed to the ISDR Secretariat (see www.unisdr.org).

Acceptable risk

The level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions.

Comment: In engineering terms, acceptable risk is also used to assess and define the structural and non-structural measures that are needed in order to reduce possible harm to people, property, services and systems to a chosen tolerated level, according to codes or “accepted practice” which are based on known probabilities of hazards and other factors.

Adaptation

The adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities.

Comment: This definition addresses the concerns of climate change and is sourced from the secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). The broader concept of adaptation also applies to non-climatic factors such as soil erosion or surface subsidence. Adaptation can occur in autonomous fashion, for example through market changes, or as a result of intentional adaptation policies and plans. Many disaster risk reduction measures can directly contribute to better adaptation.

Biological hazard

Process or phenomenon of organic origin or conveyed by biological vectors, including exposure to pathogenic micro-organisms, toxins and bioactive substances that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.

Building code

A set of ordinances or regulations and associated standards intended to control aspects of the design, construction, materials, alteration and occupancy of structures that are necessary to ensure human safety and welfare, including resistance to collapse and damage.

Comment: Building codes can include both technical and functional standards. They should incorporate the lessons of international experience and should be tailored to national and local circumstances. A systematic regime of enforcement is a critical supporting requirement for effective implementation of building codes.

Capacity

The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.

Comment: Capacity may include infrastructure and physical means, institutions, societal coping abilities, as well as human knowledge, skills and collective attributes such as social relationships, leadership and management. Capacity also may be described as capability. Capacity assessment is a term for the process by which the capacity of a group is reviewed against desired goals, and the capacity gaps are identified for further action.

Capacity development

The process by which people, organizations and society systematically stimulate and develop their capacities over time to achieve social and economic goals, including through improvement of knowledge, skills, systems, and institutions.

Comment: Capacity development is a concept that extends the term of capacity building to encompass all aspects of creating and sustaining capacity growth over time. It involves learning and various types of training, but also continuous efforts to develop institutions, political awareness, financial resources, technology systems, and the wider social and cultural enabling environment.

Climate change

(a) The Inter-governmental Panel on Climate Change (IPCC) defines climate change as: “a change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use”.

(b) The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as “a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods”.

Comment: For disaster risk reduction purposes, either of these definitions may be suitable, depending on the particular context. The UNFCCC definition is the more restricted one as it excludes climate changes attributable to natural causes. The IPCC definition can be paraphrased for popular communications as “A change in the climate that persists for decades or longer, arising from either natural causes or human activity.”

Contingency planning

A management process that analyses specific potential events or emerging situations that might threaten society or the environment and establishes arrangements in advance to enable timely, effective and appropriate responses to such events and situations.

Comment: Contingency planning results in organized and coordinated courses of action with clearly-identified institutional roles and resources, information processes, and operational arrangements for specific actors at times of need. Based on scenarios of possible emergency conditions or disaster events, it allows key actors to envision, anticipate and solve problems that can arise during crises. Contingency planning is an important part of overall preparedness. Contingency plans need to be regularly updated and exercised.

Coping capacity

The ability of people, organizations and systems, using available skills and resources, to face and manage adverse conditions, emergencies or disasters.

Comment: The capacity to cope requires continuing awareness, resources and good management, both in normal times as well as during crises or adverse conditions. Coping capacities contribute to the reduction of disaster risks.

Corrective disaster risk management *

Management activities that address and seek to correct or reduce disaster risks which are already present.

Comment: This concept aims to distinguish between the risks that are already present, and which need to be managed and reduced now, and the prospective risks that may develop in future if risk reduction policies are not put in place. See also Prospective risk management.

Critical facilities

The primary physical structures, technical facilities and systems which are socially, economically or operationally essential to the functioning of a society or community, both in routine circumstances and in the extreme circumstances of an emergency.

Comment: Critical facilities are elements of the infrastructure that support essential services in a society. They include such things as transport systems, air and sea ports, electricity, water and communications systems, hospitals and health clinics, and centres for fire, police and public administration services.

Disaster

A serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources.

Comment: Disasters are often described as a result of the combination of: the exposure to a hazard; the conditions of vulnerability that are present; and insufficient capacity or measures to reduce or cope with the potential negative consequences. Disaster impacts may include loss of life, injury, disease and other negative effects on human physical, mental and social well-being, together with damage to property, destruction of assets, loss of services, social and economic disruption and environmental degradation.

Disaster risk

The potential disaster losses, in lives, health status, livelihoods, assets and services, which could occur to a particular community or a society over some specified future time period.

Comment: The definition of disaster risk reflects the concept of disasters as the outcome of continuously present conditions of risk. Disaster risk comprises different types of potential losses which are often difficult to quantify. Nevertheless, with knowledge of the prevailing hazards and the patterns of population and socio-economic development, disaster risks can be assessed and mapped, in broad terms at least.

Disaster risk management

The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster.

Comment: This term is an extension of the more general term "risk management" to address the specific issue of disaster risks. Disaster risk management aims to avoid, lessen or transfer the adverse effects of hazards through activities and measures for prevention, mitigation and preparedness.

Disaster risk reduction

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.

Comment: A comprehensive approach to reduce disaster risks is set out in the United Nations-endorsed Hyogo Framework for Action, adopted in 2005, whose expected outcome is “The substantial reduction of disaster losses, in lives and the social, economic and environmental assets of communities and countries.” The International Strategy for Disaster Reduction (ISDR) system provides a vehicle for cooperation among Governments, organisations and civil society actors to assist in the implementation of the Framework. Note that while the term “disaster reduction” is sometimes used, the term “disaster risk reduction” provides a better recognition of the ongoing nature of disaster risks and the ongoing potential to reduce these risks.

Disaster risk reduction plan *

A document prepared by an authority, sector, organization or enterprise that sets out goals and specific objectives for reducing disaster risks together with related actions to accomplish these objectives.

Comment: Disaster risk reduction plans should be guided by the Hyogo Framework and considered and coordinated within relevant development plans, resource allocations and programme activities. National level plans need to be specific to each level of administrative responsibility and adapted to the different social and geographical circumstances that are present. The time frame and responsibilities for implementation and the sources of funding should be specified in the plan. Linkages to climate change adaptation plans should be made where possible.

Early warning system

The set of capacities needed to generate and disseminate timely and meaningful warning information to enable individuals, communities and organizations threatened by a hazard to prepare and to act appropriately and in sufficient time to reduce the possibility of harm or loss.

Comment: This definition encompasses the range of factors necessary to achieve effective responses to warnings. A people-centred early warning system necessarily comprises four key elements: knowledge of the risks; monitoring, analysis and forecasting of the hazards; communication or dissemination of alerts and warnings; and local capabilities to respond to the warnings received. The expression “end-to-end warning system” is also used to emphasize that warning systems need to span all steps from hazard detection through to community response.

Ecosystem services

The benefits that people and communities obtain from ecosystems.

Comment: This definition is drawn from the Millennium Ecosystem Assessment. The benefits that ecosystems can provide include “regulating services” such as regulation of floods, drought, land degradation and disease, along with “provisioning services” such as food and water, “supporting services” such as soil formation and nutrient cycling, and “cultural services” such as recreational, spiritual, religious and other non-material benefits. Integrated management of land, water and living resources that promotes conservation and sustainable use provide the basis for maintaining ecosystem services, including those that contribute to reduced disaster risks.

El Niño-Southern Oscillation phenomenon

A complex interaction of the tropical Pacific Ocean and the global atmosphere that results in irregularly occurring episodes of changed ocean and weather patterns in many parts of the world,

often with significant impacts over many months, such as altered marine habitats, rainfall changes, floods, droughts, and changes in storm patterns.

Comment: The El Niño part of the El Niño-Southern Oscillation (ENSO) phenomenon refers to the well-above-average ocean temperatures that occur along the coasts of Ecuador, Peru and northern Chile and across the eastern equatorial Pacific Ocean, while La Niña part refers to the opposite circumstances when well-below-average ocean temperatures occur. The Southern Oscillation refers to the accompanying changes in the global air pressure patterns that are associated with the changed weather patterns experienced in different parts of the world.

Emergency management

The organization and management of resources and responsibilities for addressing all aspects of emergencies, in particular preparedness, response and initial recovery steps.

Comment: A crisis or emergency is a threatening condition that requires urgent action. Effective emergency action can avoid the escalation of an event into a disaster. Emergency management involves plans and institutional arrangements to engage and guide the efforts of government, non-government, voluntary and private agencies in comprehensive and coordinated ways to respond to the entire spectrum of emergency needs. The expression “disaster management” is sometimes used instead of emergency management.

Emergency services

The set of specialized agencies that have specific responsibilities and objectives in serving and protecting people and property in emergency situations.

Comment: Emergency services include agencies such as civil protection authorities, police, fire, ambulance, paramedic and emergency medicine services, Red Cross and Red Crescent societies, and specialized emergency units of electricity, transportation, communications and other related services organizations.

Environmental degradation

The reduction of the capacity of the environment to meet social and ecological objectives and needs.

Comment: Degradation of the environment can alter the frequency and intensity of natural hazards and increase the vulnerability of communities. The types of human-induced degradation are varied and include land misuse, soil erosion and loss, desertification, wildland fires, loss of biodiversity, deforestation, mangrove destruction, land, water and air pollution, climate change, sea level rise and ozone depletion.

Environmental impact assessment

Process by which the environmental consequences of a proposed project or programme are evaluated, undertaken as an integral part of planning and decision-making processes with a view to limiting or reducing the adverse impacts of the project or programme.

Comment: Environmental impact assessment is a policy tool that provides evidence and analysis of environmental impacts of activities from conception to decision-making. It is utilized extensively in

national programming and project approval processes and for international development assistance projects. Environmental impact assessments should include detailed risk assessments and provide alternatives, solutions or options to deal with identified problems.

Exposure

People, property, systems, or other elements present in hazard zones that are thereby subject to potential losses.

Comment: Measures of exposure can include the number of people or types of assets in an area. These can be combined with the specific vulnerability of the exposed elements to any particular hazard to estimate the quantitative risks associated with that hazard in the area of interest.

Extensive risk *

The widespread risk associated with the exposure of dispersed populations to repeated or persistent hazard conditions of low or moderate intensity, often of a highly localized nature, which can lead to debilitating cumulative disaster impacts.

