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CONTENTS • INHOUD

<i>No.</i>	<i>Page No.</i>	<i>Gazette No.</i>
GENERAL NOTICE		
38 Disaster Management Act (57/2002): Notice in terms of section 28 (3) (a)	3	1324

GENERAL NOTICE

NOTICE 38 OF 2007

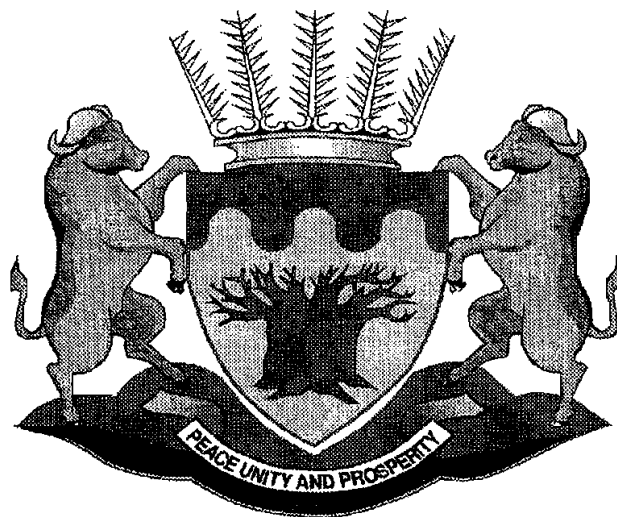
LIMPOPO PROVINCIAL GOVERNMENT

DEPARTMENT OF LOCAL GOVERNMENT AND HOUSING

NOTICE IN TERMS OF SECTION 28(3)(a) OF THE DISASTER MANAGEMENT ACT, 2002 (ACT NO. 57 OF 2002)

In terms of section 28(3)(a) of the Disaster Management Act, 2002 (Act No 57 of 2002), the Limpopo Provincial Disaster Management Framework is hereby published for public information.

LIMPOPO PROVINCE



**DEPARTMENT OF LOCAL GOVERNMENT AND
HOUSING**

***LIMPOPO PROVINCIAL DISASTER MANAGEMENT
FRAMEWORK***

TABLE OF CONTENTS

A. Preamble

B. Scope of Work

1 Purpose of the Framework

2 Limpopo Disaster Management Vision

3 Limpopo Disaster Management Mission

4 Limpopo Disaster Management Values

5 *Key Performance Area 1: Integrated Institutional Capacity for Disaster Risk Management*

5.1. Objective

5.2. Provincial Disaster Management Advisory Forum

5.3. Location of the PDMC

5.4. Key Responsibilities of the PDMC

5.5. Head of the PDMC.

5.6. Roles and Responsibilities of the provincial organs of state

5.7. Disaster Risk Management planning

5.8. Participation of Volunteers in Disaster risk management

5.9. Arrangements for regional and international cooperation for disaster risk management

6 *Key Performance Area 2: Disaster Risk Assessment*

6.1. Objective

6.2. Disaster Risk Assessment and risk reduction planning

6.3. Situations requiring a disaster risk assessment

6.4. Provincial Indicative disaster risk profile

6.5. Monitoring, updating and disseminating disaster risk information

6.6. Responsibility for monitoring and updating disaster risk information

6.7. Conducting quality control

7 *Key Performance Area 3: Disaster Risk Reduction*

7.1. Objective

7.2. Disaster risk management planning

7.3. Disaster risk management plans

7.4. Strategic integrating role of the PDMC

7.5. Setting priorities for disaster risk management planning

- 7.6. Identifying the most vulnerable areas, communities and households
- 7.7. Priorities for focussing disaster risk protection efforts
- 7.8. Strategic planning: disaster risk reduction
- 7.9. Operational planning: preparedness, response and recovery
- 7.10. Research
- 7.11. Inclusion of disaster risk reduction efforts in other structures and processes
- 7.12. Risk avoidance enforcement mechanisms
- 7.13. Implementation and monitoring of disaster risk reduction programs and initiatives

8 Key Performance Area 4: *Response and Recovery*

- 8.1. Objective
- 8.2. Early warnings
- 8.3. Assessment, classification, declaration and review of a disaster
- 8.4. Disaster reviews and reports
- 8.5. Integrated response and recovery
- 8.6. Emergency communication system
- 8.7. Media Relations
- 8.8. Regulations and directives for response and recovery operations
- 8.9. Relief measures
- 8.10. Rehabilitation and reconstruction

9 Enabler 1: *Information Management and Communication*

- 9.1. Objective
- 9.2. Establishing an information management communication system
- 9.3. Data acquisition
- 9.4. Three distinct phases requiring specific information
- 9.5. Disaster response
- 9.6. Post disaster recovery
- 9.7. Information needs of the community
- 9.8. The information system that must be in place

10 Enabler 2: *Education, training, public awareness and Research*

- 10.1. Objective
- 10.2. Provincial education, training and research needs and resources
- 10.3. Creating awareness, promoting a culture of risk avoidance and establishing good media relations
- 10.4. Research

11 Enabler 3: *Funding arrangements for Disaster Risk Management*

- 11.1. Objective
- 11.2. Funding arrangements

ABBREVIATIONS AND ACCRONYMS USED IN THE FRAMEWORK

CBO	Community Based Organization
GIS	Geographic Information System
ICDM	Intergovernmental Committee on Disaster Management
IDP	Integrated Development Plan
IDRR	Interdepartmental Disaster Risk Reduction
JOC	Joint Operation Centre
KPA	Key Performance Area
MDMC	Municipal Disaster Management Centre
MEC	Member of Executive Council of a Province
MFMA	Municipal Finance Management Act 56/2003
NDMC	National Disaster Management Centre
NDMAF	National Disaster Management Advisor Forum
PDMAF	Provincial Disaster Management Advisory Forum
PDMC	Provincial Disaster Management Centre
PFMA	Public Finance Management Act 01/1999
SOP'S	Standard Operating Procedures
The Act	Disaster Management Act 57 of 2002

LIMPOPO DISASTER MANAGEMENT FRAMEWORK

A. PREAMBLE

Disaster Management is a functional area of concurrent competence of National and Provincial legislature, in terms of Part A of Schedule 4 of the Constitution of the Republic of South Africa.

