MALAWI DISASTER RISK MANAGEMENT
Country Note

Malawi is one of the priority countries for the World Bank Disaster Risk Management (DRM) Team. The Malawi DRM Country Note serves as a framework for investments in DRM activities in Malawi, which are expected to be about $5 million over a three-five -year period (2010-2014). The Country Note identifies key gaps, challenges, and priorities in the existing DRM situation within the context of the five priority action areas of the Hyogo Framework of Action (HFA),[1] and proposes an indicative action plan for possible Global Facility for Disaster Reduction and Recovery (GFDRR) financing.

Malawi at Glance	2008
Population (*millions)*	14.8
Population growth (annual %)	2.8
Urban population *(% of total population*)	17
GDP *(current US$ billions)*	4.3
GDP per capita (current US$)	288
GDP growth (annual %)	9.7
Agriculture *(% of GDP*)	34.3
Prevalence of HIV, total (% of population ages 15-49)	11.9

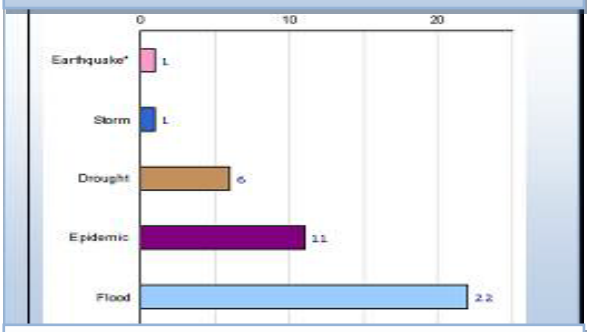
Source: World Bank

1. Country Disaster Risk and Vulnerability Profile

Malawi is particularly exposed and vulnerable to drought and floods, and the associated hazards of epidemics and landslides (Figures 1 and 2). From 1979 to 2008, natural disasters affected nearly 21.7 million people and killed about 2,596 people.

Malawi's vulnerability is linked to specific geo-climatic factors: (i) the influence of the El Niño and La Niña phenomena on the country's climate, and the positions of tropical cyclones developing in the Mozambique Channel, resulting in highly erratic rainfall patterns; (ii) the existence of a hydrological network composed of 78 Water Resource Units (WRUs) contributed by three lakes (Malawi, Chilwa, Chiuta) and three rivers (Shire, Ruo, Songwe), shared with the neighboring countries of Mozambique and Tanzania; and (iii) the location of the country along a tectonically active boundary between two major African plates within the great East African Rift System, causing earthquakes and landslides.

Figure 1: Natural Disaster Occurrence Reported from 1982 to 2008



Source of data: OFDA/CRED International Disaster Database_Data

Fig.2: Risk profile Malawi: Human Exposure to main natural hazards
(Modelled number of people present in hazard zones and subjects to potential loss)

Hazard type	Population exposed	Country ranking
Drought	1,142,090	48th out of 184
Flood	18,591	76th out of 162
Landslide	924	69th out of 162
Earthquake	122,021	52nd out of 153

Source of data: 2009 Global Assessment Report (Source: Preventionweb website:

[1] The five Hyogo Framework of Action priority action areas are: 1) Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation; 2) Identify, assess, and monitor disaster risks – and enhance early warning; 3) Use knowledge, innovation, and education to build a culture of safety and resilience at all levels; 4) Reduce the underlying risk factors; 5) Strengthen disaster preparedness for effective response at all levels.

This physical vulnerability is accentuated by socio-economic and environmental factors. The country is highly dependent on rain-fed agriculture, principally for maize cultivation, which represents 52% of the total agricultural crop area, 34% of Gross Domestic Product (GDP), and 85% of employment.[2] Reliance on maize, which is vulnerable to drought, along with limited livelihood strategies, have resulted in a high rate of food insecurity. Furthermore, Malawi faces low levels of economic and social development, and it was ranked 160 out of 182 countries by the UNDP Human Development Index in 2009. Finally, the country suffers from environmental degradation due to a combination of agricultural expansion into marginal lands and rapid deforestation.

Droughts and dry spells in Malawi cause on average about 1 percent annual GDP loss. The six drought episodes occurring in 29 years (1979-2008) killed about 500 people and affected 19.7 million people.[3] Most droughts have occurred during El Niño years, during which the country experiences rainfall deficits. The use of crops that are vulnerable to drought and very low levels of irrigation render the economy vulnerable to prolonged dry spells even during a relatively good rainfall year. Droughts occur on local, regional and national scales, causing food shortages and water scarcity, declines in national maize production, and reduced harvests. On average, droughts cause a 1.3 percentage point increase in poverty, rising to almost 17 percentage points during a 1-in-25 year drought (RP25), which is similar to that experienced in 1991/92 in Malawi (this is equivalent to an additional 2.1 million people falling below the poverty line).[4]

Floods in Malawi cause on average about 0.7 percent annual GDP loss.[5] **The 23 flooding events occurring in 29 years (1979-2008) killed about 581 people and affected 1.9 million people.**[6] Floods are mainly due to lakes flooding and rivers overflowing, and have consequences such as sediment deposit in river channels, reservoirs and floodplains originating from catchment degradation, loss of arable land, and damage to irrigation infrastructure. Although severe floods occur mainly in six river basin systems, the highest flood frequency is in the Lower Shire Valley, mainly in Chikwawa and Nsanje districts, due to flooding of the Shire River which joins the Zambezi River in Mozambique. Flooding is exacerbated by high rainfall due to La Niña events, and to tropical depressions/cyclones originating in the Mozambique Channel or the Indian Ocean, causing widespread, torrential rainfall and flooding. Floods in 2007/08 impacted 20 of the 28 districts and damaged 11,138 ha of crops, as well as infrastructure.[7]

Landslides are a cause and consequence of flooding in Malawi. The deadliest flood in March 1991 in Southern Malawi was the result of a major landslide, killing about 500 people. This landslide across the river drainage channel resulted in the breaching of a temporary dam, displacing 8,041 people and affecting 128,140 people. A number of historical landslides have been documented such as those in the Rumphi district of Northern Malawi in the catchments of the Vunguvungu and Banga rivers. Malawi is at risk of landslides due to its location on active fault lines, as well as its vulnerability to flooding.

Damage from the two earthquakes that occurred over the last 30 years (1979-2009) cost about USD 28 million in Salima (1989), and about USD 13.6 million in Karonga (2009).[8] The Salima earthquake killed 9 people and affected over 50,000, and the four Karonga earthquakes killed 4 people and affected about 145,436 people.[9] Between 1964 and 2005, over 1,350 earthquake events were recorded even if most (1268) had magnitudes less than 4.5. According to geologists, Malawi is likely to experience earthquakes of much greater magnitude in the future.[10]

Climate variability and climate change will continue to affect the incidence of drought and floods. Malawi receives an average of 850 mm of rainfall annually, with 95% of rainfall during the main rainy season between November and April. Although this level of rainfall is adequate for rain-fed crop production and for recharging underground aquifers, Malawi has a high degree of inter-annual variability in rainfall and limited water storage capacity. Consequently, the country is at frequent risk of intermittent droughts/dry spells and floods.

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2 "Malawi: Economic Vulnerability and Disaster Risk Assessment: Drought and Flood Risk Atlas" – January 2010 – WB/GFDRR/RMSI

3 "Malawi : Situation Analysis of Disaster Risk Management Programmes and Practice" - Final report - November 2008 – WB/GFDRR Track II/ E. Rowena Hay and M. Alexander.

4 « Malawi: Economic Vulnerability and Disaster Risk Assessment" - Final Report (Volume 1: Main Report) - January 2010 – WB/GFDRR /RMSI.

5 *Ibid.*

6 "Malawi : Situation Analysis of Disaster Risk Management Programmes and Practice" - Final report - November 2008 – WB/GFDRR Track II/ E. Rowena Hay and M. Alexander.

7 National Contingency Plan – Malawi (2009-2010) – Government of Malawi – December 2009.

8 "Malawi : Situation Analysis of Disaster Risk Management Programmes and Practice" - Final report - November 2008 – WB/GFDRR Track II/ E. Rowena Hay and M. Alexander.