Comment: Extensive risk is mainly a characteristic of rural areas and urban margins where communities are exposed to, and vulnerable to, recurring localised floods, landslides storms or drought. Extensive risk is often associated with poverty, urbanization and environmental degradation. See also "Intensive risk".

Forecast

Definite statement or statistical estimate of the likely occurrence of a future event or conditions for a specific area.

Comment: In meteorology a forecast refers to a future condition, whereas a warning refers to a potentially dangerous future condition.

Geological hazard

Geological process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: Geological hazards include internal earth processes, such as earthquakes, volcanic activity and emissions, and related geophysical processes such as mass movements, landslides, rockslides, surface collapses, and debris or mud flows. Hydrometeorological factors are important contributors to some of these processes. Tsunamis are difficult to categorize; although they are triggered by undersea earthquakes and other geological events, they are essentially an oceanic process that is manifested as a coastal water-related hazard.

Greenhouse gases

Gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation of thermal infrared radiation emitted by the Earth's surface, the atmosphere itself, and by clouds.

Comment: This is the definition of the Intergovernmental Panel on Climate Change (IPCC). The main greenhouse gases (GHG) are water vapour, carbon dioxide, nitrous oxide, methane and ozone.

Hazard

A dangerous phenomenon, substance, human activity or condition that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: The hazards of concern to disaster risk reduction as stated in footnote 3 of the Hyogo Framework are "... hazards of natural origin and related environmental and technological hazards and risks." Such hazards arise from a variety of geological, meteorological, hydrological, oceanic, biological, and technological sources, sometimes acting in combination. In technical settings, hazards are described quantitatively by the likely frequency of occurrence of different intensities for different areas, as determined from historical data or scientific analysis.

See other hazard-related terms in the Terminology: Biological hazard; Geological hazard; Hydrometeorological hazard; Natural hazard; Socio-natural hazard; Technological hazard.

Hydrometeorological hazard

Process or phenomenon of atmospheric, hydrological or oceanographic nature that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: Hydrometeorological hazards include tropical cyclones (also known as typhoons and hurricanes), thunderstorms, hailstorms, tornados, blizzards, heavy snowfall, avalanches, coastal storm surges, floods including flash floods, drought, heatwaves and cold spells. Hydrometeorological conditions also can be a factor in other hazards such as landslides, wildland fires, locust plagues, epidemics, and in the transport and dispersal of toxic substances and volcanic eruption material

Intensive risk *

The risk associated with the exposure of large concentrations of people and economic activities to intense hazard events, which can lead to potentially catastrophic disaster impacts involving high mortality and asset loss.

Comment: Intensive risk is mainly a characteristic of large cities or densely populated areas that are not only exposed to intense hazards such as strong earthquakes, active volcanoes, heavy floods, tsunamis, or major storms but also have high levels of vulnerability to these hazards. See also "Extensive risk."

Land-use planning

The process undertaken by public authorities to identify, evaluate and decide on different options for the use of land, including consideration of long term economic, social and environmental objectives and the implications for different communities and interest groups, and the subsequent formulation and promulgation of plans that describe the permitted or acceptable uses.

Comment: Land-use planning is an important contributor to sustainable development. It involves studies and mapping; analysis of economic, environmental and hazard data; formulation of alternative land-use decisions; and design of long-range plans for different geographical and administrative scales. Land-use planning can help to mitigate disasters and reduce risks by discouraging settlements and construction of key installations in hazard-prone areas, including consideration of service routes for transport, power, water, sewage and other critical facilities.

Mitigation

The lessening or limitation of the adverse impacts of hazards and related disasters.

Comment: The adverse impacts of hazards often cannot be prevented fully, but their scale or severity can be substantially lessened by various strategies and actions. Mitigation measures encompass engineering techniques and hazard-resistant construction as well as improved environmental policies and public awareness. It should be noted that in climate change policy, "mitigation" is defined differently, being the term used for the reduction of greenhouse gas emissions that are the source of climate change.

National platform for disaster risk reduction

A generic term for national mechanisms for coordination and policy guidance on disaster risk reduction that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country.

Comment: This definition is derived from footnote 10 of the Hyogo Framework. Disaster risk reduction requires the knowledge, capacities and inputs of a wide range of sectors and organisations, including United Nations agencies present at the national level, as appropriate. Most sectors are affected directly or indirectly by disasters and many have specific responsibilities that impinge upon disaster risks. National platforms provide a means to enhance national action to reduce disaster risks, and they represent the national mechanism for the International Strategy for Disaster Reduction.

Natural hazard

Natural process or phenomenon that may cause loss of life, injury or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: Natural hazards are a sub-set of all hazards. The term is used to describe actual hazard events as well as the latent hazard conditions that may give rise to future events. Natural hazard events can be characterized by their magnitude or intensity, speed of onset, duration, and area of extent. For example, earthquakes have short durations and usually affect a relatively small region, whereas droughts are slow to develop and fade away and often affect large regions. In some cases hazards may be coupled, as in the flood caused by a hurricane or the tsunami that is created by an earthquake.

Preparedness

The knowledge and capacities developed by governments, professional response and recovery organizations, communities and individuals to effectively anticipate, respond to, and recover from, the impacts of likely, imminent or current hazard events or conditions.

Comment: Preparedness action is carried out within the context of disaster risk management and aims to build the capacities needed to efficiently manage all types of emergencies and achieve orderly transitions from response through to sustained recovery. Preparedness is based on a sound analysis of disaster risks and good linkages with early warning systems, and includes such activities as contingency planning, stockpiling of equipment and supplies, the development of arrangements for coordination, evacuation and public information, and associated training and field exercises. These must be supported by formal institutional, legal and budgetary capacities. The related term “readiness” describes the ability to quickly and appropriately respond when required.

Prevention

The outright avoidance of adverse impacts of hazards and related disasters.

Comment: Prevention (i.e. disaster prevention) expresses the concept and intention to completely avoid potential adverse impacts through action taken in advance. Examples include dams or embankments that eliminate flood risks, land-use regulations that do not permit any settlement in high risk zones, and seismic engineering designs that ensure the survival and function of a critical building in any likely earthquake. Very often the complete avoidance of losses is not feasible and the task transforms to that of mitigation. Partly for this reason, the terms prevention and mitigation are sometimes used interchangeably in casual use.

Prospective disaster risk management *

Management activities that address and seek to avoid the development of new or increased disaster risks.

Comment: This concept focuses on addressing risks that may develop in future if risk reduction policies are not put in place, rather than on the risks that are already present and which can be managed and reduced now. See also Corrective disaster risk management.

Public awareness

The extent of common knowledge about disaster risks, the factors that lead to disasters and the actions that can be taken individually and collectively to reduce exposure and vulnerability to hazards.

Comment: Public awareness is a key factor in effective disaster risk reduction. Its development is pursued, for example, through the development and dissemination of information through media and educational channels, the establishment of information centres, networks, and community or participation actions, and advocacy by senior public officials and community leaders.

Recovery

The restoration, and improvement where appropriate, of facilities, livelihoods and living conditions of disaster-affected communities, including efforts to reduce disaster risk factors.

Comment: The recovery task of rehabilitation and reconstruction begins soon after the emergency phase has ended, and should be based on pre-existing strategies and policies that facilitate clear institutional responsibilities for recovery action and enable public participation. Recovery programmes, coupled with the heightened public awareness and engagement after a disaster,

afford a valuable opportunity to develop and implement disaster risk reduction measures and to apply the “build back better” principle.

Residual risk

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.

Comment: The presence of residual risk implies a continuing need to develop and support effective capacities for emergency services, preparedness, response and recovery together with socio-economic policies such as safety nets and risk transfer mechanisms.

Resilience

The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions.

Comment: Resilience means the ability to “resile from” or “spring back from” a shock. The resilience of a community in respect to potential hazard events is determined by the degree to which the community has the necessary resources and is capable of organizing itself both prior to and during times of need.

Response

The provision of emergency services and public assistance during or immediately after a disaster in order to save lives, reduce health impacts, ensure public safety and meet the basic subsistence needs of the people affected.

Comment: Disaster response is predominantly focused on immediate and short-term needs and is sometimes called “disaster relief”. The division between this response stage and the subsequent recovery stage is not clear-cut. Some response actions, such as the supply of temporary housing and water supplies, may extend well into the recovery stage.

Retrofitting

Reinforcement or upgrading of existing structures to become more resistant and resilient to the damaging effects of hazards.

Comment: Retrofitting requires consideration of the design and function of the structure, the stresses that the structure may be subject to from particular hazards or hazard scenarios, and the practicality and costs of different retrofitting options. Examples of retrofitting include adding bracing to stiffen walls, reinforcing pillars, adding steel ties between walls and roofs, installing shutters on windows, and improving the protection of important facilities and equipment.

Risk

The combination of the probability of an event and its negative consequences.

Comment: This definition closely follows the definition of the ISO/IEC Guide 73. The word “risk” has two distinctive connotations: in popular usage the emphasis is usually placed on the concept of

chance or possibility, such as in “the risk of an accident”; whereas in technical settings the emphasis is usually placed on the consequences, in terms of “potential losses” for some particular cause, place and period. It can be noted that people do not necessarily share the same perceptions of the significance and underlying causes of different risks.

See other risk-related terms in the Terminology: Acceptable risk; Corrective disaster risk management; Disaster risk; Disaster risk management; Disaster risk reduction; Disaster risk reduction plans; Extensive risk; Intensive risk; Prospective disaster risk management; Residual risk; Risk assessment; Risk management; Risk transfer.

Risk assessment

A methodology to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that together could potentially harm exposed people, property, services, livelihoods and the environment on which they depend.

Comment: Risk assessments (and associated risk mapping) include: a review of the technical characteristics of hazards such as their location, intensity, frequency and probability; the analysis of exposure and vulnerability including the physical social, health, economic and environmental dimensions; and the evaluation of the effectiveness of prevailing and alternative coping capacities in respect to likely risk scenarios. This series of activities is sometimes known as a risk analysis process.

Risk management

The systematic approach and practice of managing uncertainty to minimize potential harm and loss.

Comment: Risk management comprises risk assessment and analysis, and the implementation of strategies and specific actions to control, reduce and transfer risks. It is widely practiced by organizations to minimise risk in investment decisions and to address operational risks such as those of business disruption, production failure, environmental damage, social impacts and damage from fire and natural hazards. Risk management is a core issue for sectors such as water supply, energy and agriculture whose production is directly affected by extremes of weather and climate.