Sections 28 and 43 of the Disaster Management Act, 2002 (Act no. 57 of 2002) prescribes that provinces and municipalities must establish and implement a disaster management framework, while sections 29 and 43 of the same act also compels provinces and municipalities to establish disaster management centers.

B. SCOPE OF THE FRAMEWORK

The scope of this framework is:

1. Purpose of the Framework.
2. Limpopo Disaster Management Vision.
3. Limpopo Disaster Management Mission.
4. Limpopo Disaster Management Values.
5. KPA 1-Integrated Institutional Capacity for Disaster Risk Management
6. KPA 2-Disaster Risk Assessment
7. KPA 3- Disaster Risk Reduction
8. KPA 4-Disaster Response and Recovery
9. Enabler 1—Information and communication
10. Enabler 2—Education, training, public awareness and research
11. Enabler 3—Funding for Disaster Risk Management

1. PURPOSE OF THE FRAMEWORK

- 1.2. The purpose of the Limpopo Provincial Disaster Management Framework (LPDMF) is to guide the development and implementation of the disaster management function in the Limpopo Province.

- 1.3. Source of Authority. Sections 28 and 42 of the Disaster Management Act, 2002 (Act no. 57 of 2002) prescribes that provinces and municipalities must establish and implement a disaster management framework.
- 1.4. Guiding Principles. The LPDMF is guided by the principles of the Act, the Constitution, Bill of Rights as well as relevant internationally recognized humanitarian principles and decrees e.g. The Sphere Project, Geneva Convention and Hague Law.
- 1.5. Definitions. The following accepted disaster management definitions are applicable:
 - **“disaster”** means a progressive or sudden, widespread or localised, natural or human-caused occurrence which:
 - causes or threatens to cause:
 - death, injury or disease,
 - damage to property, infrastructure or the environment or
 - disruption of the life of a community and
 - is of a magnitude that exceeds the ability of those affected by the disaster to cope with it effects using only their own resources.
 - **“disaster management”** means a continuous and integrated multi-sectoral, multi-disciplinary process of planning and implementation of measures aimed at:
 - preventing or reducing the risk of disasters,
 - mitigating the severity or consequences of disasters,
 - emergency preparedness,
 - a rapid and effective response to disasters and
 - post-disaster recovery and rehabilitation.
 - **“emergency preparedness”** means a state of readiness which enables organs of state and other institutions involved in disaster (and emergency) management, he private sector, communities and individuals to mobilise, organise and provide relief measures to deal with an impending or current disaster or the effects of a disaster.
 - **“hazard”** refers to the frequency and severity of a threat inflicting losses on people, property, systems or functions.
 - **“post-disaster recovery and rehabilitation”** means efforts, including development, aimed at creating a situation where:
 - normality in conditions caused by a disaster is restored,
 - the effects of a disaster are mitigated or
 - circumstances are created that will reduce the risk of a similar disaster occurring.
 - **“prevention”**, in relation to a disaster, means measures aimed at stopping a disaster from occurring or preventing an occurrence from becoming a disaster.
 - **“response”**, in relation to a disaster, means measures taken during or immediately after a disaster in order to bring relief to people and communities affected by the disaster.
 - **“risk”** means the convolution of exposure, hazard and vulnerability (loss).

- **“vulnerability”** means the degree to which an individual, a household, a community or an area may be adversely affected by a disaster (the susceptibility to losses due to exposure to a hazard).
 - **“Organs of State”** means a national, provincial or municipal organ of state
 - **“The Act”** means Disaster Management Act 57 of 2002
 - **“Head of the Centre”** means a person appointed by the MEC in which the Disaster Management Centre is located to head the same centre.
 - **“Provincial Disaster Management Centre”** means a centre established in the administration of a province.
 - **“Disaster Manager”** means an individual working in disaster management.
- 1.5. **Context.** The Act explicitly indicates that the disaster management function is primarily aimed at disaster risk reduction, which therefore calls for cooperative governance, an integrated all-inclusive approach founded on the principles of disaster:
- a. prevention,
 - b. mitigation,
 - c. preparedness,
 - d. response
 - e. recovery and
 - f. rehabilitation.

It is thus clear that the disaster management framework and the associated plans are the strategic mechanisms through which disaster management action is coordinated and integrated.

2. LIMPOPO DISASTER MANAGEMENT VISION

- 2.1. To ensure a safe and secure environment conducive to sustainable development and livelihoods.

3. LIMPOPO DISASTER MANAGEMENT MISSION

- 3.1. To manage an integrated Disaster Management Service through effective planning, preparedness and coordinated capacity building for disaster risk reduction.

4. LIMPOPO DISASTER MANAGEMENT VALUES

- 4.1. The right to be handled (treated) with dignity is a universally accepted principle that must be part and parcel of the disaster management approach.

- 4.2. To ensure that the disaster manager dominates the moral high ground it is of importance to regularly reflect on what is being done and what ought to be done to ensure domination of the moral high ground.
- 4.3. To be in line with international best practice the following values will be adhered to so as to ensure the successful implementation of the humanitarian imperative:
 - a. **Honesty:** Are we doing what we are doing for the right reasons?
 - b. **Respect:** Respect the dignity of another human being as enshrined in the Bill of Rights constitution of South Africa.
 - c. **Accountability:** Take full responsibility for actions and consequences and or the lack thereof.
 - d. **Fairness:** Personal biases are not to influence decisions.
 - e. **Compassion:** Have empathy for and have concern with the circumstances of the less privileged or those adversely affected by disasters.
- 4.4. Although there is marked developments and improvements regarding legislation there is still no common South African frame of reference for ethical standards and norms that need to be taken into account to give full effect to the requirements of the human imperative.

5. **KEY PERFORMANCE AREA 1: INTEGRATED INSTITUTIONAL CAPACITY FOR DISASTER RISK MANAGEMENT**

- 5.1. **Objective.** Establish integrated institutional capacity within the provincial sphere to enable the effective implementation of disaster risk management policy and legislation.
- 5.2. **Provincial Disaster Management Advisory Forum (PDMAF).** The PDMAF is accountable to the Provincial Executive Council for:
 - a. Ensuring that appropriate mechanisms and institutional arrangements are in place to give effect to cooperative governance.
 - b. Coordinating disaster risk management by establishing joint standards of practice between the spheres of government as well as between the provincial sphere of government and relevant role-players.
- 5.2.1. The PDMAF must advise and make recommendations to the Provincial Executive Committee on issues relating to disaster risk management and the implementation of the LPDMF.
- 5.2.2. The PDMAF is to be made up of representatives from all provincial government departments, para-statal, the private sector, non-governmental organisations and any other institution and/or individual that could contribute to the disaster risk management process.