9 Memo : Report of the USGS/OFDA Earthquake Disaster Assistance Team (EDAT) "Post-Earthquake Site Visit to Karonga, Malawi" - January 2010.

10 "Malawi : Situation Analysis of Disaster Risk Management Programmes and Practice" - Final report - November 2008 – WB/GFDRR Track II/ E. Rowena Hay and M. Alexander.

2. Country Disaster Risk Management Framework

2.1 Policy, Institutional Capacity and Consensus Building

The National Disaster Preparedness and Relief Committee (NDPRC), attached to the Office of the President and Cabinet, is the highest-level decision-making body for directing and coordinating DRM (Figure 3).[11] Chaired by the Chief Secretary, and comprising principal Secretaries of line ministries, NDPRC is responsible for providing recommendations on disaster declarations; formulating and updating the national disaster risk management policy and mobilizing resources for its implementation; submitting reports to the President on disaster risk reduction (DRR) and post-disaster activities; and managing recovery initiatives.[12]

The Department of Disaster Management Affairs (DoDMA), within the Office of the President and Cabinet, is the central DRM coordinating institution. As the secretariat of the NDPRC, DoDMA coordinates and supports the planning and execution of DRM activities throughout the country. Although DoDMA was initially formed to focus on disaster response and preparedness, its mandate now covers the entire DRM cycle, including DRR. DoDMA is responsible for ensuring that all stakeholders adhere to DRR principles; coordinating resource mobilization for DRR programmes; overseeing early recovery needs assessment and recovery, rehabilitation and reconstruction activities; and coordinating action at and between national and district levels.[13]

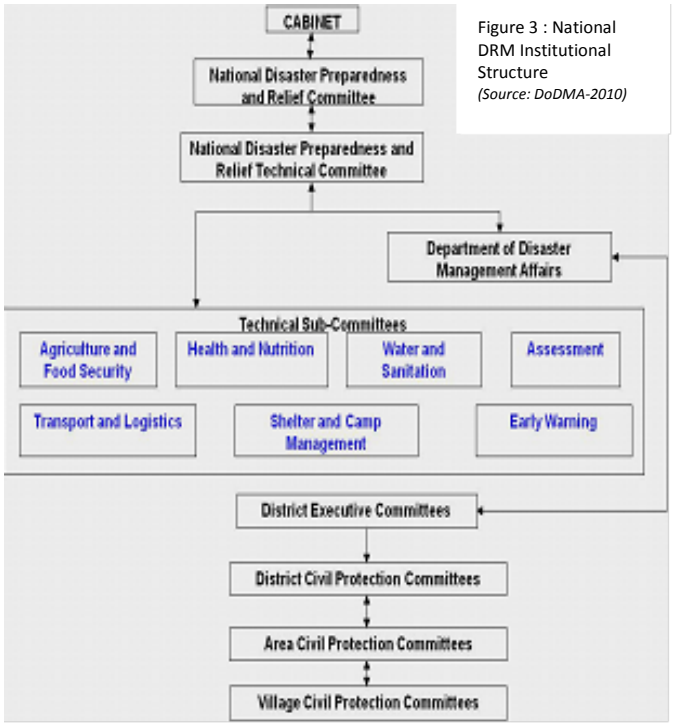

Figure 3 : National DRM Institutional Structure
(Source: DoDMA-2010)

Technical Committees were established to provide support to DoDMA for the coordination of DRM activities. Comprising technical experts representing member institutions of the NDPRC, the committees consider improvements to DRM activities, and develop institutional capacity for effective and efficient DRM. There are seven technical sector-oriented sub-committees (see Figure 3 and Annex 1).

DRM structures are also decentralized and include district, area and village Civil Protection Committees (CPC). CPCs are chaired by the Director of Planning and Development of the District Assembly at the district level, and by elected chairpersons at area and village levels. Members include representatives of all existing sectoral administrative departments and DRM stakeholders. Through the District Commissioner's office, the District Assembly oversees and supports CPC actions at the district, area, and village levels, and a Desk Officer acts as the Disaster and Relief Officer responsible for disaster impact assessment and liaison with DoDMA.

A National Platform for DRR is planned to be established in 2010. This platform would support agreement between stakeholders on the common purpose of integrating DRR into development policy and planning, and facilitate coordination and interdepartmental programmatic design and management. The National Platform is expected to include representatives from the government, UN agencies, civil society, donors, academia, the media and the private sector. However, consultations on its establishment have yet to take place, and the reporting structure and its position within the national DRM structure have not yet been worked out.

Malawi does not have a DRM policy, though development of such a policy is planned for 2010-2011. An initial diagnostic "*Situation Analysis of Disaster Risk Management Programmes and Practices in Malawi"* was completed in 2008, with support from the World Bank/GFDRR. This document identifies stengths, weaknesses, and needs, and suggests the main potential actions to be included in a national DRM Policy.

[11] The Disaster Preparedness and Relief Act, 1991" – Government of Malawi.

[12] "Draft Operational Guidelines for Disaster Risk Management" – August 2009 – DoDMA/UNDP – Draft.

[13] "Draft Operational Guidelines for Disaster Risk Management" – August 2009 – DoDMA/UNDP - Draft

Pending the development of this DRM Policy, a National Disaster Risk Reduction Framework (DRRF) for 2010-2015 and an Operational Guideline (OG) for DRM were designed in 2009. Providing common strategic direction to government and non-government stakeholders, the DRRF (expected to be validated in 2010) states five strategic goals (see Annex 2). The interim OG provides a clear description of the DRM institutional structure and outlines DRM stakeholders' roles and responsibilities. These guidelines were conceived to meet immediate operational needs and present the Government of Malawi's current expectations of national agencies' roles and responsibilites as a basis for discussion. When the DRM Policy is validated, the interim OG will be revised and finalized accordingly.[14]

The Disaster Preparedness and Relief Act of 1991 (DPR Act 1991) is the main legal reference document related to DRM implementation in Malawi, though it is considered outdated. The DPR Act, which focuses on disaster preparedness and response, covers the composition and functions of the Commissionner's Office for Disaster Preparedness of the NDPRC and the National Disaster Preparedness and Relief Fund. Updating the DPR should be carried out in tandem with the development of required legal and regulatory tools to enable effective implementation of the Act.

Malawi's National Adaptation Programme of Action (NAPA) was developed in 2006 under the leadership of the Ministry of Mines, Natural Resources and Environment, and launched by the State President in 2008. The NAPA identifies five priority activities (see Annex 3) to address Malawi's urgent adaptation needs to climate change and extreme weather events for vulnerable communities. However, none of these activities have been implemented to date. Climate change adaptation interventions are implemented by various stakeholders. A National Climate Change Committee (NCCC) chaired by the Department of Climate Change and Meteorology, with its Secretariat in the Environmental Affairs Department, reviews policies and programs on climate change.

Significant efforts and achievements have been made to set up adequate strategic framework and institutional mechanism, but a number of challenges remain to be addressed. The Malawi DRM system is in a transition phase from ex-post disaster risk management to a comprehensive ex-ante approach of disaster risk reduction**.** Although significant efforts have been made to establish supporting strategic frameworks and institutional mechanisms, key needs and challenges remain. The main needs include:

I. The development of a national policy, strategy and action plan for DRM to guide the implementation of DRM priorities and objectives stated in the MDGS (2006-2011)*;*
II. The finalization and adoption of an adequate institutional scheme and framework *(planned),* based on a comprehensive and objective analysis of the existing situation*;*
III. The definition and adoption of an adequate legal framework, including the revision of the DPR Act 1991*,* with a set of legal and regulatory instruments and tools to fully operationalize the new institutional framework*;*
IV. The adoption of appropriate operational mechanisms, including the definition of proposed roles and responsibilities for each DRM phase*,* and the definition and adoption of appropriate organizational arrangements, operating mechanisms and related tools*;* and
V. The enhancement of the technical and material capacities of DoDMA*,* and its organizational and structural capacity*,* based on a comprehensive and objective situation diagnosis vis- a -vis its overall mandates and responsibilities, considering it as a reform*.*

2.2. Disaster Risk Assessment, Monitoring and Early warning

Disaster risk assessment

DoDMA is charged with coordinating and facilitating vulnerability and risk assessments. The assessment technical sub-committee is responsible for undertaking risk assessment and mapping. DoDMA also manages a National Disaster Profile, a database covering all natural disasters in the country. In 2009, DoDMA, with World Bank/GFDRR support, conducted a country-wide scientific risk assessment and mapping for drought and floods, *"Economic Vulnerability and Disaster Risk Assessment Study in Malawi,"* and developed a country risk atlas. The study assisted the Government of Malawi to determine the extent of economic vulnerability to floods and droughts. The drought and risk atlases were produced portraying the spatial characteristics of drought and flood risks in terms of the extent of the hazard, exposure and vulnerability, and the probable losses for various return period scenarios of disaster events.