Risk transfer

The process of formally or informally shifting the financial consequences of particular risks from one party to another whereby a household, community, enterprise or state authority will obtain resources from the other party after a disaster occurs, in exchange for ongoing or compensatory social or financial benefits provided to that other party.

Comment: Insurance is a well-known form of risk transfer, where coverage of a risk is obtained from an insurer in exchange for ongoing premiums paid to the insurer. Risk transfer can occur informally within family and community networks where there are reciprocal expectations of mutual aid by means of gifts or credit, as well as formally where governments, insurers, multi-lateral banks and other large risk-bearing entities establish mechanisms to help cope with losses in major events. Such mechanisms include insurance and re-insurance contracts, catastrophe bonds, contingent credit facilities and reserve funds, where the costs are covered by premiums, investor contributions, interest rates and past savings, respectively.

Socio-natural hazard *

The phenomenon of increased occurrence of certain geophysical and hydrometeorological hazard events, such as landslides, flooding, land subsidence and drought, that arise from the interaction of natural hazards with overexploited or degraded land and environmental resources.

Comment: This term is used for the circumstances where human activity is increasing the occurrence of certain hazards beyond their natural probabilities. Evidence points to a growing disaster burden from such hazards. Socio-natural hazards can be reduced and avoided through wise management of land and environmental resources.

Structural and non-structural measures

Structural measures: Any physical construction to reduce or avoid possible impacts of hazards, or application of engineering techniques to achieve hazard-resistance and resilience in structures or systems;

Non-structural measures: Any measure not involving physical construction that uses knowledge, practice or agreement to reduce risks and impacts, in particular through policies and laws, public awareness raising, training and education.

Comment: Common structural measures for disaster risk reduction include dams, flood levies, ocean wave barriers, earthquake-resistant construction, and evacuation shelters. Common non-structural measures include building codes, land use planning laws and their enforcement, research and assessment, information resources, and public awareness programmes. Note that in civil and structural engineering, the term "structural" is used in a more restricted sense to mean just the load-bearing structure, with other parts such as wall cladding and interior fittings being termed non-structural.

Sustainable development

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

Comment: This definition coined by the 1987 Brundtland Commission is very succinct but it leaves unanswered many questions regarding the meaning of the word development and the social, economic and environmental processes involved. Disaster risk is associated with unsustainable elements of development such as environmental degradation, while conversely disaster risk reduction can contribute to the achievement of sustainable development, through reduced losses and improved development practices.

Technological hazard

A hazard originating from technological or industrial conditions, including accidents, dangerous procedures, infrastructure failures or specific human activities, that may cause loss of life, injury, illness or other health impacts, property damage, loss of livelihoods and services, social and economic disruption, or environmental damage.

Comment: Examples of technological hazards include industrial pollution, nuclear radiation, toxic wastes, dam failures, transport accidents, factory explosions, fires, and chemical spills. Technological hazards also may arise directly as a result of the impacts of a natural hazard event.

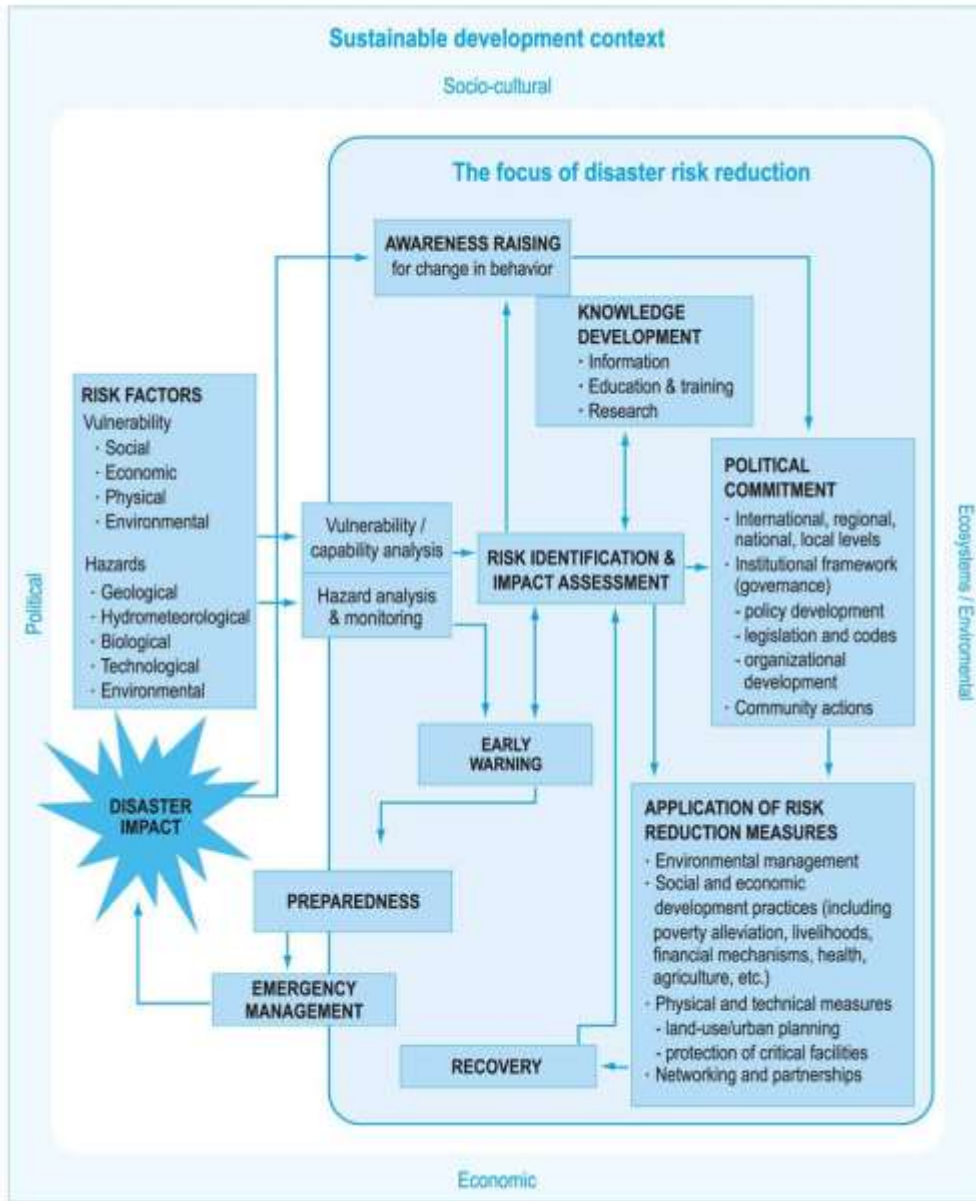
Vulnerability

The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.

Comment: There are many aspects of vulnerability, arising from various physical, social, economic, and environmental factors. Examples may include poor design and construction of buildings, inadequate protection of assets, lack of public information and awareness, limited official recognition of risks and preparedness measures, and disregard for wise environmental management. Vulnerability varies significantly within a community and over time. This definition identifies vulnerability as a characteristic of the element of interest (community, system or asset) which is independent of its exposure. However, in common use the word is often used more broadly to include the element's exposure.

** Emerging new concepts that are not in widespread use but are of growing professional relevance; the definition of these terms remain to be widely consulted upon and may change in future.*

Annex 2. Critical areas of DRR as identified in the HFA



Source: ISDR Secretariat

Annex 3. Examples of UNDAFs which include DRR issues

Below are short abstracts from different countries which illustrate how DRR has been integrated into their UNDAFs. Complete UNDAFs can be found at: <http://www.undg.org/index.cfm?P=234&f=A>

Country	UNDAF cycle	Remarks on integration of DRR into UNDAF
Bangladesh	2006-2010	Outcome 4: Social Protection and Disaster Risk Reduction 'human security is strengthened and vulnerability to social, economic and natural risks is reduced'. A separate framework for 2006-2010 has also been produced by the DRM Cluster.
Belize	2007-2011	Outcome: By 2011, national frameworks and capacities in place enhancing the ability to adequately address adaptation to and mitigation of the impact of disasters as well as the comprehensive, equitable, sustainable and effective management of the nation's natural resources.
Cambodia	2006-2010	Outcome 4: Agriculture and poverty, refers to enhanced resilience to 'shocks', including emergency preparedness and response plans in place and enhanced capacity to manage risks and respond to natural and man-made shocks.
Eritrea	2007-2011	Outcome 2: By 2011, a national coordination mechanism is established at a national, regional, and local level for disaster prevention, preparedness and mitigation. Output 2.4.1 states that a strategy for disaster prevention, preparedness and mitigation should be developed and output 2.4.2 addresses the establishment of Early Warning Systems for drought, other natural disasters and conflict.
Ethiopia	2002-2004	Outcome 4: Good governance: To strengthen national capacity for early warning/ management of conflicts and instability. Outcome 5: Provide access to basic social services: To meet the needs of a large proportion of the population outside the normal delivery system (out-of-school children and adolescents, children with special needs, working children, children orphaned by HIV/AIDS, children affected by conflict and natural crises such as drought).
Georgia	2006-2010	Outcome 4: Risk and impact of man-made and natural disasters is reduced. See also Annex 6.
Guatemala	2004-2008	Outcome 4: Access to social services for the most vulnerable, outcome 4.7 mentions basic services provided to people most vulnerable to natural disasters and socio-economic crisis (focusing on emergency food relief and preparedness of health sector).
India	2008-2012	Outcome 4: Vulnerability reduction: By 2012 'the most vulnerable people, including women and girls, and government at all levels have enhanced abilities to prepare, respond, and adapt/recover from sudden and slow onset disasters and environmental changes.' As disaster risk reduction was also one of the cross-cutting priorities, inputs to other clusters, like governance and child protection, was

