



Government of Malawi

National Disaster Risk Reduction Framework 2010-2015



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Table of Contents

Section 1	4
Preamble	4
1.1 Introduction	4
1.2 Disasters: Challenge for Sustainable Development in Malawi	4
1.3 Current Strategic Directions: Lessons and Gaps	5
Section 2	7
Purpose, Scope and Focus	7
2.1 Purpose	7
2.2 Scope of the Framework	7
2.3 Key Focus of the Framework	7
Section 3	9
Key Issues	9
3.1 Policy Alignment	9
3.2 Building on Past Achievements and Current Capacity	9
3.3 Gaps and Challenges	10
Section 4	14
Vision, Mission, Strategic Goals, Results and Principles	14
4.1 Vision	14
4.2 Mission	14
4.3 Strategic goals	14
4.3.1. Strategic Goal 1:	14
4.3.2. Strategic Goal 2:	15
4.3.3. Strategic Goal 3:	15
4.3.4. Strategic Goal 4:	16
4.3.5. Strategic Goal 5:	16
4.3.6. Strategic Goal 6:	17
5.4 The Operational Principles	18
Section 5	19
Implementation Mechanism	19
5.1 General Consideration for Implementation	19
5.2 National Structure and Capacity Building	19
5.3 DoDMA	20
5.4 National DRR Platform	20
5.5 Resource Mobilization	21
5.6 Monitoring, Review and Reporting	21
Annex	22
UNISDR Disaster Terminology	22
References	33

Abbreviations

ADC	Area Development Committee
AIDS	Acquired Immunodeficiency Syndrome
GoM	Government of Malawi
CAS	Country Assistance Strategy
CC	Climate Change
CCA	Climate Change Adaptation
CPC	Civil Protection Committee
CSO	Civil Society Organizations
DEA	Department of Environmental Affairs
DoDMA	Department of Disaster Management Affairs
DPRA	Disaster Preparedness and Relief Act (of 1991)
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
EIA	Environmental Impact Assessment
EW	Early Warning
HFA	Hyogo Framework for Action
HH	Household
HIV	Human Immunodeficiency Virus
IFI	International Financial Institutions
LDF	Local Development Fund
MGDS	Malawi Growth and Development Strategy
MoDPC	Ministry of Development Planning and Cooperation
MARDEF	Malawi Rural Development Fund
MVAC	Malawi Vulnerability Assessment Committee
NAPA	National Adaptation Programme of Action
NDPRC	National Disaster Preparedness and Relief Committee
NGO	Non Governmental Organisation
ORT	Other Recurrent Transactions
PSIP	Public Sector Investment Programme
PRSP	Poverty Reduction Strategy Paper
PWDs	People with Disabilities
SIA	Social Impact Assessment
TA	Traditional Authority
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UNISDR	United Nations International Strategy for Disaster Reduction
VDC	Village Development Committee

Section 1

Preamble

1.1 Introduction

Poverty reduction is the principal goal of the Government of Malawi's (GoM) development strategy, which is set to be achieved through economic growth and infrastructure development. However, increasing impact of disasters on life, livelihood, and economic and environmental assets continue to pose a significant threat to the nation's ability to come out of poverty. The Disaster Preparedness and Relief (DPR) Act of 1991 and the Malawi Growth and Development Strategy (MGDS) provide strategic direction to disaster risk management (DRM) for the country. Malawi endorsed the Hyogo Framework for Action (HFA) in 2005 that provides a systematic and strategic approach to reduction of vulnerability and risks to disasters.

Since the adoption of the DPR Act, the country has learnt important lessons which suggest few key gaps in disaster risk reduction efforts, which are further reinforced by global experience during the first five years of implementation of the HFA. In this context, the Government of Malawi, through the Department of Disaster Management Affairs (DoDMA), and in consultation with different ministries and departments; national and international NGOs; civil society organizations, the United Nations and Development Partners decided to develop a National Disaster risk Reduction (DRR) Framework in June 2009. The Framework was finalized in November 2009.

There are five chapters in the Framework. The first three chapters provide introduction and scope of the Framework, key overview of disaster risks in Malawi, and gaps and challenges in current efforts. The fourth chapter presents the vision, mission and strategic goals of the Framework and the fifth one is on implementation mechanism. An annex of key disaster risk reduction terminologies appears at the end of the Framework.

1.2 Disasters: Challenge for Sustainable Development in Malawi

Malawi faces multiple hazards in both rural and urban areas, which include floods, heavy storms, droughts, dry spells, epidemics, fire incidents, landslides, earthquakes and HIV and AIDS. Between 1974 and 2003, these hazards cumulatively affected 25 million people making the country one of the worst affected amongst the poor countries based on mean annual number of affected per 100,000 people¹. Environmental degradation, poverty, rapid urbanization, and lack of effective disaster risk reduction efforts have compounded the vulnerability of the population to hazards and consequently, exacerbating the disasters.