From 1992 to 1998, Malawi benefited from "The Global Seismic Hazard Assessment Program (GSHAP)", among other African countries prone to earthquake**.** Launched in 1992 by the International Lithosphere Program (ILP) with the support of the International Council of Scientific Unions (ICSU), and endorsed as a demonstration program in the

[14] *Ibid.*

framework of the United Nations International Decade for Natural Disaster Reduction (UN/IDNDR), this programme undertook earthquake hazard assessment to be used as a primary input for the implementation of risk mitigation strategies[81].

Risk assessment and mapping in Malawi are not currently conducted systematically for both hydro-meteorological and geological hazards, and are less relevant at the local level. Current tools are less useful at the local level versus the national level for strategic and operational planning because the resolution does not allow for understanding the local spatial distribution of risk. Furthermore, the tools do not take into consideration the characteristics of risk, socio-economic and environmental factors, and coping capacity at the local level. The existing database on natural risks and disasters is static and difficult to access/update.

Main needs to support disaster risk assessment efforts include the following:

I. There is a need to develop local scientific risk assessment tools for drought and floods, along with local Participatory Vulnerability Assessments (PVA) and Participatory Risk Appraisals (PRA). These allow for a higher level of detail on hazards and vulnerability, which are important for preparedness and prevention strategies at the local level.
II. A multi-hazard online DRM geospatial database is needed, with dynamic risk mapping, through the development of a Geographic Information System (GIS) for DRM.
III. A comprehensive, countrywide seismic risk assessment is needed, including scientific risk assessment at macro and micro (local) levels, and PVAs and PRAs at the community level.
IV. A sustainable risk assessment mechanism combined with technical capacity building for national institutions is needed, as risk assessments are currently carried out with external technical assistance. The country does not yet have a formal mechanism to undertake such an exercise despite existing skills and specialized institutions.

Early Warning Systems

A drought monitoring and early warning system is well developed in Malawi. Several actors are involved: the Ministry of Agriculture and Food Security (MoAFS) disseminates warnings, and the Department of Climate Change and Meteorological Services (DoCCMS) ensures continuous climate observations and seasonal forecasts with an emphasis on drought monitoring, in collaboration with the Southern African Development Community (SADC) Drought Monitoring Centre in Gaborone, Botswana. Rainfall data of excellent quality are provided, and the government plans additional investments in infrastructure to further improve the performance and communication of weather stations. The Department of Water Resources (DoWR) is partly involved through monitoring groundwater levels.

A flood monitoring and early warning system exists but is not fully operational. The DoDMA issues warning information to relevant districts, and the Ministry of Irrigation and Water Development (MoIWR) provides alerts based on river water levels through the Department of Water Resources (DoWR), which provides systematic though limited hydrologic monitoring and forecasting. DoWR has technical capacity weaknesses, mainly related to the lack of adequate equipment, weak station coverage, and lack of a flood forecasting and warning system with real time data and flood forecast modeling. Rainfall observation, monitoring, analysis and forecasting are overseen by the DoCCMS.

Earthquake monitoring is carried out on a very limited scale. The Department of Geological Survey (DoGS), in charge of geological hazard monitoring, ensures dissemination of information in case of earthquakes, in collaboration with DoDMA. However, the coverage and quality of earthquake observation and monitoring are limited mainly due to a lack of adequate technical and material capacities. In 2008, only one of the five seismic observation stations was operational.[15] In 2009, DoGS used only two borrowed broadband seismic stations (three stations are required to accurately locate an earthquake). At the time of the 2009 earthquake in Karonga district, the only seismic station located at the Karonga Airport was out of service.[16]

A food security and livelihoods vulnerability monitoring and early warning system is in place but needs support. The Malawi Vulnerability Assessment Committee (MVAC), chaired by the Ministry of Development Planning and Cooperation, manages the Vulnerability Analysis System (VAS). VAS assesses and provides early warning information on the food security and livelihood context, although the 2004 livelihoods baseline data needs to be updated. The Famine Early Warning Systems Network (FEWS NET) provides technical assistance to the Ministry of Agriculture and Food Security in carrying out annual crop estimates and building and managing its Market Information System; supports capacity building of MVAC staff; and operates a monitoring tool through its participation in the MVAC.

[81] http://www.seismo.ethz.ch: "The Global Seismic Hazard Assessment Program (GSHAP) - CLOSING Report TO THE IDNDR/STC (1998).
[15] "The Situation Analysis of Disaster Risk Management and Practice": E.R. Hey and A. Phiri: Final Consultant Report. World Bank / GFDRR program for Malawi, 2008
[16] Report of the USGS/OFDA Earthquake Disaster Assistance Team (EDAT) "Post-Earthquake Site Visit to Karonga, Malawi" - January 2010

Main needs to support the development of early warning systems include:

I. The establishment of a comprehensive and effective flood Early Warning System (EWS), including the establishment of formalized organizational and operating mechanisms, and strengthening of key institutions and structures, mainly the DoWR, based on a comprehensive and objective situation diagnosis;
II. A stronger earthquake monitoring system, following an adequate technical and material capacity strengthening (see detailed needs in Annex 4);
III. The establishment of a multi-hazard early warning coordination and monitoring unit, which would be in charge of the early warning consolidation and monitoring at the central level; and
IV. The enhancement of the quality of food security and livelihoods early warning information issued by MVAC through support to its livelihoods baseline updating.

2.3. Knowledge and Capacity Enhancement for Disaster and Risk Management

Public awareness-raising interventions for risk reduction and management are regularly carried out at the local level. DoDMA undertakes regular public awareness meetings with communities in flood-prone areas every year to sensitize them to the need to be prepared for the rainy season. In some instances, communities have agreed to relocate before rains and even permanently upland from low-lying flood prone areas, substantially reducing the number of households affected by floods. Many NGOs undertake public awareness raising actions as part of their DRM community-focused projects. The local NGO CADECOM has initiated a programme to train community members in Participatory Appraisal and Risk Assessment by sending selected members to the University of Cape Town to become trainers themselves within their own community, thereby initiating a peer-to-peer learning process.[17]

DRM and climate change adaptation (CCA) education has been introduced at the primary and secondary school levels. Some aspects of DRM, such as agricultural environmental issues, are taught within public schools, to help students understand environmental factors influencing agriculture production, with an emphasis on soil and water conservation sustainability. Disaster preparedness for earthquakes and fires is also taught. DoDMA has introduced a DRR quiz competition in primary schools as one way of introducing DRR in schools. A number of NGOs have initiated education in schools that have a community outreach element, such as Action Aid, which advocated for the institutionalization of DRM initiatives in Nsanje district.

The teaching of DRM and CCA concepts is integrated in university curricula through course modules. The two main institutions of higher learning in Malawi, the University of Malawi and the University of Mzuzu, currently provide courses related to environmental and climate change issues, which are also linked to hydro-meteorological hazard risk issues. At Chancellor College, it's the Department of Geography and Earth Sciences offer courses on climatology, hydrology, and meteorology, and Mzuzu has established a new faculty dealing with renewable energy sources.

Research has been undertaken in the field of DRM and CCA but is limited in scope and application. Often carried out by university research institutions in collaboration with governmental and NGO counterparts, such research relates mainly to hydro-meteorological hazards, the environment, and climate chang. For example, the University of Malawi carries out a research programme on "Mainstreaming Climate Change Adaptation and Mitigation in Sectoral and National Development Plans and Strategies in Malawi," at Bunda College of Agriculture, by the Centre for Agricultural Research and Development (CARD), in conjunction with Christian Aid-Malawi. The National Research Council of Malawi (NRCM) is the umbrella organization responsible for coordinating and overseeing all types of research in the country.

