

Introduction: A policy framework for disaster risk management in South Africa

South Africa's disaster risk management context

South Africa faces increasing levels of disaster risk. It is exposed to a wide range of weather hazards, including drought, cyclones and severe storms that can trigger widespread hardship and devastation. In addition, South Africa's extensive coastline and proximity to shipping routes present numerous marine and coastal threats. Similarly, our shared borders with six southern African neighbours present both natural and human-induced cross-boundary risks, as well as humanitarian assistance obligations in times of emergency.

In addition to these natural and human-induced threats and despite ongoing progress to extend essential services to poor urban and rural communities, large numbers of people live in conditions of chronic disaster vulnerability – in underserved, ecologically fragile or marginal areas – where they face recurrent natural and other threats that range from drought to repeated informal settlement fires.

Severe floods in Cape Town's historically disadvantaged Cape Flats in June 1994 profiled the urgency for legislative reform in the field of disaster risk management, stimulating a consultative process which resulted in Green and White Papers on Disaster Management. These important discussion and policy documents afforded opportunity for consultation with multiple stakeholder groups and provided the platform for development of draft legislation in 2000 that was consistent with emerging international trends in disaster risk reduction.

Such sustained, committed and concerted efforts with regard to disaster risk management reform by the government and a wide range of stakeholders were reflected in the promulgation of the Disaster Management Act, 2002 (Act No. 57 of 2002) on 15 January 2003.

The Act provides for:

- an integrated and co-ordinated disaster risk management policy that focuses on preventing or reducing the risk of disasters, mitigating the severity of disasters, preparedness, rapid and effective response to disasters, and post-disaster recovery
- the establishment of national, provincial and municipal disaster management centres
- disaster risk management volunteers
- matters relating to these issues.

The Act recognises the wide-ranging opportunities in South Africa to avoid and reduce disaster losses through the concerted energies and efforts of all spheres of government, civil society and the private sector. However, it also acknowledges the crucial need for uniformity in the approach taken by such a diversity of role players and partners.

The national disaster management framework is the legal instrument specified by the Act to address such needs for consistency across multiple interest groups, by providing 'a coherent, transparent and inclusive policy on disaster management appropriate for the Republic as a whole' (section 7(1)).

In this context, the national disaster management framework recognises a diversity of risks and disasters that occur in southern Africa, and gives priority to developmental measures that reduce the vulnerability of disaster-prone areas, communities and households. Also, in keeping with international best practice, the national disaster management framework places explicit emphasis on the disaster risk reduction concepts of disaster prevention and mitigation as the core principles to guide disaster risk management in South Africa.

The national disaster management framework also informs the subsequent development of provincial and municipal disaster management frameworks and plans, which are required to guide action in all spheres of government.

Structure of the national disaster management framework document

The national disaster management framework comprises four key performance areas (KPA) and three supportive enablers required to achieve the objectives set out in the KPAs. The KPAs and enablers are informed by specified objectives and, as required by the Act, key performance indicators (KPIs) to guide and monitor progress. In addition, each KPA and enabler concludes with a list of guidelines that will be disseminated by the NDMC to support the implementation of the framework in all three spheres of government.

Key performance area 1 focuses on establishing the necessary institutional arrangements for implementing disaster risk management within the national, provincial and municipal spheres of government. It specifically addresses the application of the principle of co-operative governance for the purpose of disaster risk management. It also emphasises the involvement of all stakeholders in strengthening the capabilities of national, provincial and municipal organs of state to reduce the likelihood and severity of disasters. KPA 1 describes processes and mechanisms for establishing co-operative arrangements with international role players and countries within southern Africa.

Key performance area 2 addresses the need for disaster risk assessment and monitoring to set priorities, guide risk reduction action and monitor the effectiveness of our efforts. Although

A note on terminology

Disaster risk management

The term 'disaster risk management' refers to integrated multisectoral and multidisciplinary administrative, organisational and operational planning processes and capacities aimed at lessening the impacts of natural hazards and related environmental, technological and biological disasters. This broad definition encompasses the definition of 'disaster management' as it is used in the Disaster Management Act, 2002 (Act No. 57 of 2002). However, where appropriate, the more updated term 'disaster risk management' is preferred in this framework because it is consistent with the use of the term internationally.