Disasters play an important role in increasing poverty of rural and urban households and can explain larger geographical distribution of poverty in the country. They erode the ability of national economy to invest in key social sectors which are important to reducing poverty. For example, the southern region has the highest concentration of poor people and at the same time

¹ Guha-Sapir et al. 2004 as referred by Hay, E. Rowena and Phiri, M. Alexander R. (2008) Situation Analysis of Disaster Risk Management Programmes and Practices. World Bank, Malawi.

experiences most severe forms of disasters, such as flooding and droughts. Major disasters have had substantial budgetary impacts, resulting in additional unplanned expenditure, widening fiscal deficits and increased domestic borrowing and thus, in rising domestic interest rates and additional inflation².

The nature and pattern of weather related hazards is changing as a result of climate change - becoming more frequent, intense and unpredictable. For example between 1970 and 2006 Malawi experienced 40 weather related disasters, but 16 of these occurred after 1990. More importantly, the number of people affected by these disasters has increased sharply since 1990. The geographical coverage of floods and droughts has also increased. For instance, prior to 2001, only nine districts in Malawi were classified as flood-prone; in 2001, 16 districts were affected. Changes in other climatic and non climatic variables are also increasing people's vulnerability to high impact hazards. In an effort to understand the changes in the nature and pattern of these hazards, Malawi prepared a National Adaptation Programme of Action (NAPA) that clarifies the impact of climate change on disasters. The Government realizes that any aspirations to reduce poverty in the country in a sustainable manner will require strategic and proactive investment in disaster risk reduction.

1.3 Current Strategic Directions: Lessons and Gaps

The DPR Act of 1991 provides the legal and institutional framework for addressing disasters in Malawi. The Act stipulates the establishment of institutional functions required for disaster management. The office of the Secretary and Commissioner for Disaster Management Affairs, the National Disaster Preparedness and Relief Committee (NDPRC) and Civil Protection Committees (CPCs) were created through the Act for the coordination of disaster response programmes and activities in the country.

In recent years, disasters have been identified as a key hindering factor to Malawi's growth and poverty reduction efforts in major policy documents including the MGDS. Combining DRR and Disaster Management concepts, Disaster Risk Management (DRM) was adopted as one of the core focuses in the MGDS. This thrust requires a shift from 'disaster response culture' to 'integration of disaster risk into sustainable development planning and programming'.

Lessons from the implementation of the above mentioned strategy and the first five years of HFA implementation in the country have identified seven major challenges to adopt a proactive and systematic approach to tackle disaster risks as follows:

1. Inadequate policy, strategy and budgetary process for disaster risk reduction;
2. Insufficient institutional capacity and weak planning process for DRR;
3. Slow progress in shifting of mindset from 'disaster response' to integrating disaster risk reduction into development planning at all levels and in all sectors;
4. Insufficient coverage and depth of DRR activities at community level;
5. Risk assessment and early warning systems are not upgraded and updated to meet the challenges posed by disasters;

² Benson, Charlotte and Mangani Ronald. Economic and Financial Decision Making in Disaster Risk Reduction. Phase 1: Malawi case study, February 2008.

6. Limited investment for generation and use of knowledge and education for disaster risk reduction; and
7. Non existence of a multi-stakeholder forum for coordination of DRR stakeholders.

However, there are opportunities for shaping a new direction in DRR. The Government, UN and NGOs have innovated and implemented different approaches to DRR at both community and national levels. Although the coverage of these practices is limited, they have created positive impacts in reducing people's vulnerability in flood and drought prone areas. These local examples prove possibilities of reducing disaster impacts, which is attainable through a strategic, proactive and systematic focus and direction. Some important institutional foundation such as establishment of civil protection committees (CPC) at all levels, and development of the Operational Guidelines for DRM already exist in the country to take advantage of the opportunities present in DRR.

Risk reduction through integrated and strategic action requires a common understanding and clarity on priority issues by all stakeholders. These issues should be addressed through a sound implementation framework and partnership among vulnerable communities, government, NGOs, UN and other development partners.

Section 2

Purpose, Scope and Focus

2.1 Purpose

The purpose of the Framework is to pursue a proactive and integrated way of reducing risks to hazards through sustainable, innovative and realistic strategies with stronger partnership of all stakeholders. The Framework prioritizes a set of challenges that should be addressed in the next five years and provides strategic directions to reduce vulnerabilities and risks to hazards. This aligns Government's DRR priorities with other national policies as well as international commitments.

The Framework complements other national policies and further elaborates the DRR component in the MGDS. This would guide Government in the development of a DRR policy.