		provided. A Vulnerability Reduction Cluster group was formed at the beginning of the UNDAF cycle which combined disaster reduction and environmental change concerns.
Indonesia	2006-2010	Under the Governance Outcome, sub-outcome 3.4, on reducing vulnerability of people affected by natural disasters and conflict.
Iran	2005-2009	Sustainable development, disaster management and energy efficiency is identified as one of the five priority areas of cooperation with Outcome 4.2 on disaster management and vulnerability reduction. UNDAF process had a working group on DRR, with whom the UNDG draft guidelines on integrating DRR were shared.
Kenya	2004-2008	Contribute to the strengthening of national and local systems for emergency preparedness, prevention, response and mitigation. <ul style="list-style-type: none"> • National Disaster Management policy institutionalised at all levels. • Strengthened disaster management, including increased capacity for peacebuilding, conflict resolution and reduction of small arms proliferation. • Enhanced capacity of national and district authorities to collect, disseminate and utilise early warning, vulnerability assessment and needs assessment data.
Lao PDR	2007-2011	Under Poverty reduction, outcome 1.4 on enhanced ownership and capacity for pro-poor planning and implementation, harmonized aid coordination, and disaster management with a focus on government response and rehabilitation capacity (output 1.4.4).
Macedonia FYR	2005-2009	Outcome on Governance refers to DRM: Outcome 1.4 Coordinated and timely national cross sectoral response to natural man-made disasters and sudden crisis enhanced. <ul style="list-style-type: none"> • A national system for the protection of school children in the event of natural disasters is established and operational (UNICEF). • Ability of national institutions to cope with emergencies in the health sector (WHO). Increased access by population to timely health emergencies supplies (WHO). • Integrated and cross sectoral disaster management, crisis, contingency planning and prevention mechanisms in place (UNDP).
Malawi	2000-2006	The UNDAF states that the UN system should support the incorporation of national disaster mitigation strategies into the national development agenda. This includes the support for the development of national early warning and contingency systems, mainstreaming disaster mitigation in all sectoral plans and ecological management and the actual execution of national disaster preparedness plan when the need arises.
Maldives	2003-2007	Outcome 2: Disaster Risk Reduction and Environmental Management. Outcome 1: Social equity also states 'People have increased knowledge and skills to protect themselves against harm' under the CP outcome on enabling environment

		for social services and shelter.
Mongolia	2007-2011	Under Outcome on sustainable environment, outcome 3.2 on minimizing risks and consequences of natural disasters. Disasters are also mentioned in the matrix under risk and assumptions.
Morocco	2007-2011	Outcome A.1: climate change adaptation and protection from natural disasters
Mozambique	2002-2006	Strategic output 1.1 states: To minimise potential national disasters specific to Mozambique and their impact on national development especially to increase effective national and community mechanisms for prevention, preparedness, and response to natural disasters.
Nepal	2008-2010	Natural disasters are cited as a cross-cutting risk to the achievement of the UNDAF outcomes. Matrix includes under the livelihoods Outcome C.4, reduction of risks of natural hazards to rural and urban livelihoods and infrastructure. The UNDAF process included a DRR UNDAF working group, with whom the UNDG draft guidelines had been shared.
Peru	2006-2010	Under Outcome 3.4 on Governance: disaster preparedness of sectoral ministries is included
Senegal	2007-2011	Outcome 3.6 on institution capacity development at the national and local community levels to manage local development and anticipate crises, natural disasters and epidemics. Also includes output on urban risk (1.6). The Poverty Reduction Strategy Paper 2006-2010 has social protection and risk and disaster prevention and management as one of its priorities.
Sri Lanka	2008-20012	Under Outcomes on Poverty reduction (capacity of socio-economic service providers to prepare, respond and mitigate) and Governance (accountability and effectiveness of aid-coordination), DRM is one of the cross-cutting issues and DRM capacity is specifically included.
Swaziland	2001-2005	Capacity development for environmental and disaster management by using a multi-sectoral approach to achieve sustainable development by: 1. Building capacities at all levels to enhance effective prevention, preparedness and response to withstand future disasters; 2. Respond in cases of emergencies and disasters using the DMT mechanism.
Syria	2007-2011	Output 5.1: National and local capacity to reduce risk and prevent disaster is increased. Output 5.2 Comprehensive and coordinated disaster management system in place. Output 5.3 In the event of a disaster, an effective coordinated disaster response is conducted through timely and adequate assessment, relief, rehabilitation and recovery activities.
Tanzania	2007-2010	Outcome 6 contains the following outputs: 1. Disaster risk reduction policies and disaster management capacities strengthened for Gov. of Tanzania's and Gov. of Zanzibar's emergency relief, rehabilitation; 2. Intersectional coordination and mainstreaming of disaster risk management supported; 3. Construction technologies and building materials developed for use in disaster prone areas and in rehabilitation and

		reconstruction programmes.
Turkey	2001-2005	Mainstreams establishment of national disaster preparedness and mitigation machinery under governance and decentralization.
Vietnam	2006-2010	Outcome 1 on sustainable growth includes one sub outcome 1.5 on Capacity to respond to disasters.
Zimbabwe	2007-2011	DRR integrated into development planning in the context of enhanced sustainable livelihoods through employment opportunities and community recovery projects (Output 2.4).

Annex 4. In-country analysis: checklist for identifying existing DRR information and related gaps

1) Review the situation of the country with respect to the standards in internationally agreed treaty obligations, development goals and relevant international agreements, including the HFA.

- Have action plans for achievement of the MDGs been screened for their impacts on disaster risk and vulnerability?
- Have action plans for climate adaptation been screened for their complementarities with disaster risk and vulnerability?
- Have analyses been carried out to indicate if achievement of MDG targets is threatened by disaster risk?
- Is there sufficient information to identify to what degree the country has already met, or is on track to meet, the HFA priorities and what are the critical gaps?

2) Review the availability of risk and disaster vulnerability information, identify disaster-related patterns of discrimination and inequality, and describe these in relation to the situation of groups excluded and made more vulnerable to disasters due to the denial of their rights.

- Have assessments been carried out to characterize the disaster risk and the vulnerability of various sectors, regions or populations to multiple hazards?
- Have these assessments considered evolving risk patterns (in relation to changing patterns of hazard risk, demography, value and location of elements exposed, and vulnerability)?
- Are risk and vulnerability data sufficiently disaggregated (e.g. by sex, age, ethnicity, disability, region, religion and language) to identify excluded groups?
- Does the analysis describe patterns of vulnerability including the different ways women, men, children, the elderly and the handicapped experience vulnerability?
- Are there evident priorities among the problems and challenges identified?
- Are the root causes of these problems and challenges identified?

3) Review availability of information on capacity development needs at different levels.

- Does the analysis identify responsibilities, capacities and capacity gaps of key actors to address the problems and challenges (at the national, sub-national, community and household levels)?
- Are the root causes of these problems and challenges identified?

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Annex 5. Identifying relevant stakeholders across the DRR spectrum

DRR requires inputs from a wide range of actors from both humanitarian and development sectors. Government ownership of the process is an essential ingredient for success and the UNCT will need to consult with partners across the risk reduction spectrum. Clearly the degree to which these partners can be consulted will vary, but the list below is indicative of broad groups of stakeholders. The list includes those responsible for or engaged in:

Co-ordination—governmental and non-governmental bodies responsible for: (a) co-ordination of DRR-related activities, including in development planning and decision-making, and (where they exist) HFA focal points¹² and multi-stakeholder and multi-sectoral National Platforms for DRR¹³; (b) national development processes such as planning and finance; and (c) other related areas including climate change adaptation, food insecurity and social protection.

Critical Sectors affecting highly vulnerable populations or those that are most highly exposed to disaster risks—including: (a) line ministries and technical agencies responsible for critical service delivery and lifeline infrastructure, such as health, education, police, water, roads, transport and telecommunications; (b) ministries and agencies whose actions can have a major role in increasing/reducing disaster risk, including urban planning, and forestry environment; and (c) agencies responsible for representing the rights and needs of highly vulnerable or marginalized groups (including government ministries responsible for women's affairs).

Disaster Management—engaging with the identified government agency/department with lead responsibility for disaster management, including emergency response, early warning and preparedness. In many countries these responsibilities are held by with the National Disaster Management Authority. Other critical governmental stakeholders including national technical services (meteorological, hydrological, marine, geological etc) , and non-governmental stakeholders should also be consulted including NGOs and CSOs as well as the Red Cross.

Risk Analysis and Mapping—national scientific and technical services (meteorological, hydrological, geological, marine, aeronautical, etc.) usually can provide valuable information about historical and projected hazards. This needs to be complemented with information about elements exposed and vulnerability, available from government statistical services, sectoral ministries, universities. Some countries have dedicated focal point(s) for risk analysis and mapping.

The UNCT should seek to consult all resident and non-resident agencies to determine which will all have an important role to play in DRR.

¹² Over 120 countries have declared Focal Points for the Hyogo Framework for Action on Disaster Risk Reduction, which are responsible to oversee its implementation of DRR measures at national and local level. They are mostly representing their National Disaster Management Authorities. These authorities are thus the natural counterpart for UNCTs to support integration of disaster risk reduction in national development programmes and for support to implement the Hyogo Framework for Action on Disaster Risk Reduction. In presently 45 countries, Hyogo Focal Point institutions are also leading National Platforms for Disaster Risk Reduction.

¹³ A National platform for disaster risk reduction can be defined as a nationally-owned and led mechanism – adopting the form of a forum or committee – that serves as advocate for disaster risk reduction at different levels and contributes with both analysis and advice on action through a coordinated and participatory process. It should be integrated in the existing disaster risk management as well as planning system and be developed as a forum to facilitate the interaction of key development players from line ministries, disaster management authorities, academia, civil society and other sectors around the disaster reduction agenda. The national platform should be the custodian of the nationally adapted and agreed Hyogo Framework for Action on Disaster Risk Reduction and should aim at contributing to a comprehensive national disaster reduction system, as appropriate to each context).

Annex 6. Assessing disaster risk and capacities: key information

This Annex provides further information on how to access and assess information on the different aspects of disaster risk: hazard; exposure; vulnerability and capacity.

Hazard Information

Hazard events are characterized by magnitude, duration, location and timing. The aim is to calculate a probability of occurrence for each of these hazard characteristics. While there are standards for hazard monitoring, detecting and forecasting, there is no standard methodology for hazard characterisation. Initiatives are underway, led by international agencies, to address this gap.

As a preliminary step, the UNCT can prepare a profile of the hazards typically affecting the country. A simple web-based tool is available at: <http://www.unisdr.org/eng/country-inform/introduction.htm>

The box below illustrates a simple profile based on percentage of people killed and effect by various disaster types. Information about hazards and related analysis is usually available from various national scientific and technical services (meteorological¹⁴, hydrological, geological, marine, aeronautical, etc.).