- 5..2.3. In view of the multi-sectoral nature of disaster risk management matters, the PDMAF must submit all written policy proposals and related disaster risk management aspects through the Provincial Disaster Management Centre (PDMC) to the relevant executive committee for assessment and further recommendations.
- 5.3. **Location of the PDMC.** The MEC who is responsible for disaster risk management must ensure institutional capacity for disaster risk management in the province. The efficiency with which the PDMC will perform disaster risk management functions depend on the ability to fast-track decision making and minimise red tape. The Act gives the PDMC the necessary legislative authority to compel organs of state and other role-players to make relevant information available, but exercising such authority could prove problematic from within a provincial line function, which has a sectoral bias. It is therefore advisable to place the PDMC closest to the highest level of decision making to grant it the necessary stature to be able to cut across departments with individual responsibilities for disaster risk management.
- 5.4. **Key responsibilities of the PDMC.** The key responsibilities are:
- a. Disaster risk reduction.
 - b. Ensuring that integrated development planning include and comply with disaster risk management principles.
 - c. Capacity building, education, training and research.
 - d. Information management and communication.
- 5.5. **Head of the PDMC.** The head of the PDMC is appointed by the MEC and the individual must perform the duties as stipulated in the Act.
- 5.6. **Roles and responsibilities of provincial organs of state.** Provincial departments must assess any legislation applicable to their function and advise the PDMC on the state of such legislation. Based on the principle of auxiliary (using existing structures and resources), disaster risk management responsibilities must be integrated into the routine activities of the various sectors and disciplines within the relevant organs of state and their substructures. Such responsibilities must be reflected in job descriptions and form part of collective and individual performance management.
- 5.6.1. Each provincial organ of state must appoint an individual who will act as its focal or nodal point for disaster risk management and who will also be its representative, with full-delegated decision making powers, on the PDMAF.

- 5.7. **Disaster risk management planning.** The head of the PDMC is primarily responsible for ensuring that disaster risk management plans are developed and implemented in a uniform and integrated manner. The Act explicitly places the responsibility for the development of such plans on organs of state and other institutional role-players.
- 5.8. **Participation of volunteers in disaster risk management.** The PDMC must coordinate the development of the following categories of volunteers:
- a. Specific units of volunteers.
 - b. General volunteers.
 - c. Spontaneous volunteers.
- 5.9. **Arrangements for regional and international cooperation for disaster risk management.** Given the location of the Limpopo Province and the stipulation in the Act regional cooperation for the purpose of disaster risk management is essential and appropriate mechanisms must be initiated to establish a forum in which such cooperation can be achieved with Botswana, Zimbabwe and Mozambique.

6. KEY PERFORMANCE AREA 2: DISASTER RISK ASSESSMENT

- 6.1. **Objective.** Establish a uniform approach to assessing and monitoring disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by provincial organs of state, local organs of state and municipalities as well as other role-players.
- 6.2. **Disaster risk assessment and risk reduction planning.** Disaster risk specifically refers to the likelihood of harm or loss due to the action of natural or other hazards or other external threats on vulnerable structures, services, areas, communities and households.
- 6.2.1. Disaster risk assessment is the first step in planning and effective disaster risk reduction program. It examines the likelihood and outcomes of expected or threatening disaster events. This would include investigating related hazards and conditions of vulnerability that increase the chances of loss.
- 6.2.2. All provincial organs of state must carry out disaster risk assessments to identify priority disaster risks relevant to their functional areas. Such assessments must be undertaken interdepartmentally to avoid duplication of efforts and to ensure uniformity of findings.
- 6.2.3. All proposed disaster risk assessments and related studies planned by provincial departments and local authorities must be reviewed by the

PDMC prior to implementation to ensure quality and consistency in approach.

6.3. Situations requiring a disaster risk assessment.__Disaster risk assessments must be undertaken to:

- a. Anticipate and plan for known hazards or disasters to prevent losses and limit endangering impacts.
- b. Identify unknown hazards.
- c. Ensure that development initiatives maximise their vulnerability outcomes.

6.3.1. The general process for assessing disaster risk involves the following stages:

- a. **Stage 1.** This initial stage involves identifying the specific disaster risks to be assessed.
- b. **Stage 2.** The second stage involves analysing the disaster risks concerned.
- c. **Stage 3.** This stage requires an evaluation of the disaster risk being assessed – usually in relation to other risks.
- d. **Stage 4.** The fourth stage is required to inform ongoing disaster risk assessment and planning. It must involve monitoring disaster risks and the effectiveness of disaster risk reduction initiatives and updating disaster assessment information.

6.3.2. The findings of stages 1 and 2 will directly inform the development of a Level 1 Disaster Risk Management Plan as well as components of a Level 3 Disaster Risk Management Plan.

6.3.3. The outcome of Stage 3 will directly inform the development of a Level 3 Disaster Risk Management Plan as well as components of a Level 3 Disaster Risk Management Plan.

6.3.4. The results of Stage 4 will inform the development of a Level 3 Disaster Risk Management Plan.

6.4. Provincial indicative disaster risk profile. The PDMC must establish the necessary capability to generate a Provincial Indicative Disaster Risk Profile and to maintain the profile's dynamic character by continuously updating it. The risk profile must include maps that represent priority disaster risks affecting the province as well as consolidated information on recorded losses for specific threats.

6.4.1. The PDMC must ensure that the information represented in GIS format is scientifically validated and sufficiently robust for inclusion in the profile.