Despite these efforts, public awareness-raising of all hazards in priority risk areas is not yet systematically undertaken. DRM and CCA are not fully and systematically integrated in primary and secondary education curricula, even as components of other subjects. DRM and CCA are also not widely taught at the university level as specialized disciplines. Access to funding, and results dissemination and use, are the main weaknesses for research development in the fields of DRM and CCA.

Main needs to support knowledge and capacity building include:

I. The development and implementation of a systematic and comprehensive public awareness program;
II. Support for the integration of DRM and CCA in national education curricula at primary and secondary levels (currently stated as a key priority by the Government); and

[17] "Malawi : Situation Analysis of Disaster Risk Management Programmes and Practice" - Final report - November 2008 – WB/GFDRR Track II/ E. Rowena Hay and M. Alexander

III. Support for the introduction of specific DRM and CCA training/courses at the university level, as planned by the Government.[18] Malawi recognizes the need to have current and future staff within government ministries and institutions who understand and master DRM and CCA theoretical and practical concepts and issues.

2.4. Disaster Risk Reduction and Financing

Disaster Risk Reduction

Several interventions aimed to reduce natural disaster risk are currently being implemented in Malawi in natural resource management and protection of the environment, forests, water resources, soil and land, energy; land use planning; agriculture; education; health; food security; livelihoods; and social protection. National-level interventions are guided by governmental sectoral policies and strategies, mainly: the Food and Nutrition Security Policy, National Environment Policy, Agriculture Sector Policy and Strategy, Irrigation Policy and Development Strategy, National Water Policy, National Forestry Policy, Energy Policy, National Land Use Planning and Management Policy, and Social Protection Policy.

In addition, there are several interventions aimed at specifically reducing and protecting against major hazards. These initiatives generally include both structural and non-structural mitigation measures, such as: (i) the GEF-funded project "Capacity Building for Soil and Land Management in Shire River Basin" implemented by the Ministry of Lands to address catchment degradation and rehabilitation issues in the Lower Shire Valley and land degradation in the Shire River Basin through Payment for Ecosystems Services (PES) arrangements[19]; (ii) the "Presidential Green Belt Initiative" launched in 2008 to reduce vulnerability to drought and boost production by irrigating a million hectares of land and by investing in crop diversification. Despite Malawi's exposure to earthquakes, no specific mitigation interventions have been systematically implemented to reduce the impacts of earthquakes.

An evaluation of possible mitigation options and scenarios for drought and floods was undertaken as part of the recently completed study *"Economic Vulnerability and Disaster Risk Assessment in Malawi"* (2010). Two drought mitigation measures, irrigation and crop calendar shift, were evaluated through simulation in terms of their economic benefits. A set of flood mitigation measures specific to Malawi, categorized in two groups of structural and non-structural measures, was proposed.

Although disaster risk reduction is a stated priority for Malawi, comprehensive implementation of major initiatives remains limited. The main weaknesses are due to the lack of a systematic and comprehensive diagnosis of underlying risk factors, especially at the local level; the lack of systematic identification and evaluation of appropriate mitigation options (structural and nonstructural) at macro and micro levels; the lack of a DRR strategy and clear guidance; the weakness of technical leadership for DRR, and finally the lack of resources to support implementation.

Main needs to support disaster risk reduction efforts include:

I. Implementation of a holistic approach is needed to address recurrent flooding in the Lower Shire Valley. Although the subject of many studies, flooding in the Lower Shire Valley has typically been addressed in a fragmented manner, often by project-to-project. Flooding in this area could be a good starting point and reference for the implementation of a DRM integrated approach. All DRM phases should be covered, with a good balance of structural and non-structural measures.

II. Implementation of priority flood, drought and earthquake DRR measures is needed. Many of these have been proposed by the various completed studies, such as the use of improved maize varieties and water management through irrigation.[20] Structural measures, such as storage dams and the construction of levees, and non structural measures such as flood zoning, development of national, provincial, and local building standards, and flood insurance are needed to address flood risks. In terms of earthquake hazards, the establishment of building codes with seismic loading provisions, and seismic risk studies, and long-term teaching programs for Malawi architects and building contractors about retrofitting and earthquake-resistant structures are needed.

[18] "Malawi: National progress report on the implementation of the Hyogo Framework for Action for the period (2007-2009) » - DoDMA - April 2009

[19] "Analysis of Lower Shire Floods and A Flood risk reduction and recovery programme proposal for the Lower Shire Valley" – November 2008 – DoDMA/WB/GFDRR

[20] « Malawi: Economic Vulnerability and Disaster Risk Assessment" - Final Report (Volume 1: Main Report) - January 2010 – WB/GFDRR /RMSI.

Disaster Risk Financing

The DPR Act 1991 stipulated the establishment of a National Disaster Preparedness and Relief Fund as a financing mechanism for DRM. The objectives of the Fund are the development, promotion, management and administration of civil protection, and the funding of any scheme considered to be in the interest of civil protection. It is mainly a bank account with sums appropriated by Parliament for the purposes of the Fund, and received from voluntary contributions or donated from any foreign government, international agency or foreign institution or body, or from advances made by the Minister in charge of finance. In reality, national budgetary resources are annually appropriated for potential emergency relief and rehabilitation activities under the Vote for Unforeseen Expenditure whilst the DoDMA receives a regular annual budgetary allocation under the 'other recurrent transactions' (ORT) budget for core funding of its operations (including DRR and preparedness activities). The Government of Malawi allocates further resources for disaster response, longer-term reconstruction, preparedness and, in part indirectly, for mitigation to other government agencies.

Malawi has adopted pilot weather risk management instruments (risk transfer), namely the "National Drought Insurance"[21] and "Drought Insurance for Subsistence Farmers."[22] The *"Malawi National Drought Insurance"* is developed to help the Government manage the financial impact of drought-related national maize production shortfalls. The first for a sovereign entity in Africa, this tool is an index-based weather derivative contract designed to transfer the financial risk of severe and catastrophic national drought that adversely impacts the Government's budget to the international risk markets. The pilot was initiated in 2008 and several piloting seasons will be necessary to understand the scope and limitations of a weather derivative contract, and its role within the Government's evolving strategy, contingency planning and operational drought response framework.

The *"Drought Insurance for Subsistence Farmers"* pilot project gave 892 subsistence farmers the opportunity to purchase insurance covering drought risks for their valuable groundnut crop. This is the first initiative selling index-based weather (micro) insurance to smallholder farmers in Africa. The project also helps farmers to obtain certified and higher-yielding seeds with greater disease resistance. If a drought leads to insufficient groundnut production, the bank pays the loans of insured farmers directly. If there is no drought, the farmers benefit from selling the higher-value production. However, the analysis of this experience demonstrated that complementary investment in financial and non-financial services, including microfinance products and effective marketing channels and supply chains, are necessary to sustain this model of micro level index-based weather insurance.

Main needs to support disaster risk financing include:

I. Reviewing and improving the current National DRM funding mechanism, including budgetary arrangements and allocation, based on a clearly defined DRM financing strategy to address existing shortcomings. These shortcomings include delays in accessing emergency funding by the DoDMA; limited emergency funding options for sectoral ministries; inadequate funding for DoDMA's core activities; lack of adequate DRR funding options and mechanisms, at all levels; and finally lack of adequate budget allocations for District Assemblies.
II. Continuing the piloting of risk transfer mechanism for drought at macro and micro levels.
III. Investigating possible extension of the pilot risk transfer tool to other hazards, mainly floods.
IV. Strengthening financial mechanisms that promote the link between social protection and DRR at the community level and the protection of livelihoods and economic post-disaster recovery.
V. Exploring feasibility and advantages of adopting a financial risk transfer regional mechanism, comparable to the CCRIF (Caribbean Catastrophic Risk Insurance Facility).