2.2 Scope of the Framework

This is an overarching national framework on DRR. It articulates a vision, mission and a set of strategic goals for making the nation resilient to disaster risks with systematic and proactive actions. The Framework is for five years, 2010 to 2015. It is a combination of conceptual, result and institutional framework but not a detailed programme plan.

Drawing on current national capacity, the Framework outlines a gradual shift from 'disaster management' approach to 'disaster risk reduction' through regular development policy, planning and programmes. The process of the development of this Framework has sufficiently considered implications of such a shift on current institutional capacity and resources; and presented guidelines on how to achieve the mission and strategic goals in the next five years. As a national framework, this provides a common direction to all government, non-government, private sector organizations, media and development partners at local and national levels. The Framework is designed to take into account all kinds of disaster risks, both present and future in urban and rural context. This reinforces the importance of climate change that should be systematically analyzed and incorporated into DRM policy development and planning process.

2.3 Key Focus of the Framework

The following are the key focus areas of the Framework:

- a) **Shifting mindset:** This emphasizes on the promotion of a risk reduction culture and building confidence among communities, government and non-government stakeholders' involvement in DRR at all levels.
- b) **Mainstreaming:** Development can increase or reduce disaster risks, thus sustainable development policies and plans, and their implementation must integrate DRR at all levels. An appropriate institutional structure should be established to support this process. Proactive advocacy is required to achieve mainstreaming of DRR.
- c) **Focus on vulnerable people:** Building capability of vulnerable people, especially the poor, women, the elderly, children, people with disabilities and people living with HIV and AIDS is an essential step in DRR. These people should be supported to have access to information, participation in decision making and finance to carry out DRR activities.
- d) **Capacity building at all levels for all stakeholders and sectors:** As a new way of working, there need for significant capacity building at all administrative levels to motivate and engage all line Ministries, District and City Councils, CPCs, private sector, academia, scientific community, civil society and NGOs.
- e) **Knowledge and innovation:** This includes documenting, generating and sharing knowledge through investment in research and piloting.
- f) **Partnership and coordination:** This is an important pre-requisite that must be fulfilled for effective coordination, networking and exchange of information among DRR stakeholders.
- g) **National scale effort:** This means implementing DRR at a national scale, building on micro level engagements. This requires a coordinated effort and scaling up of effective practices at a larger scale to achieve a much sustainable impact.

Section 3

Key Issues

The following key issues have been considered in developing the Framework:

3.1 Policy Alignment

National policies and HFA

Disaster risk reduction is a global agenda and an international commitment of the government. Thus, the Framework is aligned with HFA priorities and spells out actions that are relevant and appropriate for Malawi. Existing national policies and strategies, particularly the MGDS, are the core sources of the Framework's strategic priorities.

3.2 Building on Past Achievements and Current Capacity

i. Increased DRR practices at community level

Following the adoption of the HFA in 2005, there has been significant increase in awareness about the importance of DRR in Malawi. The Government and NGOs have gained reasonable experience in community based DRR approaches such as small scale drought mitigation, local capacity building, relocation of people from flood prone areas to safer areas, and flood and drought early warning. There is also a wealth of knowledge about causes of risk and vulnerability among disaster professionals from community to national level.

People living in various risk environments have their own risk perceptions. Oftentimes, they do have knowledge about the measures that may reduce their risks. On the other hand, DRR experience suggests that vulnerable people are open to adopt new ideas if they are offered to them in an appropriate manner.

ii. Established institutional arrangement

At a broader level, the policy, institutional and knowledge foundation required to achieve the shift from response to DRR has been reasonably attained in Malawi. Decentralization is one of the preconditions for DRR. Civil Protection Committees (CPC) have been established up to the village level, which is an important foundation for the promotion of DRR. Local planning processes established through development committees at various levels are also an important foundation for mainstreaming DRR into development planning and implementation.

At national level, the NDPRC provides policy directions on the implementation of DRR programmes in the country. Regular activities undertaken by a number of ministries have also contributed to DRR.

DoDMA is well placed within the Office of the President and Cabinet to coordinate DRR and also serves as the Secretariat of the NDPRC. It is also well connected with the international DRR system.

Similarly, the Malawi Vulnerability Assessment Committee (MVAC) is an effective and efficient unit in the Ministry of Development Planning and Cooperation (MoDPC) that undertakes

vulnerability assessments. The assessments are useful for planning humanitarian programmes and also provide early warning for slow onset disasters, e.g. drought.

iii. Sustainable development to aid DRR

Malawi has been implementing a number of social support schemes. These schemes provide significant opportunities to help people reduce their vulnerability to disasters and climate change impacts.