- 6.4.2. The PDMC must involve specialist research units, private sector partners, government departments and other sources of relevant scientific reports and data on hazard and vulnerability patterns
- 6.5. **Monitoring, updating and disseminating disaster risk information.** Disaster risks are not static. To strategically adjust programs all provincial government departments must have monitoring systems in place that are relevant to their specific functional responsibilities. These systems form the basis for early warning and are also essential for monitoring the effectiveness of ongoing disaster risk reduction efforts. Risk monitoring involves:
- a. Hazard tracking.
 - b. Vulnerability monitoring.
 - c. Disaster event tracking.
- 6.6. **Responsibility for monitoring and updating disaster risk information.** Provincial organs of state with responsibilities for reducing and managing disaster risks must have clear mechanisms for:
- a. Accessing and updating relevant hazard and vulnerability information on disaster risks specific to their functional areas.
 - b. Making this information available to the PDMC.
- 6.7. **Conducting quality control.** The following two mechanisms must be used to ensure the accuracy of the disaster risk assessments undertaken to inform provincial and municipal area planning:
- a. Establishment of a technical advisory forum.
 - b. External validation or external peer review of methods and findings.

7. KEY PERFORMANCE AREA 3: DISASTER RISK REDUCTION

- 7.1. **Objective.** Ensure all disaster risk management stakeholders develop and implement integrated disaster risk management plans and risk reduction programs in accordance with approved frameworks.
- 7.2. **Disaster risk management planning.** The PDMC must ensure that coherent and relevant disaster risk management planning is undertaken by provincial and municipal organs of state and other institutional role-players.

- 7.2.1. Disaster management frameworks and disaster risk management plans are strategic mechanisms through which disaster risk management action is coordinated and integrated across all spheres of government.
- 7.2.2. The PDMC is responsible for consultatively facilitating the development of the disaster management framework in its area of jurisdiction and subsequently amending it in consultation with key stakeholders.
- 7.3. **Disaster risk management plans under the guidance of the PDMC.** Provincial and Municipal organs of state and other institutional partners in disaster risk management are required to prepare and complete disaster management plan under the guidance of the PDMC. The national disaster management framework provides for three progressive steps from a Level 1 Disaster Risk Management Plan to a Level 3 Disaster Risk Management Plan:
- a. **Level 1: Disaster Risk Management Plan.** This Plan applies to provincial organs of state and municipal entities that have not previously developed a coherent disaster risk management plan. It focuses primarily on establishing foundation institutional arrangements for disaster risk management putting in place contingency plans for responding to known priority threats as identified in the initial stages of disaster risk assessment, identifying key governmental and other stakeholders and developing the capability to generate a Level 2 Disaster Risk Management Plan.
 - b. **Level 2: Disaster Risk Management Plan.** This plan applies to provincial and municipal organs of state that have established the foundation institutional arrangements and are building the essential supportive capabilities needed to carry out comprehensive disaster risk management activities. It includes establishing processes for a comprehensive disaster risk assessment, identifying and establishing formal consultative mechanisms for development of disaster risk reduction projects and introducing a supportive information management and communication system and emergency communications capabilities.
 - c. **Level 3: Disaster Risk Management Plan.** This plan applies to provincial and municipal organs of state that have established both the foundation institutional arrangements for disaster risk management and essential supportive capabilities. The plan must specify clear institutional arrangements for coordinating and aligning the plan with other governmental initiatives and plans of institutional role-players. It must also show evidence of informed disaster risk assessment and ongoing disaster risk monitoring capabilities as well as relevant developmental measures that reduce the vulnerability of disaster prone areas, communities and households.

- 7.4. **Strategic integrating role of the PDMC.** To achieve integration across and between spheres of government the PDMC must:
- a. Ensure that the provincial disaster management framework is consistent with the national framework and the broader development goals, priorities, strategies and objectives specified for the province.
 - b. Align the disaster risk management plans of provincial organs of state and those of their respective district municipalities and other role-players.
 - c. Consult the PDMAF with regard to the development of disaster risk management plans as well as guidelines.
- 7.5. **Setting priorities for disaster risk management planning.** Provincial disaster risk management priorities must focus on averting or limiting the impact of the following disaster risks:
- a. Wide-area events that is likely to affect more than one district municipality.
 - b. Recurrent high- and medium-magnitude events that occur in most district municipalities and may require provincial support and/or intervention.
 - c. Low-frequency/rare high-magnitude disaster risks with potential for severe loss and which require levels of specialist support possibly not available within the province.
 - d. Disaster risks that affect neighbouring provinces and countries and have consequences for the province.
- 7.6. **Identifying the most vulnerable areas, communities and households.** In undertaking disaster risk management planning priority must be placed on those areas, communities and households that are exposed to natural or other threats and have the least capacity to resist and recover from the resulting impacts.
- 7.7. **Priorities for focussing disaster risk protection efforts.** For disaster risk management planning purposes provincial and municipal organs of state must according to their functional area of jurisdiction give priority to protecting:
- a. Strategic infrastructure or lifeline services.
 - b. Critical economic, commercial, agricultural and industrial zones.
 - c. Fragile natural ecosystems and environmental assets that offer protective environmental services.
 - d. Communities in areas exposed to extreme weather and/or other natural and technological hazards.
 - e. Poor and underserved rural and urban communities including informal settlements especially those located in fragile ecological areas that sustain repeated losses from small, medium and large disaster events and that lack insurance coverage to facilitate recovery.

- f. Highly vulnerable households in at-risk areas with limited capacity to resist or recover from external shocks, particularly child-headed households or those headed by the elderly or households affected by chronic illness.

7.8. Strategic planning: disaster risk reduction:

- a. **Disaster prevention.** Disaster prevention refers to actions that provide "outright avoidance" of the adverse impact of hazards and related environmental, technological and biological disasters.
- b. **Disaster mitigation.** Disaster mitigation refers to structural and non-structural measures that are undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards on vulnerable areas, communities and households.

7.9. Operational planning: preparedness, response and recovery:

- a. **Preparedness.** Preparedness contributes to disaster risk reduction through measures taken in advance to ensure effective response to the impact of hazards, including timely and effective early warnings and the temporary evacuation of people and property from threatened locations.
- b. **Response.** Disaster response refers to the provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people affected.
- c. **Recovery.** Disaster recovery focuses on the decisions and actions taken after a disaster to restore lives and livelihoods, services, infrastructure and the natural environment. Disaster recovery includes rehabilitation of affected areas, communities and households, reconstruction of damaged and destroyed infrastructure and the recovery of losses sustained during the disaster event, combined with the development of increased resistance to future similar events.

- 7.10. **Research.** Disaster risk reduction initiatives must be preceded by transparent research and careful planning and must provide evidence of the relevance or likely effectiveness of the planned intervention(s).