2.5. Disaster Preparedness and Recovery

DoDMA is the central body in charge of coordinating preparedness and post-disaster emergency response and recovery. Its main responsibilities include coordinating, monitoring and assisting the development of preparedness plans by all stakeholders, including national and district-level contingency plans; activating the National Disaster Contingency Plan; leading and facilitating joint rapid assessments; providing overall coordination and leadership in emergency response; and coordinating recovery needs assessment, implementation, and monitoring. The technical sub-committees provide support to DoDMA and are in charge of coordinating and assessing preparedness activities, and monitoring and directing disaster relief programmes implemented by line ministries and other stakeholders.

[21] J.Syroka, A. Nucifora. National Drought Insurance for Malawi. World Bank Policy Research Working Paper, 2010
[22] National Hazards Observer Volume XXXIII-Number 5 « Focus on drought and Climate Change" – May 2009 – National Hazards Center.

National and district contingency plans are developed at central and district levels. Covering the period from November 2009 to October 2010, the current National Contingency Plan outlines the Government of Malawi's response to emergency flood and drought situations to prevent and help reduce any potential negative impacts. For each hazard, three scenarios have been developed, based on seasonal rainfall forecasts and experience gained from similar past weather patterns. District contingency plans cover only floods in 9 of the 15 flood-prone districts (as of 2008). The development of flood contingency plans in the remaining districts at risk is already planned for 2010/2011.

DoDMA is responsible for activating the contingency plan at the central level; the District Commissioner's Office activates the plans at the district level. Post-disaster responses are provided based on the results of post-disaster damages and emergency needs assessment, and post-emergency damages and recovery needs assessments. At the central level, emergency responses are provided in the framework of the « cluster » approach, to facilitate the planning and coordination of response implementation. Stakeholders are grouped in eight sectoral groups called « clusters » co-led by line Ministries and specialized UN Agencies. The post-disaster recovery plan is defined together with concerned stakeholders.

Effective preparedness efforts need to be strengthened, mainly for rapid onset hazards, to avoid weak or limited emergency response and recovery initiatives, which are sometimes delayed or address only some needs or affected populations. DRR is not always systematically considered and integrated in response interventions, which leads to the continuation or rebuilding of pre-existing vulnerability factors, or to well-intentioned but unsustainable recovery interventions. The current main weaknesses of current preparedness and recovery mechanisms include the lack of continuous and effective stakeholder ownership and commitment; a formal and institutionalized mechanism with clear organization for the implementation of preparedness, post-disaster assessment, emergency response and recovery; effective resource allocation; and standardized processes, methods and tools.

Main needs to support disaster preparedness and recovery include:

I. The enhancement of the efficiency and effectiveness of preparedness mechanism and actions, based on participatory evaluation of past and existing situations and regular testing of preparedness plans (simulation exercises);
II. Enhancement of capacity for post-disaster needs assessment and response implementation through the establishment of adequate and formalized mechanisms for post-disaster assessment and response planning, based on a comprehensive and objective diagnostic of existing situation; and
III. The establishment of Emergency Operations Centers in the three regions – North, Centre and South.

3. Integration of Disaster and Risk Management (DRM) in Development Strategies

"Improving disaster risk management" is an important part of the second key thematic area of the Malawi Growth and Development Strategy (MGDS) for 2006-2011 ("Social protection and disaster risk management").[23] "Preventing disasters where possible and mitigating the negative impact of disasters on the vulnerable" is one of the four main fronts of action to be undertaken. The expected outcome is the "reduction in the socioeconomic impact of disasters, as well as building a strong disaster management mechanism." In addition to promoting the integration of DRM into sustainable development planning and programming at all levels, the key stated strategies are: developing and strengthening institutions responsible for DRM; instituting necessary DRM mechanisms; implementing mitigation measures in disaster prone areas; developing and strengthening coordination of institutions in disaster management and relief services; establishing an early warning system for Malawi; and timely provision of emergency relief assistance to affected populations. The development and implementation of the Disaster Risk Reduction Framework is an important step towards the implementation of the MDGS's priorities, but the development of a specific DRM policy is still a key need.

Mainstreaming DRM in country development plans and policies is not yet fully in place, even if it is a priority objective for the country. Some priority actions have been identified and planned, and a first step has been achieved in this regard through the completion of the study on the economic vulnerability of the country to floods and drought. The study provides quantitative and scientifically-based outputs to inform decision makers and serves as a powerful advocacy tool at the macro level. Other actions are planned such as the inclusion of disaster risk analysis in the economic appraisal and planning process of all projects included in the Government of Malawi's Public Sector Investment Programme (PSIP), and the support for the systematic integration of disaster risk reduction in vulnerable districts' operational and budgetary planning.

[23] "Malawi Growth and Development Strategy: From Poverty to Prosperity (2006-2011)" – Government of Malawi.

The World Bank has contributed to DRM efforts in the country within the framework of the fourth Country Assistance Strategy (CAS) for 2007-2010. The CAS supports the MGDs by focusing on the achievement of four outcomes. The programs implemented to achieve the first CAS outcome "improve smallholder agricultural productivity and integration into agro-processing", focus specifically on helping Malawi to improve total food output and productivity, and strengthen risk management systems mainly related to floods and drought. The World Bank provides technical assistance and carries out analytical work to help improve agricultural productivity and build resilient communities, mainly by supporting Government efforts to offset the risks of maize price variability with the use of various hedging instruments, test markets for national weather insurance, and strengthening trade efficiency through the establishment of a warehouse receipt system. Micro-level weather insurance has also facilitated the successful pilot of weather insurance. Several projects supported by the World Bank contribute to DRM, such as the Agricultural Sector Development program, Community-Based Rural Land Development Project, Second National Water Development project, Irrigation, Rural Livelihoods and Agricultural Development project, and Malawi Third Social Action Fund (MASAF 3).

Disaster risk management is a priority area of support for the United Nations System (UN System) for 2008-2011. The United Nations Development Assistance Framework (UNDAF) 2008-2011 aims to help Malawi achieve the MDGs. DRM is covered under the second UNDAF outcome, "care and protection for the ultra poor and reduction in the impact of economic shocks and disasters on the most vulnerable", and the related Country Program Outcome 2,"the Government will have disaster risk reduction and emergency management systems and practices for efficient response at national and sub- national levels by 2011". Disaster risk reduction is also considered a cross cutting issue, mainstreamed in each UNDAF outcome.

4. Key Donor Engagements

Major Ongoing Projects and Organizations	Indicative budget, years	HFA activity area(s)
WORLD BANK PROJECTS		
Community-Based Rural Land Development Project	$29.78 million - (2004-2011)	1,3,4
Community-Based Rural Land Development Project (Loan & Credit)	$10 million - (2009- n/a: active)	1,3,4
Agricultural Sector Development	$47.5 million - (2008-2013)	1,3,4
Agriculture Development Program SLM	$37.8 million - (2008-2013)	1,4
Malawi Third Social Action Fund (MASAF 3) APL II (LDF Mechanism)	$51 million - (2008-2013)	1,4,5
Second National Water Development Project - Additional Financing (ACGF)	$25 million - (2008-2011)	1,4
Second National Water Development Project	$173 million - (2007-2012)	1,3,4
MW - Avian Influenza prevention and control	$1 million - (2007-2010)	1,3,4,5
The Shire River Basin Management project (under preparation)	$70 million – (2011-2016)	1,2,3,4,5
GFDRR FUNDED PROJECTS		
Mainstreaming Disaster Reduction for Sustainable Poverty Reduction: Malawi (GFDRR Track II: single country focus project)	$914,000 - (2006 – 2010)	1,2,3,4
Karonga Earthquake Post-Disaster Support		3,5
Disaster Risk Management in the Sub-Saharan Africa Region (GFDRR Track II: Burkina Faso, Comoros, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mozambique, Seychelles, Swaziland)	$300,000 - (2007 – n/a: active)	1,2,3,4,5
Phase 1 of an Activity to Support National Red Cross and Red Crescent Societies (GFDRR Track II: Albania, Armenia, Ecuador, Malawi, Pakistan, Philippines, Rwanda, Solomon Islands)	$200,000 - (2008 - n/a: active 2011)	1,3,4,5
Disaster risk management in Africa: strategic framework-good practice-communication (GFDRR Track II: Burkina Faso, Comoros, Congo Democratic Republic, Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mozambique, Niger, Rwanda, Senegal)	$395,000 - (2008 – n/a: active)	1,2,3,4,5
SELECTED DONOR PROJECTS		
DFID-World Bank- Norway Aid-Irish Aid: Community Resilience to Natural Disasters and Climate Risks	£10 million - (planned: for 4 years)	1,2,3,4,5
DFID/CHASe: "Community based Disaster Risk Reduction Projects" (through 3 NGOs Christian Aid, Action Aid and Tear fund in partnership with local civil society	£2.3m - (2006-2010)	3,4,5