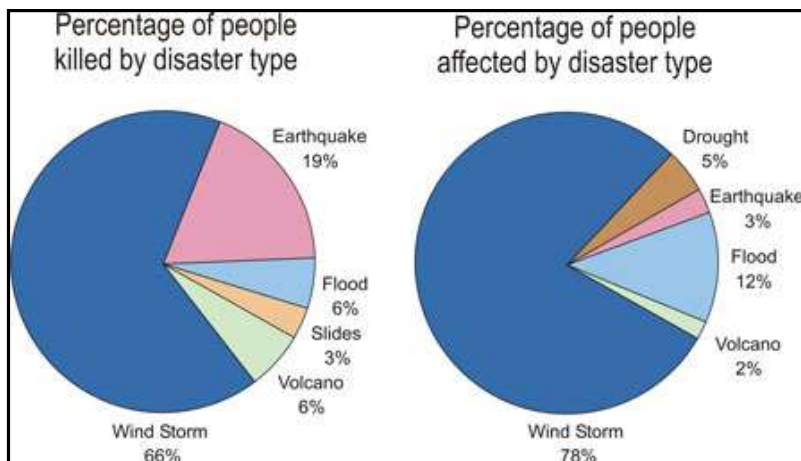


Illustration of a risk profile indicating the distribution of risk by hazard type based on historic data

a) Geological hazards

Earthquakes: Mapping of the expected distribution of seismic ground vibration with an associated probability of occurrence for a given time period (typically expected peak ground

¹⁴ Over 188 countries have a National Meteorological Service (NMHS) which provide standard and authoritative historical and forecast information about weather-, water- and climate-related hazards. These NMHSs all receive support from Regional Specialised Meteorological Services, coordinated by WMO, for provision of customized information (e.g. tropical cyclone regional specialised centres, drought risk management centres, etc).

acceleration 10% probability exceedance in 50 years, which corresponds to return periods of 475 years).

Landslides: Mapping of slope failure susceptibility (landslide prone areas).

b) Hydro-meteorological hazards

Severe rainfall and floods: Rainfall hazard can be expressed in terms of minimal and maximal precipitations over a period of time. Flood prone areas can be mapped in relation with associated return period for the precipitations (typically 10, 25, 50 100, 200, 500, 1000 years). Important elements are the coverage of the flooded area and the depth of the flood.

Cyclones: Mapping of cyclone expected frequency of occurrence for different categories of the Saffir-Simpson scale.

Droughts: Several drought indices can be used to characterise risks related to different drought types (hydrological, agricultural).

Severe winds: Mapping usually provides maximum peak and sustained winds.

Heatwave: Sustained high temperature over long periods of time (usually 72h).

Climate change projections; based upon downscaling of global IPCC climate model outputs, can provide useful information about hazard patterns to be expected over the years and decades.

Information on elements exposed to disaster risk

Data that identifies who or what are likely to suffer impacts and the location of these elements. While some historical loss data is available within global/regional disaster databases¹⁵; these global data sets do not generally include all the valued elements of concern to national government or local communities. The identification of elements at risk is often achieved through consultation with stakeholders. Information about these elements and historic disaster impacts may be available through the statistical services of various ministries, academic networks and other agencies. Common elements include:

- a) **Population statistics:** Census information, income information, disaggregated as much as possible by sex, age, geographic area, and ethnicity, among others.
- b) **Buildings inventories:** Number of buildings, location, height, materials, structural types, age.
- c) **Infrastructure data:** Lifelines (water, power, gas, telecommunications, roads, railways), critical structures (dams, irrigation systems, power plants, etc.) and critical sectors health.
- d) **Production sector information:** Critical industrial facilities, toxic materials, agriculture, livestock, financial sector facilities, commercial facilities and networks.
- e) **Cultural assets:** Historical buildings, cultural monuments.

¹⁵ For example, International Emergency Disasters Database/ Preview or global risk analysis such as World Bank's Hotspots, Inter-American Development Bank-Instituto de Estudios Ambientales Americans Program, UNDP's Disaster Risk Index and European Commission's Humanitarian Aid Office.

Vulnerability Information

Vulnerability is a multifaceted concept that characterizes who or what are likely to suffer impacts and the capacity of these elements to reduce the risk or cope with the impacts. While there is no single vulnerability assessment methodology that fits all situations and needs; many assessments require information on the elements exposed and capacities to reduce disaster risk.

a) Physical vulnerability

Vulnerability functions (expected damage-hazard intensity relations) for each type of exposed element. For example, expected damage of an adobe house for a ground shaking of Intensity V is different from the expected damage of a reinforced concrete house subjected to the same ground shaking.

Functionality disruption functions for critical facilities. A hospital, for example, may not collapse but could be left non-functional due to damage to access roads or damage to critical equipment.

Recovery functions for critical facilities. These are relations that estimate the required time for a critical facility or system to recover 100% of its functionality. The time to recover full water supply, for example, will determine the level of financial losses due to the interruption of productive activities that need water and/or the time emergency provision of water needs to be arranged for the population.

b) Social vulnerability

- e) Economic inequality
- e) Gender
- e) Ethnical composition, minorities
- f) Age distribution
- g) Education levels
 - Food Security Analysis (including production, access and stability elements)
 - Environment degradation

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Capacity Information

Capacity assessment information identifies existing capacities and gaps of governmental and non-governmental organisations (including civil society, private sector and community groups) to manage and reduce disaster risk. There is no single approach to building the capacities of people, organizations and communities to deliver the services required for reducing risk; capacity analysis for DRR should be framed in alignment with the HFA, which identifies critical capacities required to undertake each element of risk reduction.

It is important to consider vulnerabilities and capacities for DRR at all levels. Sub-national and community levels are particularly important because they provide the first line of response to disaster events when they occur, providing critical life and livelihood saving functions.

i. Institutional capacities

Legal capacity. Compile legislation relevant to regulating activities for disaster prevention, response and recovery as well as information on existence of any related enforcement/compliance mechanisms.

Financial capacity. Identify to what extent resources are allocated to support disaster prevention, response and recovery. Both governmental and non-governmental expenditure and budgeting at all levels should be considered.

Co-ordination capacity. Ascertain the existence, role and effectiveness of existing mechanisms for co-ordination for disaster risk reduction and other critical related areas e.g. climate change adaptation. This is capacity available, including through identified/agreed roles and responsibilities, for co-ordination of all key aspects of DRR? How effectively do co-ordination mechanisms co-ordinate with each other? (e.g. are co-ordination mechanisms for climate change adaptation, DRR and social protection well linked/aware of each others work?).

Organisational capacity. Identify whether appropriate organisational structures to implement DRR throughout the country (e.g. does a disaster management agency in an appropriate institutional location) to support the implementation of disaster prevention, response and recovery activities.

Political capacity. Ascertain if sufficient political stability, will and commitment to lead and support disaster risk reduction programmes exists e.g. are policies in place that clearly articulate how DRR is prioritised.

Monitoring capacity. Identify if the government has sufficient capacity to monitor and evaluate the impact of risk reduction interventions. Has the government set baselines and indicators against which to monitor progress and whether the capacity (e.g. monitoring systems) exist to do this across a meaningful area of the country/population?

ii. Capacities for risk assessment, monitoring and early warning

Early warning capacity. Identify to what degree there are sufficient capacities to detect, monitor, forecast risks and disseminate appropriate, clear messages to at risk populations and stakeholders mandated to respond. Early warning capacities involve (i) hazard detecting, monitoring and forecasting; (ii) assessment of the risk posed by the specific hazard; (iii) dissemination and communicating the warning information to decision makers and population at risk; (iv) activating emergency preparedness, protection and evacuation measures so as to reduce the impacts of an event. For this to happen, specific governance and frameworks need to be in place to support inter-agency collaborations, especially when dealing with emergency situations, as well as capacity development, information sharing and ongoing improvements to the systems. Early warning systems have a high potential to save lives, and to a lesser extent livelihoods.

Risk assessment capacity. Ascertain whether appropriate capacities exist to research, observe, analyse, map and where possible forecast hazards, elements exposed, and their vulnerabilities. In many countries, disaster impacts are projected (modelled) on the basis of hazard scenarios, through "probabilistic risk assessment" methods.

Information management capacity. Identify whether there is capacity to record, analyze, summarize, disseminate, and exchange statistical information and data on hazards mapping, disaster risks, impacts, and losses; and develop common methodologies for risk assessment and monitoring.

Capacity to predict future risk patterns. Examine whether capacity exists to research, analyze and report on long-term changes and emerging issues that might affect hazards, vulnerabilities, or capacities of authorities and communities to respond to disasters.

Capacity to bridge the gap between science, policy and practice. Examine to what degree technical institutions are able to effectively communicate risk information to planners and policy makers and to what extent policy makers and practitioners are able to access and understand critical technical information about the risks that affect them.

iii. Knowledge, innovation and education

Human resource development capacity. Explore to what extent training and education in disaster risk reduction exists/is being developed to enhance knowledge and skills among national, sub-national and local government, civil society, volunteers and other key actors in communities.

Public awareness and training. Examine whether public information capacity development is in place to enable communities to actively participate in and support disaster risk reduction activities. Is the media effectively engaged?

Educational capacity. Look at whether formal and informal education structures have the capacity to train and build a comprehensive understanding of critical aspects of hazard, risk and vulnerability.

Capacity for innovation. Examine whether capacity for research and technological innovations exists, that these are able and do build on indigenous knowledge (e.g. coping capacities) and that ability exists to bring relevant technical knowledge and tools to policy makers and practitioners at all levels in a accessible format.

iv. Reducing underlying risk factors

Planning capacity. Compile evidence of capacity for integrated planning that effectively links DRR to development planning and identify and implement critical steps to be taken by the relevant sectors of government.

Resilience capacity. Collect documented evidence of capacity to adapt to risk, by resisting or changing, in order to reach and maintain an acceptable level of performance and delivery.

Capacity for natural resource management and environmental protection. Ascertain the degree to which there is ability, commitment and action to support systems that ensure the maintenance and/or restoration of vital ecosystem services, including, flood regulation through effective wetland management.

Capacity to reduce risk in production and service sectors. Examine to what degree key production and service sectors (e. g. agriculture and fisheries) are able to assess and mitigate risk.