3.3 Gaps and Challenges

i. Inadequate policy, strategy and budgetary process for disaster risk reduction

The Government has developed a number of sectoral policies and strategies including the MGDS. However, disaster risk reduction is not adequately addressed in these policies and strategies. This has resulted in limited investment in DRR in the national budget and has affected DoDMA's capacity to fulfill its core mandate and thereby hindering long-term progress towards enhanced disaster resilience³. There is no line item for DRR in the budgets for ministries/departments and district councils.

There are considerable delays at times in securing funds requested from the Unforeseen Expenditure Vote, hampering the DoDMA's capacity to provide timely relief assistance. The DoDMA's annual Other Recurrent Transactions (ORT) allocation is insufficient. Consequently the DoDMA has been forced to focus primarily on disaster response activities whilst relying on the international donor community to undertake preparedness and risk reduction activities⁴.

ii. Insufficient institutional capacity and planning process for DRR

While staff capacity at DoDMA has increased in recent times, it is still inadequate to achieve a nation-wide DRR effort. The DoDMA relies on decentralized structures at District Councils, which include CPCs at all levels. These structures are not functioning properly due to lack of financial resources and absence of permanent staff at district level.

At the planning level, each Ministry has a planning unit linked to MoDPC. However, the planning officers lack sufficient knowledge and skills required to mainstream DRR into regular planning processes.

District Councils are the basic planning and implementation units for Government at the district level under the decentralization system. This level is the most important level for DRR to be integrated, however the district councils face the following challenges to mainstream DRR:

- Awareness about risk reduction among the members of District Councils is low. Often, they lack capacity to integrate disaster risk reduction into development plans.
- While there are desk officers for disaster risk management, they tend to prioritise their core responsibilities at the expense of DRM.

³ ibid

⁴ ibid

- Funding for DRR is not made available to District Councils. District level budgets for emergency preparedness and response are not available and this discourages initiative and self-reliance.

CPCs limit their activities to disaster response and they are also not active in all areas. They, therefore, require re-orientation of their mandate and significant investment in capacity building in terms of practical skills, knowledge and resources to plan and carry out DRR activities. In recent times, different NGOs have started strengthening these committees in a number of districts providing promising results about their ability to take DRR forward.

iii. Slow progress in shifting of mindset from response to integration of DRR into development planning at all levels by all sectors.

Malawi has a process for project formulation, appraisal and approval. MoDPC developed a Project Planning Manual and guidelines to support the planning process of ministries. As per the process, projects included in the Public Sector Investment Programme (PSIP) are required to undergo economic appraisal.

However, existing guidelines do not provide specific guidance on how to assess the potential risk reduction benefits of projects or to explore the potential risks posed by development projects⁵. Occasional social and environmental impact assessment is also done by the Department of Environmental Affairs (DEA).

Consideration of disaster risks in the project formulation, appraisal and approval process as well as Environmental Impact Assessment (EIA) and Social Impact Assessment (SIA) can help in understanding the benefits and negative consequences of prospective projects. It can be used to understand two essential things for DRR: a) whether project's results are disaster resilient; b) whether the project is going to increase or decrease vulnerability to hazards.

iv. Insufficient coverage and depth of DRR activities at community level

While DRR practices in the country provide strong promise, they also suffer a number of problems, such as:

- Most ongoing DRR activities are part of short term projects rather than a long term programme. They are supported by short term funding arrangement from development partners and thus suffer from lack of continuity.
- These projects are designed on localized and fragmented risk assessment due to non-existence of a systematic risk assessment. As these projects are planned by different agencies using different approaches under no coordinated coverage plan, they produce limited synergy and national level strategic impact.
- There is no coordinated effort in development and use of various materials developed by different agencies.
- Communities, especially those living in flood prone areas, benefit from the flood plains and thus, in some cases, are reluctant to move out of risky areas. However, there is growing recognition to understand the effectiveness of relocation.
- Poor households do not have adequate resources to invest in risk reduction measures by themselves. To fill this gap, there is a need to establish a robust financial mechanism, such as micro-finance, for risk reduction.

⁵ ibid

The current DRR activities do not include a comprehensive approach and some important aspects are not adequately addressed. These include:

- The regular humanitarian responses that do not sufficiently integrate DRR; and
- Secondary risks and negative impacts arising from disasters are ignored. For example, public buildings such as schools and offices that are used for emergency shelter during floods do not have adequate water and sanitation facilities. These facilities can be upgraded as an important DRR activity to provide timely and adequate services in emergencies.

v. Risk assessment and early warning systems are not upgraded and updated to meet the challenges posed by disasters.

A comprehensive national risk assessment is the first and foremost foundation for any DRR initiative. The country is yet to develop a comprehensive multi-hazard national risk assessment to aid micro and national level development planning. The following are some initiatives that have currently tried to fill the gap even though they have some limitations:

- Most vulnerability risk assessments done by different stakeholders are on micro-scale.
- Most assessments are done on historical occurrence of disasters without considering future pattern and nature of risk in the context of climate change. However, studies already undertaken on Shire River Flooding and on Economic Vulnerability and Disaster Risk Assessment provide some information.