organizations)		
UN (through mainly UNDP, but also WFP/UNICEF/UNHabitat/FAO/UNRCO): One UN Disaster Risk Reduction Programme	$2.7 million (for 2009-2010) (2008 – 2011)	1,3,4,5
UNDP-UNEP Poverty and Environment Initiative (PEI) – Phase I	US$ 2.7m - (2008-2010)	1,3,4
World Bank /GOM/IFAD: Irrigation, Rural Livelihoods and Agricultural Development (IRLAD) Project	$52.5 million - 2006-2012	1,3,4,5
GEF/ Ministry of Lands : Capacity Building for Soil and Land Management in Shire River Basin (23,000 sq km)	US $11, 770,750 - (2009-2013)	1,3,4
DFID: Integrated Food Security Programme	$15.4 million - (2003-2010)	3,4
ADF: Smallholder Crop Production and Marketing Project	$26.44 million - (2006-2014)	3,4
EU: Improved Forest Management for Sustainable Livelihoods Programme	$13.21 million - (2005-2012)	3,4
DfID (through NGOs : Evangelical Association of Malawi / Tear Fund UK): Food Security and Community Based Disaster Risk Mitigation Project	$2.55 million - (2006-2010)	3,4,5
ADF: Rural Income Enhancement Project	$20.77 million - (2000-2011)	3,4
DfID (through NGOs : River of Life Evangelical Church / Tear Fund UK) Community-based disaster Mitigation and Preparedness project	$431,580 - (2006-2010)	3,4,5
Hunger Project Globe**:** Sustainable Livelihood Security project	$5.72 million - (1999-2010)	3,4
EU : Income Generating Public Works Programme	$22.77 million - (2005-2011)	3,4
CORDAID/CADECOM: Disaster Risk Management project	$1.47 million - (2008-2010)	3,4,5
World Bank, AfDB, FAO, Italy, Belgium, Norway: National Programme for Food Security	$ 363.9 million - (2005-2015)	1,3,4
AfDB : Smallholder Crop Production and Marketing Project	$25 million - (2007-2013)	1,3,4
IFAD : Rural Livelihoods and Economic Enhancement Programme	$16.8 million - (2008-2014)	1,3,4
EU: Farm Income Diversification Programme	$20 million - (2005-2011)	3,4
GoM/ICP: Integrated Water and Rural Agricultural Credit (pipeline project)	US$5.29 million - (2009-2014)	1,3,4
AfDB /GEF/LDCF: Climate Adaptation for Rural Livelihoods and Agriculture (CARLA) (pipeline project)	US$24.3 million - (2009-2015)	1,3,4,5
DIPECHO (through NGOs): DIPECHO's support to Disaster Risk Reduction – Phase 2	n/a - (2010-2011)	1,2,3,4,5
IFRC/ICRC/Finnish Red Cross: Disaster Management programme	$ 1,38 million - (2009-2010)	1,3,4,5
WFP: PRRO 105860: Assistance to food insecure people suffering from the effects of natural disasters and HIV and AIDS	$118 million - (2008-2010)	4,5
DFID (through NGOs): Disaster Risk Reduction Project design	£125,000 - (2009- n/a: active)	-
DFID (through NGOs and multilateral organizations): DFID Malawi Climate Change Programme	£300,000 - (2009-2011)	3,4
DFID (through NGOs and emergency aid): Support for Victims of Storms and Floods	£1.2 million - (2008- n/a:active)	5
DFID: Support to MVAC – Phase II	£400,520 - (2007- n/a: active)	2
USAID-OFDA/IFRC/WMO: Zambezi River Basin Initiative project (Angola, Botswana, Malawi, Mozambique, Namibia, Zambia, Zimbabwe)	$1 million (FY 2009) - n/a: active	3,4
USAID-OFDA/WMO/IFRC: Zambezi River Flood Early Warning and Mitigation project (Angola, Botswana, Malawi, Mozambique, Namibia, Zambia, Zimbabwe)	$451,000 (FY 2009) - n/a: active	1,2,3,4,5
USAID/CARE: Drought Mitigation through Irrigation Promotion and Conservation Agriculture Extension Project	$1.51 million (FY 2009) - (2009-n/a: active)	5
USAID-OFDA: Technical Support for Vulnerability Assessment Committees (VACs) in Southern Africa, through USAID-funded Famine Early Warning Systems Network (FEWS NET) (Southern African countries)	$698,656 (FY 2009) - n/a: active	1,2,5
NORAD/USAID/Total Land Care: Management Adaptation for Climate Change Projects in Chia Lagoon in Nkhotakota district (integrated watershed management project)	*$5 million?* - (2008-2012)	3,4
NORAD/ LEAD and World Fish Center : Lake Chirwa Basin Project (integrated watershed management project)	*$5.2 million?*- (2009-2013)	3,4

5. Disaster Risk Management Action Plan

Given the substantial number of donor engagements, it is important to consider GFDRR within the broader framework of a disaster risk management and adaptation program in Malawi. While the table below is a tentative and may not be complete, centered on Hyogo Framework for Action priorities, it helped identify areas where GFDRR is best placed to leverage its expertise and resources.