- 7.11. **Inclusion of disaster risk reduction efforts in other structures and processes.** Disaster risk assessment findings, along with ongoing monitoring information on disaster occurrence, are directly applicable to spatial development planning. Disaster risk assessment findings must be taken into account in all integrated development planning.

- 7.12. **Risk avoidance enforcement mechanisms.** Provincial and municipal organs of state must assess the disaster risk management component of their existing policies, regulations, by-laws and other relevant legal instruments for their functional areas and introduce measures to ensure alignment with the requirements as specified in the Act.

7.13. Implementation and monitoring of disaster risk reduction programs and initiatives. The PDMC must ensure:

- a. The effective implementation of disaster risk reduction programs
- b. Measurable reductions in small-, medium- and large-scale disaster losses.
- c. A reduced need for social relief in disaster prone and economically vulnerable communities.
- d. The generation and dissemination of case studies and best practice guides in disaster risk reduction. The progressive application of disaster risk reduction strategies, techniques and measures by provincial organs of state, municipalities and other key stakeholders.

8. KEY PERFORMANCE AREA 4: RESPONSE AND RECOVERY

8.1. Objective. Ensure effective and appropriate disaster response and recovery by:

- a. Implementing a uniform approach to the dissemination of early warnings.
- b. Averting or reducing the potential impact in respect of personal injury, health, loss of life and property, infrastructure, environments and government services.
- c. Implementing immediate integrated and appropriate response and relief measures when significant events or disasters occur or are threatening to occur.
- d. Implementing all rehabilitation and reconstruction strategies following a disaster in an integrated and developmental manner.

8.2. Early warnings. Early warnings are designed to alert areas, communities and households to an impending or imminent significant event or disaster that they can take the necessary steps to avoid or reduce the risk and prepare for an effective response. The PDMC must prepare and issue hazard warnings of provincial significance in a timely and effective manner and ensure that the warnings are disseminated to those communities known to be most at risk, including those in isolated and/or remote areas.

8.3. Assessment, classification, declaration and review of a disaster. To ensure immediate and appropriate response and relief actions when significant events or disasters occur or are threatening to occur, clear guidelines for the measures that have to be taken need to be established.

- a. **Assessment of a disaster.** The PDMC must in consultation with the PDMAF develop a uniform guideline for assessing significant events and/or disasters and the guidelines must include protocols for coordinating specific activities associated with disaster response and relief efforts.

- b. **Classification of and the declaration of a state of disaster.** With the exception of a security-related event, the responsibility for strategic coordination in responding to national disaster or significant event which occurs or threatens to occur rests with the Head of the PDMC. The Head of the PDMC must make recommendations whether a state of disaster should be declared.
- 8.4. **Disaster reviews and reports.** Comprehensive reviews must be conducted routinely after all significant events and events classified as disasters. The PDMC must provide guidance on the review process.
- 8.5. **Integrated response and recovery.** The PDMAF must allocate the responsibility for coordinating response to a specific known rapid- and slow-onset significant events and/or disasters to a specific organ of state. Mechanisms for the activation and mobilisation of additional resources for response and recovery measures must be clearly set out in operational plans.
 - 8.5.1. Each agent identified in the response management system must establish standard operating procedures (SOP's), which includes common terminology, for coordinating response and recovery operations.
- 8.6. **Emergency communication system.** In view of the critical role of interagency communication in the management of incidents, significant events and disasters, the PDMC must give priority attention to the development of an emergency communication system for this purpose. (See Enabler 1)
- 8.7. **Media relations.** The Head of the PDMC must make provision for a dedicated media liaison officer, which is attached to the PDMC.
- 8.8. **Regulations and directives for response and recovery operations.** The PDMC must ensure the development of regulations and directives to standardise and regulate the practice and management of response and recovery operations throughout the province.
- 8.9. **Relief measures.** The PDMC must initiate and coordinate the development of regulations to address:
 - a. Responsibilities for the release of appeals for donations.
 - b. Standards of relief.
 - c. Duration of relief efforts.
 - d. Acceptance of international assistance
 - e. Limpopo's assistance to neighbouring countries.

8.10. **Rehabilitation and reconstruction.** In order to ensure a holistic approach to rehabilitation and reconstruction the organ of state tasked, by the PDMAF, with the primary responsibility for a known hazard must facilitate the establishment of project teams for this purpose.

9. **ENABLER 1: INFORMATION MANAGEMENT AND COMMUNICATION**

9.1. **Objective.** Guide the development of a comprehensive information management and communication system and establish integrated communication links with all disaster risk management role-players.

9.1.1. Integrated disaster risk management depends on access to a reliable hazard and disaster risk information as well as effective information management and communication systems to enable the receipt, dissemination and exchange of information. It requires systems and processes that will:

- a. Provide an institutional resource database, including a reporting and performance management facility.
- b. Facilitate information exchange between primary interest groups.
- c. Facilitate risk analysis, disaster risk assessment, mapping, monitoring and tracking.
- d. Guide and inform focussed risk management and develop planning and decision-making process.
- e. Facilitate timely dissemination of early warnings, public awareness and preparedness especially for people at risk, households, communities, areas and developments.
- f. Enable timely and appropriate decision making to ensure rapid and effective response and recovery operations.
- g. Facilitate integrated and coordinated multi-agency response management.
- h. Record and track real-time disaster development as well as response and recovery information.
- i. Facilitate education, training and research in disaster management.
- j. Facilitate funding and financial management for the purpose of disaster risk management.

9.2. **Establishing an information management communication system.** The information management and communication management system must include the establishment of communication links between disaster management centres and those likely to be affected by disaster risks as well as other role-players involved in disaster risk management.

9.3. **Data acquisition.** The PDMC must perform a detailed analysis of the data needs for each KPA and Enabler to ensure the objectives of the Act and the national disaster management framework are met.

The Head of the PDMC is in need of planning information, control information and operational information.