Capacity to design and maintain safe buildings and critical infrastructure. Look at whether there is documented evidence that new construction is safe, that existing critical infrastructure is retrofitted to resist against disaster hazards and that contractors are well aware, well trained and have incentives to implement building codes.

Capacity to transfer risk. Look at whether there are social and financial instruments to transfer risk e.g. private and public insurance and social welfare system aimed at providing social protection to vulnerable populations at times of disasters/shocks. Examine what percentage of the population has access to these mechanisms.

v. **Preparedness for response**

Emergency-response and recovery capacity. Capacity to respond to emergency situations, at all levels. Including availability of up to date and timely contingency plans for all sectors and elements of the population, exercises to test plans and existence of well trained emergency responders (e.g. search and rescue teams, mass casualty management and other health emergency systems).

Community capacity. Empowerment of communities to protect themselves and their properties from disaster risk and impact.

Co-ordination capacity. Mechanisms are in place within government to deal with regional and international co-operation on emergency response.

Annex 7. Examples of how disasters affect different sectors/areas of development and how DRR can contribute to development efforts

Area of Development/How they are affected by disaster risk	Indicative Questions
<p><u>Education</u></p> <p>Direct Impacts</p> <ul style="list-style-type: none"> • Damage to education infrastructure. • Population displacement interrupts schooling. <p>Indirect Impacts</p> <ul style="list-style-type: none"> • Reduced household assets make schooling less affordable, girls probably affected most. 	<p>How can sector activity increase disaster risk?</p> <p>Figure 1: Poorly constructed infrastructure in earthquake zones can substantially increase levels of exposure.</p> <p>How can DRR contribute to sector goals?</p> <ul style="list-style-type: none"> • In hazard-prone areas, the case for building schools and encouraging attendance becomes much stronger if buildings are safe and students and teachers are trained in emergency preparedness.
<p><u>Health</u></p> <p>Direct Impacts</p> <ul style="list-style-type: none"> • Damage to health and water and sanitation infrastructure. • Injury and illness from disaster weakens immune systems. <p>Indirect Impacts</p> <ul style="list-style-type: none"> • Household asset depletion makes clean water, food and medicine less affordable. 	<p>How can sector activity increase disaster risk?</p> <ul style="list-style-type: none"> • Poor planning in the health sector can result in those affected by disasters not having access to essential medical care in the aftermath of a disaster. <p>How can DRR contribute to sector goals?</p> <ul style="list-style-type: none"> • Disaster risk reduction will reduce direct deaths and injuries during hazard events and will lower mortality from diseases related to malnutrition and poor water and sanitation following disasters. • Improved household livelihood and food security will lower women's workloads and improve family nutrition.
<p><u>Housing, Urban Development and Infrastructure</u></p> <p>Direct Impacts</p> <ul style="list-style-type: none"> f) Damage to housing, water management and other infrastructure. g) Slum dwellers/people in temporary settlements often heavily affected. <p>Indirect Impacts</p> <ul style="list-style-type: none"> vi) Disaster-induced migration to urban areas and damage to urban infrastructure increase the number of slum dwellers without access to basic services and exacerbate poverty. 	<p>How can sector activity increase disaster risk?</p> <ul style="list-style-type: none"> vii) Absence of effective regulations and documentation supporting land/property ownership pre-disaster can result in disputes post-disaster, e.g. boundaries are washed away. <p>How can DRR contribute to sector goals?</p> <ul style="list-style-type: none"> • Risk reduction partnerships that include community level actors and concerns will offer more sustainable infrastructure planning, and enable expansion of private sector contributions to reducing disasters. • Housing is a key livelihood asset for the urban poor. Disaster risk reduction programmes that prioritize housing will also help preserve livelihoods.

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Annex 8. Example of a DRR sensitive UNDAF Results Matrix: Georgia UNDAF

The Results Matrix is one of the core tools of the UNDAF. Each UNCT will have to apply the suggested measures into the UNDAF matrix as per national priorities and context. The table of MDGs interventions and indicators referred to earlier in this document can now be applied to the Results based matrix.

Some parts of Georgia's UNDAF is used to illustrate sample modifications of national priorities, outcomes and indicators to reflect disaster risk reduction. The use of the UNDAF from Georgia as an example is not to suggest that the Georgia UNDAF needs to be modified. Rather, the purpose is to use actual examples to illustrate where some of the interventions suggested in this guidance note may be factored in. These suggestions are highlighted in light grey. Where existing features of the UNDAF support DRR, these are indicated by darker grey shading.

Example based on UNDAF Results Matrices from Georgia

Outcome Area 1. Poverty and Economic Growth

<p>National Priority: <u>Eradicate extreme poverty</u></p> <p>National MDG 1: <u>Eradicate extreme poverty</u></p> <p>Target 1: Halve, between 2000 and 2015, the proportion of people living below the poverty line</p> <p>DRR sub-indicator: Proportion of people living below the poverty line does not increase in years of hazard events</p> <p>Target 2: Halve, between 2000 and 2015, the proportion of people that have unbalanced diets</p> <p>DRR sub-Indicator: Proportion of people with un-balanced diets does not increase in years during which many natural hazards occur (droughts, earthquakes)</p> <p>Target 3: Ensure the socio-economic rehabilitation and civil integration of the population affected and displaced as a result of conflict and natural calamities</p>		
<p>UNDAF Outcome 1: Reduced number of households living in poverty through the realisation of economic potential and the provision of social welfare</p>		
Country Programme Outcomes	Country Programme Outputs	Partners
<p>1.1 Increased Government capacity to adopt and implement government and joint poverty reduction policies and programmes, through the realisation of economic potential</p>	<p>1.1.2 Creation of income generation opportunities through employment and production supported including diversified income options for populations in high-risk areas to reduce their vulnerability to hazards (World Bank, IMF, IOM, WFP, FAO).</p>	<p>Ministry of Agriculture; Ministry of Labour, Health and Social Affairs; Ministry of Environment</p>
	<p>1.1.3 Access to and the utilisation of resources by the poor, vulnerable and food insecure improved (WFP, World Bank, UNDP, IOM, FAO).</p>	<p>Ministry of Agriculture; Ministry of Labour, Health and social Affairs; Ministry of Environment</p>
<p>1.2 The adoption and implementation of Government and joint social protection mechanisms addressing the needs of verified vulnerable population groups (pensioners, elderly, disabled adults and children, street children, children at risk of institutionalisation, disadvantaged households, and those vulnerable to disasters)</p>	<p>1.2.2 Formulation of social protection and child welfare system reform supported (UNICEF, WFP, UNDP, UNHCR, IOM) including micro-finance and social safety nets and micro-insurance schemes to insulate livelihoods against disaster risks.</p>	<p>State United Social Investment Fund; Ministry of Labour, Health and Social Affairs; Ministry of Justice; Ministry of Finance; Ministry of Education and Science</p>

Outcome Area 2. Governance

<p>National Priority: <u>Governance, anti-corruption, civil service and public finance reforms, and meeting the Copenhagen criteria</u></p> <p>National MDG 8: Develop a global partnership for development</p> <p>National MDG 3: Promote gender equality and empower women</p>		
<p>UNDAF Outcome 2:</p> <p>Efficiency and accountability of governance structures at central and local levels strengthened, towards an inclusive and participatory decision-making process</p> <p>Local and national governments design and apply regulatory frameworks that ensure a safer environment, reduce structural vulnerabilities and guide socio-economic-agents' behaviours towards risk reduction and disaster prevention.</p>		
Country Programme Outcomes	Country Programme Outputs	Partners
2.1 Systems and tools for strategic planning and policy making including those for developing national disaster management regulatory and institutional frameworks strengthened	<p>2.1.1 Data collection and analytical capacity strengthened and systematised, with the use of Information & Communications Technology (ICT) for vulnerability to natural hazards and trends of disaster impacts (UNDP, FAO, UNFPA, UNHCR, IOM).</p> <p>2.1.2 Dissemination of disaggregated data and analysis including those on disaster vulnerability within government and civil society enhanced through the use of DevInfo (UNDP, FAO, UNFPA, IOM, UNICEF).</p>	<p>Competent bodies of the Executive branch</p> <p>Statistics Department of the Ministry of Economics</p>
2.2 Management and technical capacity strengthened	<p>2.2.2 Competencies and responsibilities of different levels of government clarified including responsibilities for disaster risk reduction, vulnerability assessment and disaster preparedness and response (UNDP, IOM).</p> <p>2.2.3 Financial sustainability and autonomy of local government including for disaster mitigation, preparedness and response promoted (UNDP).</p> <p>2.2.4 Government capacity to assume and implement competencies including those provided for under the National disaster management regulatory framework ensured (UNDP, FAO, UNIFEM, IOM).</p>	<p>Competent bodies of the Executive branch</p> <p>Relevant committees of the Parliament</p> <p>USAID through Development Alternatives, Inc.</p>

Outcome Area 4. Volatility and Instability

<p>National Priority or Goals: 1. <u>Protect national security and promote human rights</u> and 2. <u>Disaster prevention and mitigation to reduce human suffering</u></p> <p>National MDG 1: <u>Eradicate extreme poverty</u></p> <p>Target 3: Ensure the socio-economic rehabilitation and civil integration of population affected and displaced as a result of conflicts and disasters caused by the impact of natural hazards</p>		
<p>UNDAF Outcome 4: Risk and impact of man-made and natural disasters is reduced</p>		
Country Programme Outcomes	Country Programme Outputs	Partners
4.1 Natural disaster management capacities at the national level are established and functioning	<p>4.1.1 Natural disaster risk reduction policies are developed and effective Government emergency management capacity is established (i.e. with a clear and coordination-oriented mandate, authority, lines of responsibility, and full institutionalisation) (UNDP, UNRCO Transition Unit).</p> <p>4.1.2 The international DMT's emergency preparedness and management capabilities are maintained and strengthened with the aim of supporting the Government in providing an adequate response (UNDP, UNRCO Transition Unit).¹⁶</p>	<p>Relevant Government entities Swiss Agency for Development and Cooperation, US Government, other donors</p> <p>DMT, non-UN member agencies</p>
4.2 National disaster preparedness and early warning systems are in place and functioning	<p>4.2.1 Government's preparedness capacity to provide an adequate response is strengthened (UNDP, UNRCO Transition Unit, other relief UN agencies).</p> <p>4.2.2 Seismic monitoring capacity and agriculture-related forecasting is strengthened (UNDP, UNRCO Transition unit).</p>	<p>DMT non-UN member agencies, donor agencies</p> <p>Relevant Government entities (Hydro-meteorology Dept., Ministry of Agriculture, State Department of Statistics)</p> <p>Academic institutions (Institute of Geophysics, Earthquake Engineering)</p>
4.3 An effective disaster response is ensured through immediate relief, rehabilitation and recovery activities	<p>4.3.1 A cooperation mechanism between the international DMT and national Government, with clear lines of responsibility for crisis management, is established and functioning (UNDP, UNRCO Transition Unit).</p> <p>4.3.2 The national disaster response is strengthened through emergency relief, rehabilitation and recovery activities (UNICEF, UNHCR, WFP, UNDP, FAO, UNFPA).</p>	<p>Swiss Agency for Development and Cooperation, US Government, World Bank</p> <p>Relevant Government entities Swiss Agency for Development and Cooperation, US Government</p>

¹⁶ In Georgia's context, and more specifically considering the non-existence of national disaster management capacity, a well functioning international DMT is needed to fill this gap. Therefore, maintenance and strengthening of the DMT, even though not directly falling under UNDAF guidelines, is included as one of the CP outputs.