Hyogo Framework for Action Area	Potential Main Partners	Comments
HFA Priority 1. Policy, Strategy and Capacity Building		
Policy, Strategy, Master Planning	UNDP, GFDRR	°Draft DRR Framework prepared; Preparation of the National DRM Policy is necessary; preparation of the National Master Plan for DRM; *GFDRR* : Assistance with preparation of the Master Plan (after the Policy is developed)
Mainstreaming DRM and Adaptation into Development	UNDP, DIFD, IRISH AID, NORAD, GFDRR	° DRM mainstreaming into the national and sectoral development plans and projects, district level development activities ° *GFDRR to support the preparation of the sectoral DRM strategies (as a follow-up on the completed work under GFDRR Phase 1); mainstreaming DRM into investment strategies and projects (preparation of the WB Shire basin project)*
Capacity building and coordination among stakeholders	UNDP, DIFD, DIPECHO[145], GFDRR	° Finalization of the Operational Guidelines for DRM; Mapping of all stakeholders in DRM and Climate Change Adaptation; Establishment of the DRR National Platform; DRM capacity building at central and district levels. DRM sensatization activities for main line ministries. The capacity building program to be mainly supported by UNDP *°GFDRR to possibly finance some follow-up on the GFDRR / WB on-going training / capacity building program*
HFA Priority 2: Risk identification, Assessment and Monitoring – Early Warning System		
Risk assessment and mapping	UNDP; DIFD; IRISH AID; NORAD; DIPECHO; GFDRR	°Developed Atlas of Drought and Flood risks for Malawi (World Bank / GFDRR); Development of GIS database on hazard and vulnerability at district level (UNDP); Detailed Participatory Risk Assessment mapping for disaster most prone areas (DIPECHO?); Flood zoning mapping for selected rivers in highly vulnerable areas; Data harmonization and exchange between relevant agencies *°GFDRR to possibly support detailed risk assessment and mapping in selected areas in relation to the WB operations; climate change risk assessment and mapping*
Risk monitoring and Early warning system (EWS)	UNDP; DIFD; IRISH AID; NORAD; DIPECHO; USAID/OFDA; WMO;IFRC; GFDRR	°Establishment and strengthening of Early warning systems for rapid onset disasters (national and community level); Design of an integrated EWS linking together different districts / regions; Technical Support for the Malawi Vulnerability Assessment Committee(MVAC); earthquake monitoring and early warning *°GFDRR: assistance with the design of ESW for floods*
DRM and Climate Change Adaptation	DFID, Irish Aid, NORAD, MDPC, DoDMA, Malawi MetService, EAD	Linking DRM and Climate Change Adaptation agendas
HFA Priority 3. Education and awareness to build a Culture of resilience		
Community awareness and capacity building	UNDP, DIPECHO	°Development and dissemination of DRM Handbook and flyers for community use; Community awareness raising program using community radios, awareness campaign;
DRM Education, Training and Research Program	UNDP, DIPECHO	°Development of DRM courses for Schools and Universities; Standardized DRR training materials for CPCs; DRR handbooks for teachers and school children.
HFA Priority 4. Reduction of underlying risks		
Land use planning and management	DIFD; IRISH AID; Norway; GEF, WB, Others, GFDRR	°Flood zoning mapping for selected rivers in vulnerable areas (DIFD-IRISH AID-NORWEGIAN AID); Community-based rural Land Development project (WB); Improving soil and land management in Shire river basin; Integrated watershed management (Norway). *°GFDRR: support to developing a regional approach to coordinated watershed management*
Building and infrastructure safety and protection	UNDP; UN-HABITAT; DIPECHO, Others, GFDRR	° Development of building guidelines (UNDP/UN Habitat); Development of National policy on building codes – Increasing safety of health centers and schools in vulnerable areas (DIPECHO). *°GFDRR to support the development and adoption of earthquake-resistant houses construction techniques and standards*
Infrastructure development for disaster risk reduction	World Bank, DIPECHO, Others, GFDRR	° Irrigation development and construction of rain water harvesting structures (DIPECHO); Land irrigation and crops diversification (Presidential Green Belt Initiative) – Water resources development projects (WB). *°GFDRR: mainstreaming of DRR into the Bank investment operations*
Agriculture, livestock and fisheries adaptation	DIPECHO; USAID/CARE; AFDB/GEF/LDCF ; MoH, GFDRR	°Seed silos in flood prone areas - use of improved seed varieties for community recovery – promotion of appropriate livestock for flood prone areas (DIPECHO); Drought mitigation through irrigation promotion and conservation agriculture extension (USAID/CARE); Climate adaptation for rural livelihoods and agriculture (AFDB/GEF/LDCF). *°GFDRR to support the mainstreaming of DRR into the WB operations in the agricultural sectors projects*
Specific hazard protection	DIPECHO, Others, GFDRR	°Development of evacuation points and construction of foot bridges, dykes, and gabion walls (DIPECHO). *°GFDRR support through WB investment operations*
Integrated disaster risk management	GFDRR, others	°Completed studies: "Analysis of Lower Shire Floods" and "A floods risk reduction and recovery program proposal for the Lower Shire Valley" & "Economic Vulnerability and Disaster Risk Assessment study in Malawi" (GFDRR). *°GFDRR to support a preparation of an Integrated Disaster Risk Management Action Plan in the Shire*

[145] "Strategy Paper for Second DIPECHO Action Plan for Malawi 2010-2011".

		Basin .
Risk Financing and Transfer	NORAD; DFID; IRISH AID; Others; GFDRR	°Partly covered: Support to the Government for budgetary allocation to disaster risk reduction (DIFD - IRISH AID - NORWEGIAN AID); Support for the implementation of innovative weather risk financing and transfer instruments: "National Drought Insurance" & "Drought Insurance for Subsistence Farmers" (WB). *°GFDRR : pilots on examine risk transfer mechanisms to flood management; Exploration of the feasibility of a regional risk transfer mechanism for floods, shared with neighboring countries; dissemination and scaling up of the results so far*
HFA Priority 5. Strengthening disaster preparedness for effective response		
Disaster Preparedness	UNDP; WFP; UNICEF; FAO; DIPECHO; GFDRR, MoH	°DoDMA's capacity strengthening at central & district levels (coordination, material, logistic, technical); Strengthening of the Joint Emergency Food Assistance Programme consortium performance; Development / strengthening of Emergency Operation Centers (EOCs) for districts; Strengthening of Contingency planning at district level; Early recovery framework dissemination; Stock piling of highly required relief items; Development & advocacy for community preparedness activities package; Development of community disaster preparedness and management plans; Provision of rescue & first aid kits/training to Civil Protection Committees.
Post-disaster Needs Assessment and responses	GFDRR, others	°No initiatives reported to enhance post disaster needs assessment and responses quality. *°GFDRR to strengthen the national capacity in post-disaster needs assessment and response*

The program areas identified for GFDRR financing and indicative funding are listed below for duration of five years (2010-2014). Preparation of the Integrated Disaster Risk Management Action Plan for the Shire basin is indicated by the Government as an immediate priority for GFDRR support (3A in the table below):

Indicative New Program Areas and Projects for GFDRR Funding	Potential Partnerships	Indicative Budget for GFDRR Funding and years covered (USD)	Potential outcomes and comments
1. Policy, Strategy and Capacity Building			
1.A. Strategy, Policy and Institutional Coordination	*DoDMA; UNDP; DFID; MDPC*	**350,000** (2011-2013)	Possible limited support to the development of sectoral DRM strategies; coordination under DoDMA of the DRM – related databases and their linkages UNDP to be in lead for DRM policy development
1.B. Linking DRM with Adaptation to Climate Change	*DoDMA; UNDP; DFID; MDPC*	**350,000** (2010-2012)	Support to the Government in further analysis of the climate risks related to climate variability and change and adaptation strategies, in coordination with Government's CC Framework
2. Risk identification, Assessment and Monitoring – Early Warning System			
2.A. Detailed Risk assessment and participatory risk mapping for selected areas	*DoDMA; MoE, MoA, MoWR*	**750,000** (2010-2014)	*Support detailed risk assessment and participatory mapping in selected areas (possibly, linking to the WB Shire basin project); technical assistance on climate change risk assessment and mapping*
2.B. Strengthening of Malawi HydroMet capacity	*DoDMA; Malawi Met Service, Ministry of Water Resources;*	**1,000,000** (2010-2014)	Migration to the automatic weather systems; improvement of communication systems; improvement of forecasting (in terms of higher resolution data); training / capacity enhancement; establishment of regional (area specific) Met Centres; Establishment of Integrated Met-Hydro-DRM system.
2.C. Establishment of EWS for floods	*DoDMA; DoWR – DoGS – DoCCMS - MVAC*	**550,000** (2012-2014)	Technical assistance to the Government in strengthening the Flood EWS
3. Reduction of underlying risks			
3.A. Development and implementation of an Integrated floods and drought disaster risk reduction program for the Lower Shire Valley (LSV)	*DoDMA; World Bank /GFDRR*	**1,000,000** (2010-2012)	GFDRR to support preparation of the Integrated Disaster Risk Management Action Plan for the Shire basin;

3.C. Strengthening of DRM financing and risk transfer Mechanisms	*DoDMA; Ministry of Finance, Ministry of Agriculture; UNDP, DFID*	**600,000** (2010-2014)	UNDP and DFID to continue supporting the establishment of an adequate budgeting system for DRM and contingency funds GFDRR / WB to further assess feasibility of different risk transfer mechanisms at the national scale and regionally (for example, regional catastrophe insurance mechanism for the Southern African countries sharing the same risk of floods / droughts)
4. Strengthening disaster preparedness for effective response			
4.B. Specialized training	*DoDMA; UNDP; Relevant Line Ministries*	**350,000** (2011-2012)	UNDP to fund most activities under the Hyogo Priority 5 GFDRR to support Damage, Losses and Needs Assessment training (following UN/ECLAC Methodology) and possibly other specialized trainings)
TOTAL:		**4,950,000 (2010-2014)**	

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Annex 1: Composition of Technical Sub Committees

AGRICULTURE AND FOOD SECURITY

- Ministry of Agriculture and Food Security - Chair
- National Food Reserve Agency – Vice Chair
- Department of Environmental Affairs
- Department of Forestry
- Department of Surveys
- FAO
- WFP
- Ministry of Irrigation and Water Development
- Department of Climate Change and Meteorological Services
- Ministry of Local Government and Rural Development
- ADMARC
- National Food Reserve Agency
- Representative of Civil Society Organisation - CISANET
- University Representative – Bunda
- FEWSNET
- Grain Traders Association of Malawi
- Department of Disaster Management Affairs