The country has established early warning systems for flood and drought. However, the systems face a number of challenges as follows:

- The equipment and process of gathering early warning data and production of warnings are outdated. As a result, potential increase in lead time, which could warn people ahead of time, has not been possible.
- The flood early warning system only covers the major rivers leaving out many small rivers which also cause a lot of flooding.
- There is weakness in disseminating the information to the vulnerable communities.
- There is inadequate understanding of early warning needs of specific groups of vulnerable people.
- There is lack of practical capacity at the community level on the use of early warning information. For example, often when communities receive early warnings, they do not know the required action to take.

The Malawi Vulnerability Assessment Committee (MVAC) currently focuses only on food security. However, significant opportunity exists to broaden its scope beyond food security. To achieve this, investment is required in the development of such methodology and tools. Its current working modalities suffer from lack of staff capacity thus resulting in limited top-down and bottom up linkages which can be achieved through effective participation of District Councils in the process.

vi. Limited investment in knowledge and education for disaster risk reduction

Promotion of a risk reduction culture through generation and use of knowledge and education is an important part of DRR. Malawi faces a number of challenges in this regard such as:

- Insufficient investment in research on disaster risks in the past;
- Limited capacity building and training facilities on DRR in the country; and
- No systematic inclusion of DRR in the education curriculum.

While Malawi has developed a number of DRR options for floods, drought and epidemics, the country lacks adequate research and knowledge management to understand their effectiveness for nation-wide implementation. The country does not have systematic training facilities on DRR for officials from public and local government. The Mpemba Staff Development Institute, Malawi Institute of Management and Universities have experience and potential to develop specific training facilities for government and NGO staff in DRR and climate change adaptation (CCA). This, however, requires significant knowledge and financial investment. A gradual process can be adopted to develop training curriculum and resources for these institutions.

DoDMA maintains a disaster profile database. ‘Data in the current database relate primarily to numbers of households affected, houses destroyed, loss of life and, in some cases, crop losses – that is, to information required to plan the immediate short-term relief response which DoDMA is responsible for coordinating⁶. But the database is not comprehensive thus only provides partial information about direct disaster losses (particularly in the context of floods). The data recorded is also not segregated according to population group to understand differential impact of disasters to translate the information into specific projects for specific groups of vulnerable people. The current database does not provide hazard specific information to draw on long term trends on how nature and character of disaster is changing. These data limitations effectively hamper capacity to analyze the wider macro-economic impacts of disasters and to monitor related expenditure.

vii. Non existence of a multi-stakeholder forum for coordination of DRR stakeholders

DRR requires strong partnership between stakeholders from government, civil society, academia, NGOs, the private sector, UN and development partners. The NDPRC was established for this purpose. The committee is represented at the highest official level of Principal Secretaries and thus may not be able to perform as a robust platform for DRR. It is also not a multi-stakeholder platform as it is essentially a government committee although the UN and donors are invited when need arises. This means that there is need to establish an inclusive multi-stakeholder platform for DRR in the country.

⁶ Hay, E. Rowena and Phiri, M. Alexander R. Situation Analysis of Disaster Risk Management Programmes and Practices. Final report. World Bank. Malawi. 2008

Section 4

Vision, Mission, Strategic Goals, Results and Principles

4.1 *Vision*

‘A nation able to cope with disasters’.

4.2 *Mission*

‘Sustainable reduction of disaster losses in lives and in the social, economic and environmental assets of communities and of the nation by 2015’.

4.3 *Strategic goals*

To achieve the mission, six strategic goals are identified. Further, to guide the implementation of the goals, a set of key results are set out for each goal.

4.3.1. Strategic Goal 1:

DRR is mainstreamed into policies, strategies and programmes at all levels by 2015.

The importance of effective integration of DRR into national policies, strategies and planning is now internationally recognized. Such integration should include programmes funded by national budget, multilateral and bilateral cooperation as well as donor funded NGO projects. However, integration is not an end in itself but requires effective implementation at all levels. This requires development of capacity of institutions and staff and appropriate resource allocation. Lessons also suggest that effective mainstreaming requires active consideration of DRR when individual projects funded by Government’s own sources or external resources are formulated and evaluated. This is an important step to ensure that projects’ outcomes are disaster resilient, and they reduce, and not increase, the vulnerability of the population.