UNDAF Monitoring and Evaluation Framework from Georgia

UNDAF Outcome 1. Poverty and Economic Growth

Outcome	Indicators (with baseline)	Sources of verification	Risks & Assumptions
Expected UNDAF Outcome 1 Reduced number of households living in poverty through the realisation of economic potential and provision of social welfare	1.1 Poverty level: a) Official poverty rate (proportion on of population below official national poverty line defined at 130 Georgian Lari/ month), does not increase in years of major hydro-meteorological and geophysical hazards Baseline (a): 51% (2004) b) Extreme poverty rate (proportion of population below extreme poverty line defined at 63 Georgian Lari/ month) does not increase in the years of major hydro, meteorological and geophysical hazards and in geographic areas affected Baseline: 17% (2004)	State Department of Statistics, UNDP	Economic conditions are stable or improved Political conflict is stabilised Natural disasters are under control Funding crisis is predicted and minimised Security conditions are ensured to permit /project operation Partners involved are able to deliver services to the target population
	1.2 Poverty gap ratio: Baseline: 20% from official poverty line and 5.6% from extreme poverty line (2004)	State Department of Statistics, UNDP	

UNDAF Outcome 4. Volatility and Instability

Outcome	Indicators (with baseline)	Sources of verification	Risks & Assumptions
Expected UNDAF Outcome 4 Risk and impact of man-made and natural disasters is reduced.	4.1 National disaster management system is operational Baseline: (very limited disaster management capacity exists in government) Base line of average human and economic losses from disasters: progressively reduced over UNDAF period Baseline: (official UN or other evaluation/assessment reports) 4.4 Peace agreements are endorsed/facilitated by the UN and other international mechanisms 4.5 Number of IDPs reduced and number of returnees in conflict areas increased	Evaluation, assessment reports on IDPs	Natural disasters management is improved Agreements
CP Outcome 4.1: Natural disaster risk reduction policies and management capacities are in line with international norms	4.1.1 Government formally establishes disaster management entity with clear lines of responsibility and authority 4.1.2 Legislation for crises management is adopted 4.1.3 International DMT is functioning		Government capacity building occurs Adoption of Laws could be delayed process / prioritisation
CP Outcome 4.2: Disaster preparedness and early warning system at the national level is in place and functioning	4.2.1 Government's emergency preparedness plans are available and regularly updated 4.2.2 Early warning reports are produced and utilised under the specialised governmental entity	Contingency plans Early warning/ forecasting reports	Government's capacities are still limited Limited coordination between various State agencies Early warning reports / mechanism are not fully utilised
CP Outcome 4.3: Effective disaster response is ensured through immediate relief, rehabilitation and recovery activities	4.3.1 Memorandum of Understanding between international DMT and Government is signed 4.3.2 In case of emergency the MoU is activated and emergency relief and rehabilitation ensured 4.3.3 Long-term recovery is effected 4.3.4 Contingency plans are in place (both Government and the DMT)		Contingency plans are not updated regularly; Memorandum of Understanding with the Government is not implemented fully; Not enough (or lack of) coordination between various response actors

Annex 9. How DRR can be integrated into areas of development: indicative questions

The table below suggests indicative questions that may be used in discussion with UNCT members responsible for different outcome areas, to raise awareness and help to consider how disaster risk can affect other aspects of delivery and should be addressed in the UNDAF.

Area of Development	Probing Questions
Education	<ul style="list-style-type: none"> • Are enforceable building codes in place to ensure that school structures are adequately protected from multiple hazards (i.e. earthquakes, floods and storms)? • Has the feasibility of retrofitting school structures, even in the poorest communities, been considered? • Are school structures recognized as disaster shelters and adequate provisions made to prepare them as such? • Do school curricula at all levels provide information on DRR (including risk awareness, preparedness and preventative measures) particularly targeting women and children?
Health	<ul style="list-style-type: none"> • Are enforceable building codes and zoning regulations in place to ensure that health facilities are adequately protected from multiple hazards (i.e. earthquakes, floods and storms) and can continue to function in times of disaster? • Are health systems prepared to address the physical and mental health needs of men, women, children, aged persons and people with disabilities in disaster situations? • Are there provisions to ensure the continuity of health services and availability of trained staff, pharmaceuticals and equipment in emergencies? • Is health planning integrated into multi-sectoral disaster risk reduction and emergency preparedness?
Environment	<ul style="list-style-type: none"> • Are sufficient measures (land use planning, including improved management of natural resources through market mechanisms, etc.) in place to counter the drivers of environmental degradation? • Are measures in place to strengthen regulation and enforcement and investments in the management of critical ecosystems for the protection and resilience of local populations particularly in high risk areas? • Are sufficient legislation and capacities in place to minimize adverse environmental consequences of post-disaster recovery?
Agriculture, forestry and fisheries	<ul style="list-style-type: none"> • Are the relevant line departments participating to DRR policy formulation and implementation? • Have DRR practices and principles been integrated in sector policies and programmes? • Are efforts underway to increase capacities of farmers, herders and fishermen/women to deal with disasters e.g. to raise awareness and access to hazard-resistant cropping, contingency cropping patterns

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	<p>and livestock protection strategies?</p> <ul style="list-style-type: none"> • Have investments been made in critical agricultural research areas such as improving seed varieties, cropping systems, pest control gene banks, protection of bio-diversity and more effective water management to increase agricultural productivity? • Are meteorological monitoring, seasonal and other forecasting systems effectively linked with local extension services and farmer groups who need to act on the information?
Housing, Urban Development and Infrastructure	<ul style="list-style-type: none"> • Have landslide-prone slopes and flood-prone river banks been ecologically protected while providing a hazard-safe alternatives and accessible livelihood areas to slum dwellers? • Are housing standards, including low-income housing, capable of withstanding different types of hazards (i.e. both earthquakes and windstorms, for example)? Are mechanisms in place to enforce building codes? • Considering that the most tangible risk reduction measures are taken at the local level, are local authorities (both urban and rural) well-equipped to integrate disaster risk in local planning and to implement risk reduction measures?
Governance	<ul style="list-style-type: none"> • Have measures been undertaken to support the development, enactment or modification of legislation that enables DRR? • Have measures been undertaken to promote the involvement and strengthening of existent local institutions (local governments, NGOs, CBOs) rather than supporting the creation of new ones? • Have measures been undertaken to support public participation and widespread consultation about proposed legal reforms as well as broader ownership of change?
Employment & Livelihoods (including informal sector)	<ul style="list-style-type: none"> • Have assessments been carried out to identify the possible impacts of disasters on livelihoods and jobs, particularly those affecting the informal sector and youth? • Have measures been undertaken to reduce the proportion of the labour force employed in the informal sectors, particularly in within economic sectors that rely primarily on natural resources and that are particularly exposed to natural hazards? • Have measures to improve access to credit for disaster proofing livelihoods (with subsidised interest or through micro insurance to cover hydro-meteorological extreme events)?
Water and Sanitation	<ul style="list-style-type: none"> • Are provisions made to support the maintenance of water and sanitation infrastructure and ensure that the design can accommodate flow levels associated with increased frequency of extreme climate events associated with climate change? • Are hydrological monitoring systems in place to help protect aquifers and freshwater ecosystems from excessive withdrawals?

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Annex 10. Integrating DRR into MDG based UNDAFs

Efforts to attain the MDG targets can inadvertently increase the level of disaster risk. There is no simple solution to this problem. In some instances a trade-off will need to be made between allocating resources towards efforts that directly impact the MDGs vs. those that in-/directly impact on levels of disaster risk. These trade-offs become particularly acute when resources are limited. For example, an Education Ministry may be faced with the choice of investing in a larger number of schools that cover a higher percentage of girls and boys (directly impacting on MDG 2) vs. building a smaller number of more expensive schools (thus having a less beneficial direct impact on MDG 2) that are earthquake proof. Clearly over time the more expensive schools that are earthquake proof may have a more sustainable impact poverty reduction, however, in the short term political incentives may result in policy makers choosing the first option.

The question that faces decision makers, and sometimes also places advocates of disaster reduction in disagreement with some MDG planners, is how to develop a strategy that leads to the achievement of the MDGs without increasing the level of disaster vulnerability or vice versa. In the table below, a set of DRR actions that can be incorporated into interventions to achieve MDGs and alternative measures to ensure that this does not lead to accumulation of disaster risk are outlined. Decision makers will have to decide on the tradeoffs based on previous analysis of levels of acceptable risk by society and national authorities.

Note: To better highlight the tradeoffs in the following table, they have been italicised.