HEALTH AND NUTRITION

- Ministry of Health – Chair
- Department of Nutrition and HIV and AIDS – Vice Chair
- Malawi Red Cross Society
- Ministry of Education, Science and Technology
- Ministry of Information and Civic Education
- Ministry of Irrigation and Water Development
- Ministry of Local Government and Rural Development
- Representative of Civil Society Organisation – Malawi Health Equity Network
- University Representative – KCN, Bunda, CoM
- WFP
- UNICEF
- WHO
- UNAIDS
- UNFPA
- Department of Disaster Management Affairs

WATER AND SANITATION

- **Ministry of Irrigation and Water Development** – Chair
- **Ministry of Education, Science and Technology** – Vice Chair
- Department of Forestry
- Department of Surveys
- Ministry of Lands, Housing and Urban Development
- Ministry of Health
- Ministry of Local Government and Rural Development
- Department of Climate Change and Meteorological Services
- Malawi Defence Force
- Malawi Red Cross Society
- Representative of Civil Society Organisations – OXFAM, AFRICARE, Water Aid
- University Representatives – Chancellor College, The Polytechnic, KCN, CoM
- UNICEF
- WHO
- Department of Disaster Management Affairs

TRANSPORT AND LOGISTICS

- **Ministry of Transport and Public Infrastructure** – Chair
- **Office of the President and Cabinet** – Vice Chair
- National Roads Authority
- National Roads Safety Council
- Roads Traffic Directorate
- Malawi Confederation of Chambers of Commerce and Industry
- Malawi Defence Force
- Malawi Police Service
- Malawi Red Cross Society
- Ministry of Information and Civic Education
- Ministry of Local Government and Rural Development
- Ministry of Gender, Children and Community Development
- Local Transporters Association of Malawi
- WFP
- Department of Civil Aviation
- Department of Immigration
- Ministry of Foreign Affairs
- Ministry of Finance
- Department of Disaster Management Affairs

ASSESSMENT

- **Department of Disaster Management Affairs** - Chair
- **Office of the President and Cabinet** – Vice Chair
- Ministry of Agriculture and Food Security
- Ministry of Transport and Public Infrastructure
- Ministry of Health
- Ministry of Local Government and Rural Development
- Ministry of Irrigation and Water Development
- Ministry of Education, Science and Technology
- Ministry of Gender, Children and Community Development
- Ministry of Development Planning and Cooperation
- Geological Survey Department
- Department of Surveys
- Malawi Defence Force
- Malawi Police Service
- UNDP
- WFP
- UNICEF
- FAO
- FEWSNET
- Representatives of civil society organisations
- Malawi Red Cross Society
- University Rep.– Chancellor College, Bunda
- National Statistical Office

EARLY WARNING

- **Department of Climate Change and Meteorological Services** - Chair
- **Ministry of Irrigation and Water Development**– Vice Chair
- Ministry of Agriculture and Food Security
- Ministry of Development Planning and Cooperation
- Department of Environmental Affairs
- Department of Surveys
- Geological Survey Department
- Malawi Defence Force
- Malawi Police Service
- Ministry of Information and Civic Education
- Representative of Civil Society Organisations - CISANET
- University Representative - Bunda
- FEWSNET
- Department of Disaster Management Affairs

SHELTER AND CAMP MANAGEMENT

- **Ministry of Lands, Housing and Urban Development** - Chair
- **Malawi Red Cross Society** – Vice Chair
- Department of Forestry
- Malawi Defence Force
- Ministry of Education, Science and Technology
- Ministry of Health
- Ministry of Irrigation and water Development
- Ministry of Local Government and Rural Development
- Ministry of Gender, Children and Community Development
- Ministry of Transport and Public Infrastructure
- Ministry of Persons with Disabilities and the Elderly
- Malawi Police Service
- Fire Brigades (Blantyre, Lilongwe, Mzuzu and Zomba)
- World Vision International
- Representative of Civil Society Organisations - CCODE
- WFP
- UNDP
- UNICEF
- WHO
- UN Habitat
- Habitat for Humanity
- Malawi Human Rights Commission
- UNHCR
- Department of Disaster Management Affairs

Annex 2: The five (5) strategic goals stated by the National Disaster Risk Reduction Framework (DRRF) for 2010-2015

(i)	DRR is mainstreamed into policy, strategy, program and annual planning and their implementation at all levels.
(ii)	An effective system is in place to identify, monitor and assess risk (national and cross-boundary).
(iii)	An effective and national early warning system is strengthened.
(iv)	Underlying risk factors of community and household are systematically identified and addressed.
(v)	Disaster preparedness capacity is strengthened for effective response at all levels.

Annex 3: The five (5) priority activities of the Malawi's National Adaptation Programmes of Action (NAPA)

(i)	Improving community resilience to climate change through the development of sustainable rural livelihoods.
(ii)	Restoring forests in the Upper, Middle and Lower Shire Valleys catchments to reduce siltation and the associated water flow problems.
(iii)	Improving agricultural production under erratic rains and changing climatic conditions.
(iv)	Improving Malawi's preparedness to cope with droughts and floods.
(v)	Improving climate monitoring to enhance Malawi's early warning capability and decision making and sustainable utilization of Lake Malawi and lakeshore areas resources.

Annex 4: Key Department of Geological Survey or DoGS' capacity strengthening needs identified following the last 2009 Karonga earthquake

(i)	Equipping Malawi with its own seismological equipment.
(ii)	DoGS' technical capacity strengthening through the establishment of a position of Principal Seismologist responsible for seismic network operations and the interpretation of seismic data.
(iii)	Implementation of a long-term capacity building program for DoGS professionals in network operations, seismic hazard assessment, geological effects of earthquakes, and remote sensing, and for DoGS 'technicians in seismic network maintenance and repair, to maintain and repair existing stations in Malawi.

Annex 5: Other ongoing projects which can be relevant to disaster risk reduction

Major Ongoing Projects and Organizations	Indicative budget, years	HFA activity area(s)
WORLD BANK PROJECTS		
MAP or Multi-Sectoral AIDS Project Additional Financing	$30 million - (2009- N/A active)	1,3,4,5
Infrastructures Services	$41.3 million - (2006-2011)	1,3,4,5
Education Sector Support Project 1	$32.2 million - (2005-2010)	1,3,4
SELECTED DONOR PROJECTS		
TROCAIRE /CADECOM: Integrated Food Security Programme	$293,946 - (2007-2010)	3,4
USAID: Malawi Horticulture Network	$2.0 million - (2008-2011)	3,4
Global Environment Facility (GEF), the Danish International Development Agency (DANIDA) and the Southern African Development Community (SADC): National Sustainable and Renewable Energy Programme (NSREP)	n/a - active (n/a)	3,4
GTZ/EU: SADC Regional Programme on Biomass Energy Conservation (ProBEC)	n/a - active (n/a)	3,4
IFRC/Danish Red Cross/Irish Red Cross/Netherlands Red Cross: Health and Care programme	$611,952 - (2009-2010)	3,4,5
IFRC/Danish Red Cross/Irish Red Cross/Netherlands Red Cross: Organizational Development/Capacity Building programme	$92,045 - (2009-2010)	1,3
USAID-OFDA/CRS: Rehabilitation through Irrigation and Production Extension II (RIPE II) project	$400,000 (to date) - active	5
Canada CIDA: Canada Fund Local Initiatives Malawi - CFLI - FCIL Malawi 2008-2009	$128,336 - (2008-2013)	4
Canada IDRC: Community Based Adaptation in Africa (CBAA)	$40,577 - (2008-2011)	3,4,5
Canada IDRC: Legume diversification in smallholder tobacco systems in Malawi: Climate risk management and market opportunities	$295,731 - (2008-2010)	3,4
Canada CIDA: Malawi Floods WFP PRRO 10586.0	$464,986 - (2008-2010)	5
Canada IDRC: Strengthening local agricultural innovation systems	$173,229 - (2007-2011)	3,4
Canada IDRC: Soils, Food and healthy Communities in Malawi (Phase II)	$381,851 - (N/A: active)	3,4
World Meteorological Organization (WMO): Managing Risks Related to Weather/Climate Extremes in Southern Africa (Angola, Botswana, Democratic Republic of Congo, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe)	Euro 2.3 million - (n/a: 48 months – active)	1,2