To achieve this goal, the following are the prioritized key results:

- i. A national DRM policy developed and adopted by end of 2011.
- ii. DRR mainstreamed in all national, sectoral, district and city council policies, strategies and implemented by 2015.
- iii. Capacity strengthened and resources mobilised in all line ministries and district and city councils to implement DRR.
- iv. DRR integrated in project and programme formulation, appraisal (including EIA and SIA) and approval process at all levels by 2014.

- v. Structure and capacity of DoDMA is revised and strengthened to promote DRR at all levels, in all sectors and by all stakeholders.

4.3.2. Strategic Goal 2:

An effective system is in place to identify, assess and monitor national and cross-border risks by 2012.

Disaster risk is dynamic and, therefore, subject to change over time. Sources of risks are also diverse. In the inter-connected world, diverse national and international factors influence disaster risks of Malawi. For example, an outbreak of a virus outside the country may increase the risk of infection, or cross boundary river may cause floods or changes in economic situation may also increase or decrease vulnerability. In a similar way, internal changes such as changes in demographic composition, urbanization, settlement pattern may change vulnerability of the population. Finally, global climate change is likely to change the pattern and nature of disaster risks in Malawi. There is, therefore, need to identify, assess and monitor all disaster risks in the country in order to identify interventions for addressing them. Space based information provides an opportunity to undertake this task.

To achieve this goal, the following is the prioritized key result:

- i. Comprehensive and multi-hazard risk maps developed to support local and national development planning process.
- ii. Comprehensive identification and monitoring of potential national and cross border risks done to support interventions.
- iii. Capacity built at national level on the use of space based information for identification, assessment and monitoring of risks.

4.3.3. Strategic Goal 3:

A people-centered early warning system is developed and strengthened at national and local levels by 2015.

Investment in systematic risk assessment and early warning systems are essential for DRR. They can save lives, protect livelihoods and contribute to sustainable development. International lessons clearly suggest that systematic risk assessment and early warning systems are far more cost effective than primary reliance on disaster response and recovery.

To achieve this goal, the following is the prioritized key result:

- i. An efficient and effective integrated national EW system developed to include emerging hazards;
- ii. Capacity for national EWS upgraded to international standards;

4.3.4. Strategic Goal 4:

Knowledge, education and innovations are used to promote culture of safety, and adoption of interventions that enhance resilience by 2015.

Disaster risk reduction is only possible when people and institutions are aware and motivated to participate in activities aimed at reducing risks. The awareness about such an approach, especially at the institutional level is limited. Thus, it is important to develop essential skills and knowledge to integrate and manage DRR. Research in disaster related issues is not prioritized by public and private research institutions. Only a few universities offer partial courses in disaster risk management, which are not comprehensive to meet the current and future needs. The investment in research on key hazards and their mitigation should receive priority, especially on high frequency disasters as well as high impact but low frequency disasters.

There is also need to strengthen cooperation and networking among scientific communities, academicians and disaster risk management planners in both public and private sectors. Exchange of scientific and operational information among and across the professionals is important for effective decision making in DRR. These are essential basis for promotion and use of scientific information, effective technology and communication.

Education plays a vital role in promotion of culture of prevention. The next generation, that would lead DRR in future, should be well educated in disaster risk reduction. This requires inclusion of DRR in relevant primary, secondary and tertiary education curricula. As an on-going support, it is also important to encourage students to participate in DRR activities in order to provide them with an opportunity to gain practical knowledge and experience.

To achieve this goal, the following are the prioritized key results:

- i. DRR included in primary, secondary, tertiary and other training institutions' curriculum;
- ii. Develop and offer DRR short and long-term courses;
- iii. Locally appropriate and sustainable technologies and approaches that enhance disaster resilience researched and piloted;
- iv. DRR coordination mechanism strengthened at DoDMA;
- v. DRM Resource Centre established within DoDMA;
- vi. The media and other stakeholders involved in DRR sensitization.

4.3.5. Strategic Goal 5:

Underlying risk factors of communities and households are holistically identified and addressed by 2015.

DRR experience gained over the last few years has highlighted critical challenges, but at the same time has provided important opportunities for promotion of DRR. While there have been a good number of DRR projects implemented at community level, not all of them merit national scale implementation. International lessons can be used to adopt innovative risk reduction measures that are not available within the country. Flood resilient technologies, earthquake resilient construction, local financing for DRR are some of the examples that require further research.

There is an urgent need to invest in activities to support vulnerable households to understand their own vulnerability, have their own preparedness to face disasters and empower them to formulate and implement their specific vulnerability reduction plans. But this strategy may require an effective financing mechanism for households to reduce their risks. Malawi has such experience. For example, a number of NGOs are implementing micro-financing and community financing for DRR related activities like micro-irrigation projects.

Effective DRR requires building of capacity at all levels with sufficient authority and resources to make decisions and implement them.