9.4. **There are three distinct phases requiring specific information:**

Pre-disaster risk reduction:

- 9.4.1. **Mitigation.** Mitigation information enables the disaster manager and those at risk to take specific sustained actions to reduce or even eliminate long-term risk to people and property from hazards and their effects.
 - 9.4.2. **Preparedness.** Preparedness information pertains to policy, financial and technical assistance, training and exercises etc. to effect timeous preparation and or response so as to ensure an effective recovery effort. Information regarding early warning systems, different institutional response capacities, emergency equipment and supplies, evacuation of potential victims, the provision of food and water, shelter, medical care, the proximity of resources and information on restoring critical public services must be available. Information on specific service providers e.g. hazardous material responders, search and rescue specialists, trauma teams etc. also need attention.
 - 9.4.3. **Prevention.** Prevention information pertains to measures aimed at impeding hazard manifestation and or preventing hazard manifestation from having harmful effects on those at risk. Information on indigenous knowledge and natural coping skills are useful for prevention.
- 9.5. **Disaster response.** Disaster response information pertains to information needed for conducting emergency operations to save lives and property (specific disaster related needs). It is also important to be able to assess hazard impact, new hazard related vulnerabilities and risks. Essential information needs applicable to each step in this phase are:
- 9.5.1. Prioritise needs:
 - a. Results of assessments of immediate and longer term needs of the affected population.
 - b. Clearly defined organizational mission/mandate.
 - 9.5.2. Assess material and financial resources as well as local capabilities and limitations:
 - a. Inventory of existing and expected response resources (cash, in-kind, human) of all organizations.
 - b. Assessment results of status of coping mechanism, of degree of social disruption of affected population.
 - 9.5.3. Identify the operations goals, what and how much assistance is required and potential cost:
 - a. Organizations mission/strategic plans.
 - b. Listing of needed inputs.
 - c. Prevailing and expected prices of inputs.

- 9.5.4. Define a set of realistic objectives, to ensure that goals can be met:
 - a. Results of damage assessments (health and medical facilities; agricultural land; industrial and commercial facilities; transportation networks; telecommunications systems).
 - b. Location of affected population.
 - c. Exact number of target group.
 - d. Expected duration of disaster/emergency.
- 9.5.5. Generate range of alternative methods and tasks to accomplish the objectives:
 - a. Available and expected staff and expertise from own and partner organizations.
- 9.5.6. Choose the most effective and efficient methods and tasks:
 - a. Amount of time available for response.
 - b. Costs of inputs.
 - c. Proximity of respondents to affected area.
 - d. Skills and availability of staff.
- 9.5.7. Identify who is responsible for implementing chosen methods and tasks:
 - a. Proximity of respondents to affected area.
- 9.5.8. Devise means to monitor and evaluate plan implementation:
 - a. Availability of staff/expertise and transport.
- 9.5.9. Establish procedures to adjust plan of action:
 - a. Agreed measures of success or failure.
 - b. Likely constraints to prepared operations plan.

This implies that emergency operations need early warning and vulnerability information, disaster and needs assessment information and monitoring and evaluation information.

9.6. **Post-disaster recovery:**

- 9.6.1. Rehabilitation. Information regarding actions to be taken in the aftermath of a disaster to be able to restore basic services, to assist victims' self-help efforts (natural coping skills) to repair dwellings and infrastructure and to assist economic recovery. Environmental rehabilitation also needs attention.
- 9.6.2. Reconstruction. This aspect links very closely with mitigation and prevention and the reconstruction process could very well also form part of the pre-disaster risk reduction phase.

All of the above information is rendered useless if it cannot be used therefore information on how and to who to disseminate data is of the utmost importance as it could potentially have life threatening consequences.

- 9.7. **Information needs of the community**. Community compilation could vary from professional to illiterate and isolated groupings. All of these have their own specific information needs, which will obviously vary from advanced scientific specific issues to the enhancement of basic coping skills. Also the range of technological tools available to the variety of communities will vary

greatly. Basically a community is a definable group of people who have something in common.

9.7.1. Public information needs are determined by:

- a. The type of information needed.
- b. How much information is needed?
- c. How, when and by whom it will be used.
- d. In what form the information is needed.

9.7.2. In the Limpopo Province not all inhabitants or visitors are aware of the potential hazards. In making communities aware of potential hazards, vulnerabilities and risk capacitating information should be hazard specific to enable them to:

- a. Prepare, mitigate and prevent,
- b. Respond and
- c. Recover.

9.7.3. Some special considerations that need to be taken into account *inter alia* include:

- a. Language groups.
- b. Literacy levels.
- c. Gender.
- d. Disability groups.
- e. Regional economic development.
- f. Cultural diversity/practices.
- g. Available technology.
- h. Social predispositions.
- i. Access to utility services.
- j. Natural resource availability.

9.7.4. Community information needs will, *inter alia*, include:

- a. Disaster background information.
- b. Hazard specific preparedness, response and recovery information.
- c. Hazard specific survival skills e.g. water purification, food preparation, personal hygiene and business continuity plans.
- d. Communication lines for reporting (emergency numbers).
- e. Weather information (early warnings, event updates and end of alert).
- f. Disaster occurrence information covering initial impact reports, updates and aspects relating to response.
- g. Relief information.
- h. Arrangements concerning pets and livestock.
- i. "End of disaster" notifications.

- j. Post-disaster information relating to assessment, recovery and rehabilitation measures.
- k. Trauma counselling.

9.7.5. The Head of the PDMC ensure that community information needs will:

- 9.7.5.1. Increase their capacity to prepare, prevent and mitigate for and respond and recover from a disaster in their specific environment.
- 9.7.5.2. Address social, cognitive and organizational needs in the pre- and post disaster phases as well as response needs.
- 9.7.5.3. Support the changing roles of individuals and organizations, as there is a need to adapt to shifting needs during disasters without compromising established disaster management guidelines.

9.7.6. The main challenge is to provide information to communities in a form that will allow them to make their own decisions. Emergency managers need the knowledge, skills and attitudes to enable them to work with communities rather than just for them. This statement implies a partnership between the disaster manager and the different communities in his area of responsibility.

9.8. THE INFORMATION SYSTEM THAT MUST BE IN PLACE

9.8.1. **The information system that must be in place.** Accurate and immediate availability of information forms the core of any credible information management system. To be able to comply with this there is a need to:

- a. Locate the information.
- b. Assess and evaluate information integrity, currency and accuracy.
- c. Incorporate and integrate the new information.
- d. Apply applications that incorporate new information to produce modified, interpretable domain specific results.