INCOME POVERTY (MDG 1 TARGET 1)	
Agriculture	While increasing agricultural productivity raises the incomes of the rural poor and generates employment, it is critical to develop <i>drought resistant cropping strategies, including contingency cropping patterns in case of late or early rains, (floods or droughts that are closely linked to meteorological monitoring and forecasting).</i>
	Measures should be developed to reduce the proportion of the labour force employed in the informal sectors, <i>as well as those within economic sectors particularly exposed to natural hazards and those who are primarily dependant on natural resources.</i>
Environment	As many poor people depend on natural resources for their livelihoods, ecological conservation and improved management of bio mass based resources can sustain or even raise their incomes. <i>The restoration of coastal mangroves, for example, not only protects biodiversity and supports local livelihoods, but it also protects communities from the full impacts of hurricanes.</i>
Water & Sanitation	While improved water supply can generate economic growth through agriculture, urban manufacturing and service sectors, use of ground water should be monitored to maintain the natural rates of recharge. <i>Measures to enhance ground water recharge and conservation need to be dovetailed to prevent losses from future droughts and floods on account of ground water depletion.</i>
Slum upgrading & urban planning	While providing security of tenure can improve labour market participation and access to credit markets, land use by-laws that are consistent with hazard risk mapping should be enforced. <i>Landslide prone slopes and flood prone river banks should be ecologically conserved while providing alternative hazard safe and livelihood accessible areas to slum dwellers.</i>

	Urban infrastructure, including transport systems, is necessary for establishing manufacturing and service industries, but should <i>be retrofitted and strengthened conform to local hazard risks.</i>
Transport	Roads, railroads, and ports lower transport costs and thereby increase the real incomes of the poor, but <i>these need to be made hazard resilient through suitable safety standards to guard against earthquakes, cyclone and tsunamis, as per the local risk mapping.</i>

HUNGER (MDG 1 TARGET 2)	
Agriculture	Increasing agricultural productivity through investments in soil health, water management, extension services, and research increases food availability for subsistence farmers, <i>but special focus is needed on mitigating the impact of hydro-meteorological fluctuations through multiple cropping, water conservation and biological control measures, with contingency cropping strategies linked to weather monitoring and early warning systems.</i>
Rural Incomes & Access to Markets	Improved access to credit should also <i>include access to credit for disaster proofing livelihoods like water and soil conservation measures at subsidised interest rates and micro-insurance to cover hydro- meteorological related extreme events.</i>
Gender Equality	Land rights allow women to increase agricultural production, <i>thereby reducing vulnerability of women headed households to disaster risk.</i>
Environment	Water storage and water management infrastructure can improve agricultural productivity, <i>but should be made structurally hazard resistant, e.g. check dams in seismic zones to be seismically safe, or in landslide zones to be consistent with soil stabilisation measures.</i>
Science & Technology	Increased agricultural research is critical for improving seed varieties, cropping systems, pest control, and water management to increase agricultural productivity, thus reducing hunger. <i>However, agricultural research should provide special focus on ensuring drought resistance and adaptability to climatic changes and emerging disaster risks.</i> While ICT improves farmers' market information and raises agricultural production, <i>it should also be used to provide early warning during hydro- meteorological fluctuations to enable farmers to change cropping patterns.</i>
Energy	Improved access to electricity and liquid fuels can power diesel pumps for irrigation, <i>but increased exploitation of ground water can deplete the water table and increase the risk of drought.</i>

Transport	Footpaths and feeder, district and national roads lower the cost of agricultural inputs, increase farm gate prices and facilitate marketing, which can increase agricultural production. <i>However, measures to ensure soil stability and prevention of flash floods should be taken in fragile mountain landslide-prone zones.</i>
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PRIMARY EDUCATION (MDG 2 TARGET 3)

Education	Increase access to improved primary and secondary schools as well as adult literacy programmes through provision of infrastructure. School infrastructure <i>should be built to hazard resistant standards especially in seismic zones or in tropical coastal zones.</i>
	<i>Disaster risk awareness should be integrated in school curricula.</i>

GENDER EQUALITY (MDG 3 TARGET 4)

Gender Interventions	Disasters can have an impact on women's roles within the household and on the repartition of roles (breadwinner and care provider) between women and men (e.g. when the man died or was injured as an effect of the disaster). Improved women's participation in decision-making processes and productive activities <i>should specifically include awareness of disaster risks, preparedness and preventive measures that reinforce traditional coping measures undertaken by women and increase disaster resilience of communities. Research on the degree to which women suffer the negative impact of disasters should be undertaken, to better understand and address their specific vulnerabilities and needs.</i>
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MATERNAL MORTALITY (MDG 5 TARGET 6)

Health	While strengthening health systems is critical to achieving this MDG, <i>it is essential to ensure that health facilities are infrastructure conform to hazard resistant building standards.</i>
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WATER AND SANITATION (MDG 7 TARGET 10)

All of these measures simultaneously reduces disaster risk levels

Water & Sanitation	Provide, operate, and maintain water and sanitation infrastructure and services in conjunction with behaviour change programmes to improve household hygiene, <i>but at the same time ensure sustainability of the water source, e.g. through measures to promote recharging of water tables and water shed conservation.</i>
Energy	Electricity and improved access to modern fuels are necessary to power water supply infrastructure and water treatment systems, <i>however in low precipitation zones this leads to increased withdrawal of ground water and risks of drought and floods. Water use norms in line with need to preserve natural balance should be promoted.</i>

INFORMATION AND COMMUNICATION TECHNOLOGY (MDG 8 TARGET 18)

<p>Direct Interventions</p>	<p>Steps to strengthen science advisory mechanisms, invest in higher education and research, promote private sector development, and improve access to communications technologies <i>can also be linked to better hydro-meteorological monitoring, seismic risks monitoring, and possibility of feeding into better early warning systems to save both lives and livelihoods.</i></p>
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Annex 11. The UNCT role in enabling DRR institutional development

This checklist identifies some critical functional capacities that the UNCT should support in order to enable and sustain achievement of DRR at the country level. Specifically, the UNCT should consider whether it is well positioned to:

- Promote national disaster reduction strategies built on a sound legislative basis, that are fully integrated into and consistent with other national laws and regulations.
- Participate in the formulation of national policies that address or are affected by disaster risk, and support capacities for implementation in collaboration with other partners.
- Ensure that DRR is not treated in isolation but is integrated across relevant sectors, including through the incorporation of DRR related policies into sectoral plans.
- Advocate and promote the provision of incentives for the allocation of resources to the implementation of disaster risk reduction policies, programmes, laws and regulations in all relevant sectors of national and local administrative budgets.
- Redress the bias towards short-term expenditure for emergency relief assistance following a disaster, in favour of longer term investment in development initiatives to reduce disaster vulnerability and risk.
- Promote the decentralisation of national DRR capacities, policies and programmes and support the strengthening of coordination mechanisms between national and local level institutions.
- Promote the involvement of multiple stakeholders and expertise in national and local DRR policy, planning and implementation.

In particular, it is important to consider:

- that local specialists are endowed with more accurate knowledge about local needs, vulnerabilities and capacities;
- the UNCT's role in promoting international best practice and facilitating south-south co-operation; and
- whether systems are in place to support the participation of communities and key vulnerable stakeholders including women and disadvantaged groups.

Strengthen the coordination of DRR through existing national mechanisms. This should aim to strengthen the government's capacity to facilitate cooperation between national and international organizations (including NGOs, CBOs, the private sector, bilateral and multilateral agencies).

Support the improved understanding of the costs and benefits of risk reduction alternatives and how to assess them.

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Support the development of national monitoring and evaluation systems, including tracking of financial resources for DRR, to verify and evaluate DRR performance and progress.

Annex 12. MDGs and indicators sensitive to DRR

The Road Map towards the Implementation of the United Nations Millennium Declaration ([Secretary-General Report to GA A/56/326](#)) defines indicators to measure the progress towards MDG targets. These indicators, however, do not measure whether progress towards the targets is insulated against disaster risk. The table below outlines how the original indicators can be adapted to measure the extent of disaster risk reduction. This has been done without adding new indicators but by using the existing MDG target indicators with additional time or geographic dimensions to make them sensitive to the question: Is the progress in attaining the MDG target disaster resilient, or is it susceptible to exogenous shocks from hazard induced disasters?

MDGs and Targets	Indicators
Goal 1 - Eradicate extreme poverty and hunger	
Target 1 Halve, between 1990 and 2015, the proportion of people whose income is less than 1 USD per day	Proportion of population below 1 USD per day does not fluctuate with variations in hydro-meteorological phenomenon (rainfall, cyclones, floods) and hazard events like earthquakes
	Share of poorest quintile in national consumption does not decline in years of extreme weather and hazard events like cyclones, earthquakes
	Proportion of population below 1 USD per day provided for by safety-nets by provision of alternative livelihoods through micro credits, cash-for-work and insurance
Target 2 Halve, between 1990 and 2015, the proportion of people who suffer from hunger	Prevalence of underweight children (under five years of age) does not increase during occurrence of major hazard event
	Proportion of population below minimum level of dietary energy consumption does not increase in years of major hazard events
Goal 2 - Achieve universal primary education	
Target 3 Ensure that, by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary schooling	Percentage of primary schools certified to be in conformity with hazard resistant standards relevant for the region
	Loss of school days at schools used as shelters does not exceed x% over that of other schools

Goal 7 - Ensure environmental sustainability	
Target 9 Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources	Percentage area complying with enforcement of no development or no construction by laws on lands classified in land use plans to be at high risk as per hazard risk maps
Target 10 Halve by 2015 the proportion of people without sustainable access to safe drinking water	Proportion of population with sustainable access to an improved water source not susceptible to destruction or depletion by natural hazards like floods, droughts and seismic and cyclone risks
Target 11 By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers	Proportion of people with access to secure land tenure not located in high-risk hazard prone zones, for example, land slide or flood prone or seismic zones
Goal 8 - Develop a global partnership for development	
Target 12 Develop further an open, rule-based, predictable, non-discriminatory trading and financial system	Includes a commitment to good governance, development, and poverty reduction — both nationally and internationally more generous ODA for countries committed to poverty reduction
Target 14 Address the special needs of landlocked countries Small Island Developing States	Proportion of ODA directed towards disaster risk reduction activities
Target 15 Deal comprehensively with the debt problems of developing countries through national and international measures in order to make debt sustainable in the long term	Proportion of exports (by value and excluding arms) admitted free of duties and quotas from countries at high disaster risk
	Proportion of ODA provided to help build trade capacity to develop alternatives sources of livelihoods which are resilient to disaster risks
	Proportion of official bilateral Highly Indebted Poor Countries debt cancelled particularly proportion of those countries at high risk
Target 18 In cooperation with the private sector, make available the benefits of new technologies, especially information and communications	Telephone lines per 1,000 people particularly in high hazard risk zones