In order to promote strong DRR culture at local level, investment and proactive measures are needed to support local development structures such as development committees (VDCs and ADCs) and CPCs at district and city council and community levels to plan and implement DRR activities. This is a challenging area, but would produce a sustainable return. The measures may include orientation on climate change and DRR and specific skills in planning, advocacy and accessing financing.

To achieve this goal, the following are the prioritized key results:

- i. Effective DRR interventions identified, coordinated and scaled-up in vulnerable districts.
- ii. All vulnerable communities have DRR plans, and a financing mechanism established and tested to support implementation.
- iv. All CPCs re-oriented on DRR and CCA and funds for implementation accessed.

4.3.6. Strategic Goal 6:

Capacity strengthened for effective response and recovery at all levels by 2015

Malawi has significant experience in responding to disasters. The country has developed a number of tools, systems and financing mechanisms to support response to and recovery from disasters. But there are challenges that should be addressed to increase their efficiency as follows:

- There are delays in responding to disasters because of delayed funding, logistical limitations and limited capacity of district councils to carry out assessments on time.
- There is no systematic monitoring to understand state of recovery after a disaster. Often, both disaster response and recovery miss the opportunity to integrate essential element of DRR. Disaster recovery is an area that requires further strategic investment.
- Inadequate coordination of disaster response.
- Contingency plans have been developed only in a few disaster prone districts.

To achieve this goal, following are the prioritized key results:

- i. Operational Guidelines for DRM disseminated to all stakeholders.
- ii. Improved timeliness and effectiveness in disaster response and recovery by having full time DRM staff at district level.
- iii. Multi-hazard community, district, city and national contingency plans and budgets developed and funds allocated for implementation.
- iv. Disaster preparedness capacity enhanced at all levels.

- v. Institutional mechanism in place to utilize available logistical capability.
- vi. Improved information flow for better coordination and assessment

5.4 *The Operational Principles*

The strategic goals and results set out by the Framework are broad in nature that should be transformed into appropriate plans in the course of implementation. The following are a set of operational principles for translation of the results into concrete actions for implementation:

- (a) Promotion of a disaster risk safety culture;
- (b) Promotion of multi-hazard approach in mainstreaming DRR;
- (c) Adoption of a gradual progression from disaster management to disaster risk management;
- (d) Factoring in of specific vulnerability and capacity of different vulnerable groups of people into all DRR policies and implementation of the Framework;
- (e) Planning and implementation of DRR activities should emphasize on strengthening coping mechanisms of households;
- (f) Inclusion of scientific understanding of current and future risks into national DRR policies and plans;
- (g) Design and implementation of DRR activities should contribute to climate change adaptation;
- (h) Empowerment of local authorities and communities to manage and reduce disaster risks by having access to the necessary information, resources and authority to implement DRR activities;
- (i) Promotion of partnership among DRM stakeholders;
- (j) Promotion of sustainable livelihood practices in areas at risk from hazards;
- (k) Collaboration with regional countries and the international community to promote disaster risk reduction;
- (l) Promotion of the use of existing institutional set-up at all levels.

Section 5

Implementation Mechanism

5.1 *General Consideration for Implementation*

- (a) Government has the primary responsibility in achieving the mission and strategic goals set out in the Framework.
- (b) Since the Framework emphasizes on shift in approach from disaster management to disaster risk reduction, there is implication on the current government capacity; roles and responsibilities; policy and legal issues; resource mobilization and institutional structure. Government should proactively identify and address these issues to achieve the mission.
- (c) Partnership of stakeholders is pre-requisite for the implementation of the Framework. Timely achievement of the mission would require broadening the constituency of stakeholders beyond the conventional DRR actors and engage vulnerable groups such as women, children, orphans, the elderly, people with disabilities (PWDs) and people living with HIV and AIDS.
- (d) Appropriate legislation and policy development is another important pre-requisite. The Act of 1991 should be revised to include short and long term DRR concerns to support the implementation of the Framework.
- (e) Each of the strategic goals shall become a project of one or more ministries in partnership with other stakeholders and development partners. There will be need for implementing institutions to develop appropriate capacity to design and implement the projects.
- (f) DoDMA shall play the central role in coordinating and providing strategic direction in the implementation of the Framework. Prioritized activities in the first year of implementation should include:
 - i. developing policy and reviewing the legal framework for DRR;
 - ii. developing appropriate tools and systems for implementation;
 - iii. mobilizing resources from internal and external sources;
 - iv. implementing a strategic capacity building programme; and
 - v. enhancing capacity at DoDMA to provide strategic and operational direction in DRR mainstreaming.
- (g) The development partners, particularly bilateral, multilateral and International Financial Institutions (IFIs) should identify specific areas of the Framework to fund.