9.8.2. Three essential elements of a complete information infrastructure are:

- a. **Knowledge infrastructure.** Encompasses the systems of measurement, methods of data visualization and exploitation, information analysis, event forecasting, knowledge modelling and data and information management.
- b. **Interconnectivity infrastructure.** Encompasses the modes of communication employed to retrieve and distribute data and to disseminate the information products, knowledge and understanding developed within the knowledge infrastructure.
- c. **Integration infrastructure.** Encompasses the process needed to ensure that the “mechanical” parts of the system are synchronized and that the “human” parts of the system are cooperating. The integration infrastructure is key to an effective overall information infrastructure as it addresses:
 - o The tracking of system performance to user requirements.

- The definition of standards and protocols necessary to ensure system interfaces are understood.
- The methods, processes, and procedures to ensure quality and reliability of the knowledge base.
- The training needed to ensure users can effectively use the system.

9.8.3. **Needs identification.** The first steps in establishing any information management systems are to:

- a. Monitor the external environment to identify problems as they evolve and to be responsive to issues that are identified from outside the system.
- b. Define the problems to be addressed.
- c. Identify the information requirements that flow from them.
- d. Identify who is to benefit from the information.

9.8.4. **Collection.** The collection plan (data gathering) should focus on the essential elements of information that have been identified, with collection priorities flowing from the profiles of need. In the process of data gathering it is important to employ all the data capture resources available (quantitative and qualitative). As part of the collection process the gathered information must be supplied to those who need it. Another important aspect is to involve the end users of the information in the construction and development of the collection process too not only ensure that their needs are satisfied, but to also maximise acceptance of the process by the users as well as the establishment of solid baseline. Important management functions include planning, organizing, controlling and influencing the collection process.

9.8.5. **Processing.** During this stage answers to the various questions are developed by converting data into information. This calls for a system that facilitates the collation, analysis, evaluation and interpretation of the data collected. It is crucial to ensure that information processing for disaster management is not totally dependent on technology or the skill and experience of one person. Information processing is not the sole responsibility of the disaster manager. Specialists could process data, but the end results need to be made available in a format that is easily understood and applicable. Therefore the aim is to supply the decision maker with information that can clarify particular problems and to make informed choices. As much as possible processing could and should be done during the pre-disaster risk reduction phase so as to ensure effective and timely hazard specific mitigation, prevention and preparedness. The most important attributes of information processing are:

- a. Timeliness – the delivery of data and information in time to drive decision-making.
- b. Consistency – delivery of data and information in a consistent and uniform manner.

- c. Understand ability – delivery of data and information in a manner that is appropriate and understandable in the target community.
- d. Accuracy- precision in measurement and observation.
- e. Flexibility, adaptability to multiple situations.

9.8.6. **Dissemination.** The final process in the cycle is the timely distribution of information to those who need it to make decisions. The inherent ability of modern distribution systems to present processed information in a variety of formats greatly assists the dissemination of information and also contributes to better understanding. It is of no use to only know end user information needs, as these needs have to be satisfied and could, *inter alia*, be addressed via:

- a. Simple text descriptions – easily understood and uncomplicated verified facts.
- b. Levels of warning – brief explanation of the hazard, its progression, cautionary advice and status.
- c. Simple diagrams – locality maps, DTM's including oblique views, north point, scale, full key, that is faxable or printable, preferably in black and white.
- d. Imagery – photographs, aerial photographs, and satellite imagery.
- e. Interpreted imagery as maps – reflecting pertinent items such as flood lines, lava flows and access/egress routes.
- f. Contact details – e-mail addresses, telephone/fax numbers of persons, services and installations.
- g. Registering for automatic updates – via telephone, e-mail and/or fax – in order to obtain latest developments.
- h. Meteorological data – updating on changing weather conditions.
- i. Hazard onset speed/rates – predictions on hazard movement/impact such as flood fronts and fire fronts in order to extrapolate events.
- j. Web links, addresses/phone/fax indicating “further information” which should include explanations as to value and information type.
- k. Information on other technology – web sites that refer to radio bulletins and vice versa.
- l. Documents (downloadable, printable copy able) publications covering warning notices, access maps and daily bulletins for display/distribution and personal accreditation/identity cards.

9.8.7. **Institutional memory.** Any information management system must have an inherent capability to record “lessons learnt”. In building this capacity it is important to have detail available on successes and failures during all three phases of the disaster management continuum. This information would give clarity on why certain decisions were or were not taken as well as the end result. The information management cycle continues as new problems are posed and new questions arise.

9.8.7.1. A successful information management system must be able to perform all of the following functions:

- a. Hazard, vulnerability and risk analysis.
- b. Quantitative and qualitative research coordination.
- c. Data administration.
- d. Baseline data identification.
- e. Effective communication and secure data sharing.
- f. Monitor preparedness, mitigation and preventative planning and implementation.
- g. Volunteer administration.
- h. Operate an early warning network.
- i. Early warning evaluation.
- j. Event mapping.
- k. Emergency response and specific tasking (activation).
- l. Resource deployment and monitoring.
- m. Monitor and evaluate:
 - n. Response.
 - o. Rehabilitation.
 - p. Reconstruction.
 - q. Executive Briefings.
- r. Control documentation – Standard Operating Procedures (SOPs), protocols, reports, framework for strategic decision taking, job descriptions, checklists etc.
- s. Identification of gaps in information.

9.8.7.2. The following are “compliance characteristics” that must be adequately addressed to ensure effective system operation:

Information Complexity	Understandable information products from complex data sources.
Use of Networks	Uniform modes of access for all sources and types of information.
Information Awareness	Easy ways to find out what exists and where to get it.
Timely Delivery	Efficient information retrieval, especially during and emergency.
Point of Action Data and Information	Information vital for deciding on specific actions.
Scalable and Flexible Information	Methods to accommodate multi-scale data and widely varying knowledge and experiences of users.
Standardization/Harmonization	Access to data sets compatible with user tools.
Quality	Ways to determine quality and reliability of data and information.
Security	Access to open, restricted and secret information as appropriate.

Policy	Interagency policies that enhance the flow of information.
Organization	A structure that will accommodate system development and management.
Life Cycle Information	Seamless flow of information between the disaster management continuum phases.

9.8.7.3. The performing of the mentioned functions and adherence to the compliance characteristics will give the disaster manager access to planning, controlling and operational information thereby creating an enabling environment in which informed decisions can be taken to solve problems.