5.2 *National Structure and Capacity Building*

- (a) The national disaster risk management structure and its role should be re-oriented in line with the Framework. Revision of the Disaster Preparedness and Relief Act should consider the revision of the roles and responsibilities of the NDPRC. This may include implementation, overseeing and reporting of and resource mobilization for the Framework. The national DRM structure should reflect the multi-stakeholder and multi-sectoral approach of the Framework.

- (b) Since the integration of DRR into development plans is the key emphasis of the Framework, necessary investment on capacity building should be made for all Government agencies, local authorities and other stakeholders.
- (c) Each district council should have a full time DRM officer.
- (d) CPCs at all levels should be re-oriented in DRR and have access to resources for implementation of activities. Specific measures need to be identified and implemented to enhance their planning and implementation skills.
- (e) The effective integration of DRR and CCA is now a global priority and provides added value and synergy in achieving the mission. There is, therefore, need for close collaboration between DRR and CCA stakeholders.

5.3 DoDMA

- (a) As mainstreaming DRR is the core focus of the Framework, ministries and other stakeholders shall develop projects based on the Framework, which would stretch the current capacity of DoDMA. For example, there would be more demand on DoDMA for high quality technical and policy support from the line ministries and local authorities;
- (b) DoDMA should coordinate the effective implementation and reporting of the Framework. The current structure and function of DoDMA should be aligned with the Framework. Such process should consider the following:
 - i. Shifting its current role from an ‘operation’ to ‘knowledge leader’ on DRR. This includes high level of policy and strategic advice to NDPRC, line ministries and other stakeholders in managing mainstreaming process.
 - ii. Balance between core and non-core activities and more focus on strategic areas.
 - iii. Current organizational structure should be revisited in functional line, which may include:
 - disaster prevention and mitigation;
 - disaster preparedness;
 - disaster response;
 - disaster recovery;
 - mainstreaming support;
 - knowledge management; and
 - planning, monitoring and evaluation.

5.4 National DRR Platform

NDPRC includes members from government and few from donors and civil society. However, since Government members of the body are high level officials, it might be difficult for them to engage in operationalization of the Framework. Membership of the civil society and donor community is limited in the current setup of the NDPRC. Since the Framework requires a multi-sectoral and multi-stakeholder partnership, a separate DRR platform is required, which should report to the NDPRC. DoDMA should be the secretariat of

the platform. The national DRR platform should be made up of all key players in DRR and CCA.

5.5 Resource Mobilization

- (a) Ministry of Finance (MoF), in cooperation with DoDMA, should provide guidance to stakeholders for mobilizing necessary resources for implementation of the Framework.
- (b) There should be more commitment by Government to increase funding for DRR.
- (c) The National Disaster Preparedness and Relief Committee should be at the forefront in lobbying for more resources from the Ministry of Finance to increase funding for DRR.
- (d) The current budgetary arrangement should be revised to support the new approach for DRR. The Ministry of Finance should create a separate budget line to enable Ministries to access funding for DRR. DoDMA should provide guidance to line ministries in planning and budgeting for DRR.
- (e) A mechanism should be put in place for mobilizing external resources required to implement the Framework. International Financial Institutions and Development Partners should include DRR into their Country Assistance Strategies (CAS) and Country Programme Action Plans, respectively.
- (f) The Local Development Fund (LDF) should also be used to support the initiatives of households and communities aimed at reducing their vulnerability. Alternative sources of funding should be explored.
- (g) Government should establish a DRR levy on humanitarian assistance and Climate Change Adaptation Fund.

5.6 Monitoring, Review and Reporting

- a) There is need to establish a comprehensive M & E framework to monitor the progress of implementation of the Framework. Priority should also be given to monitoring vulnerability and risks based on selected indicators, as part of DRR and climate change adaptation initiative.
- b) To support this process, the existing DoDMA database on disasters should be revised to include specific indicators and benchmarks.
- c) All DRR stakeholders should submit annual progress reports on the implementation of the Framework to the DoDMA. The national platform should play a central role in reviewing and discussing the progress of the implementation of the Framework.

Annex

UNISDR Disaster Terminology

Acceptable risk	<p>The level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions.</p> <p><u>Comment:</u> 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.</p>
Adaptation	<p>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.</p> <p><u>Comment:</u> 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.</p>
Biological hazard	<p>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.</p> <p><u>Comment:</u> Examples of biological hazards include outbreaks of epidemic diseases, plant or animal contagion, insect or other animal plagues and infestations.</p>
Building code	<p>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.</p> <p><u>Comment:</u> 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.</p>
Capacity	<p>The combination of all the strengths, attributes and resources available within a community, society or organization that can be used to achieve agreed goals.</p> <p><u>Comment:</u> 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.</p>

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 needs 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

Process or phenomenon of atmospheric, hydrological or oceanographic nature that may

hazard 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.

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