9.8.8. Aspects in the information infrastructure and information available.

The aspects covered and list of information that the disaster manager should have available should, *inter alia*, at least cover:

9.8.8.1. Base Data:

- a. Topography.
- b. Political boundaries.
- c. Public land survey system.
- d. Geographic names.
- e. Demography.
- f. Land ownership/ land usage.
- g. Critical facilities.

9.8.8.2. Scientific Data:

- a. Hydrography / hydrology (surface and subsurface flows and levels).
- b. Soils.
- c. Geology: rock types/ages/properties/structures.
- d. Meteorology and climatology.
- e. Archaeology.
- f. Seismology: active faults, seismicity, seismic wave propagation, ground motion.
- g. Wildlife: habitat, spawning areas, breeding grounds ecological sensitive areas.

9.8.8.3. Engineering Data:

- a. Control structures: locks, dams and levees.
- b. Pump stations.
- c. Building codes and building inventories.
- d. Transportation, bridges and tunnels.
- e. Utility infrastructure, pipelines and power lines.
- f. Critical facilities.
- g. Communications systems.

9.8.8.4. Economic Data:

- a. Financial.
 - b. Employment.
 - c. Production.
 - d. Insurance: holdings and losses.
 - e. Exposure (economic risk).
- 9.8.8.5. Environmental Data:
- a. Threatened and endangered species.
 - b. Hazardous sites.
 - c. Water quality.
 - d. Critical facilities.
- 9.8.8.6. Response Data:
- a. Evacuation routes.
 - b. Personnel and resource management plans.
 - c. Aircraft routes.
 - d. Personnel deployment.
 - e. Equipment deployment.
 - f. Warning systems.
 - g. Shelters and sanctuaries.
 - h. Monitoring systems.
 - i. Loss estimates.
- 9.8.8.7. Cultural practices:
- a. Political stratification.
 - b. Economic practices.
 - c. Social Organization.
 - d. Traditional law.
 - e. Religion.
 - f. Languages.
 - g. Taboos.
 - h. Totems.
 - i. Gravesites.
- 9.8.8.8. Hazards:
- a. Types.
 - b. Frequency.
 - c. Known areas of impact (aerial extent)
 - d. Spatial dispersion.
 - e. Nature of exposure.
 - f. Duration.
 - g. Rate of onset.
 - h. Temporal spacing.
 - i. Magnitude.

9.8.9. The above data could be of either qualitative or quantitative origin, but

should be corroborated with baseline data to provide a context and check for newly obtained data. Data gathering is a continuous emergency management function as it is conducted throughout the disaster management continuum.

- 9.8.9.1. There is a wide range of data gathering techniques available to the disaster management practitioner, *inter alia*, including but not restricted to:
- a. Government records.
 - b. Research using accepted qualitative and quantitative information/ statistics.
 - c. Data gained/calculated from vaccination records, registrations, and administration and health records.
 - d. Census data
 - e. Interviews with key informants and or groups.
 - f. Topic and or subject specific questionnaires.
 - g. Data supplied by other institutions (partnerships/mutual aid agreements)
 - h. History of previous disasters including debrief reports/lessons learnt.
 - i. Case studies.
 - j. Workshops/seminars/meetings.
 - k. Satellite imaging, remote sensing and areal photography
 - l. Geographic Information System analysis.
 - m. Visual observations.
 - n. Scientific journals (research findings).
 - o. Networking with other local systems.
 - p. Internet.
 - q. Interagency liaison/inputs from other role players.
 - r. Plans e.g. local government integrated development plans.
 - s. Training courses.
 - t. Legislation.
 - u. Needs analysis.
 - v. Analysis of frequently asked questions.
 - w. Resource analysis.
 - x. Indigenous knowledge (local expertise).
- 9.10.9.1. Because the disaster manager operates in ever changing environments the frequency of data gathering (updating) is a constant process. The gathering and updating process must be executed in a planned, well-organized approach. Some approaches to constantly be able to update available information, *inter alia*, include:
- a. Tabletop and actual exercises (simulations).
 - b. Rostered review of information.
 - c. Automated system prompts.
 - d. Regular debriefings (lessons learnt).
 - e. Review of research findings.
 - f. Information suppliers contractually bound to update information.
 - g. Setting of compliance standards.
 - h. Identification of new data sources.
 - i. Constant review of system architecture to ensure information needs satisfaction.

10. ENABLER 2: EDUCATION, TRAINING, PUBLIC AWARENESS AND RESEARCH

- 10.1. **Objective.** Promote a culture of risk avoidance among stakeholders by capacitating role-players through integrated education, training and public awareness programs informed by scientific research.
- 10.2. **Provincial education, training and research needs and resource analysis.** It is the responsibility of the PDMC to coordinate a provincial education, training and research needs and resources analysis. A repetitive analysis must be conducted to determine the disaster management education, training and research needs of those involved in disaster risk management. The needs and resource analysis must include an audit of existing resources.
- 10.2.1. The PDMC must ensure compliance with the national disaster management education and training framework.
- 10.3. **Creating awareness, promoting a culture of risk avoidance and establishing good media relations.** A provincial integrated public awareness strategy must be developed and implemented to encourage risk-avoidance behaviour by all stakeholders involved in disaster risk management with special attention to schools and communities known to be at risk.
- 10.4. **Research.** The Head of the PDMC must ensure that research is in accordance with the national disaster risk reduction agenda. Special attention must be given to disaster risk management needs for the IDP.

11. ENABLER 3: FUNDING ARRANGEMENTS FOR DISASTER RISK MANAGEMENT

- 11.1. **Objective.** Establish mechanisms for the funding of disaster management.
- 11.1.1. Any funding arrangements must be consistent with the principles set out in the Act and any other related legislation and policies. The management of intergovernmental transfers must be grounded in public finance theory.
- 11.2. **Funding arrangements.** There must be clear funding arrangements for:
- a. Start-up costs.
 - b. Disaster risk management ongoing operations.
 - c. Disaster risk reduction.
 - d. Response, recovery and rehabilitation activities.
 - e. Training and capacity-building programs.
- 11.3. Funding is to be done through provincial departments paying 2% of their annual budget into a centralised provincial disaster risk management fund.