Disaster risk reduction

Similarly, the preferred term 'disaster risk reduction' is used throughout this framework. It refers to all the elements that are necessary to minimise vulnerabilities and disaster risks throughout a society. It includes the core risk reduction principles of prevention, mitigation and preparedness.

South Africa faces many different types of risk, disaster risk specifically refers to the likelihood of harm or loss due to the action of hazards or other external threats on vulnerable structures, services, areas, communities and households. KPA 2 outlines the requirements for implementing disaster risk assessment and monitoring by organs of state within all spheres of government.

Key performance area 3 introduces disaster risk management planning and implementation to inform developmentally-oriented approaches, plans, programmes and projects that reduce disaster risks. KPA 3 addresses requirements for the alignment of disaster management frameworks and planning within all spheres of government. It also gives particular attention to the planning for and integration of the core risk reduction principles of prevention and mitigation into ongoing programmes and initiatives.

Key performance area 4 presents implementing priorities concerned with disaster response and recovery and rehabilitation. KPA 4 addresses requirements in the Act for an integrated and co-ordinated policy that focuses on rapid and effective response to disasters and post-disaster recovery. When a significant event or disaster occurs or is threatening to occur, it is imperative that there must be no confusion as to roles and responsibilities and the necessary procedures to be followed. KPA 4 describes measures to ensure effective disaster response, recovery and rehabilitation planning.

Enabler 1 focuses on priorities related to the establishment of an integrated and comprehensive information management and communication system for disaster risk management. More specifically, it addresses the information and communication requirements of each KPA and Enablers 2 and 3 and emphasises the need to establish integrated communication links with all disaster risk management role players in national, provincial and municipal spheres of government.

Enabler 2 addresses disaster risk management priorities in education, training, public awareness and research. This enabler describes mechanisms for the development of education and training programmes for disaster risk management and associated professions and the incorporation of relevant aspects of disaster risk management in primary and secondary school curricula. It addresses requirements to promote and support a broad-based culture of risk avoidance through strengthened public awareness and responsibility. It also discusses priorities and mechanisms for supporting and developing a coherent and collaborative disaster risk research agenda.

Enabler 3 sets out the mechanisms for the funding of disaster risk management in South Africa.

1. Key performance area 1: Integrated institutional capacity for disaster risk management

Relevant sections of
the Disaster
Management Act,
2002

s 7(1), s7(2)(a),
7(2)(c–e),
s 7(2)(l)

Objective

Establish integrated institutional capacity within the national sphere to enable the effective implementation of disaster risk management policy and legislation.

Introduction

The Disaster Management Act, 2002 (Act No. 57 of 2002), hereafter referred to as ‘the Act’, requires the establishment of a national disaster management centre (NDMC) responsible for promoting integrated and co-ordinated national disaster risk management policy. The Act gives explicit priority to the application of the principle of co-operative governance for the purpose of disaster risk management and emphasises the involvement of all stakeholders in strengthening the capabilities of national, provincial and municipal organs of state to reduce the likelihood and severity of disasters. The Act also calls for the establishment of arrangements for co-operation with international role players and countries in the region. This KPA focuses on the mechanisms that need to be established to give effect to these requirements.

Outline

Section 1.1 discusses the establishment of effective arrangements for the development and adoption of integrated disaster risk management policy in South Africa.

Section 1.2 addresses the arrangements for the integrated direction and implementation of disaster risk management policy.

Section 1.3 sets out the arrangements required for stakeholder participation and the engagement of technical advice in disaster risk management planning and operations.

Section 1.4 describes the arrangements for national, regional and international co-operation for disaster risk management.

1.1 Arrangements for the development and adoption of integrated disaster risk management policy

1.1.1 Intergovernmental Committee on Disaster Management

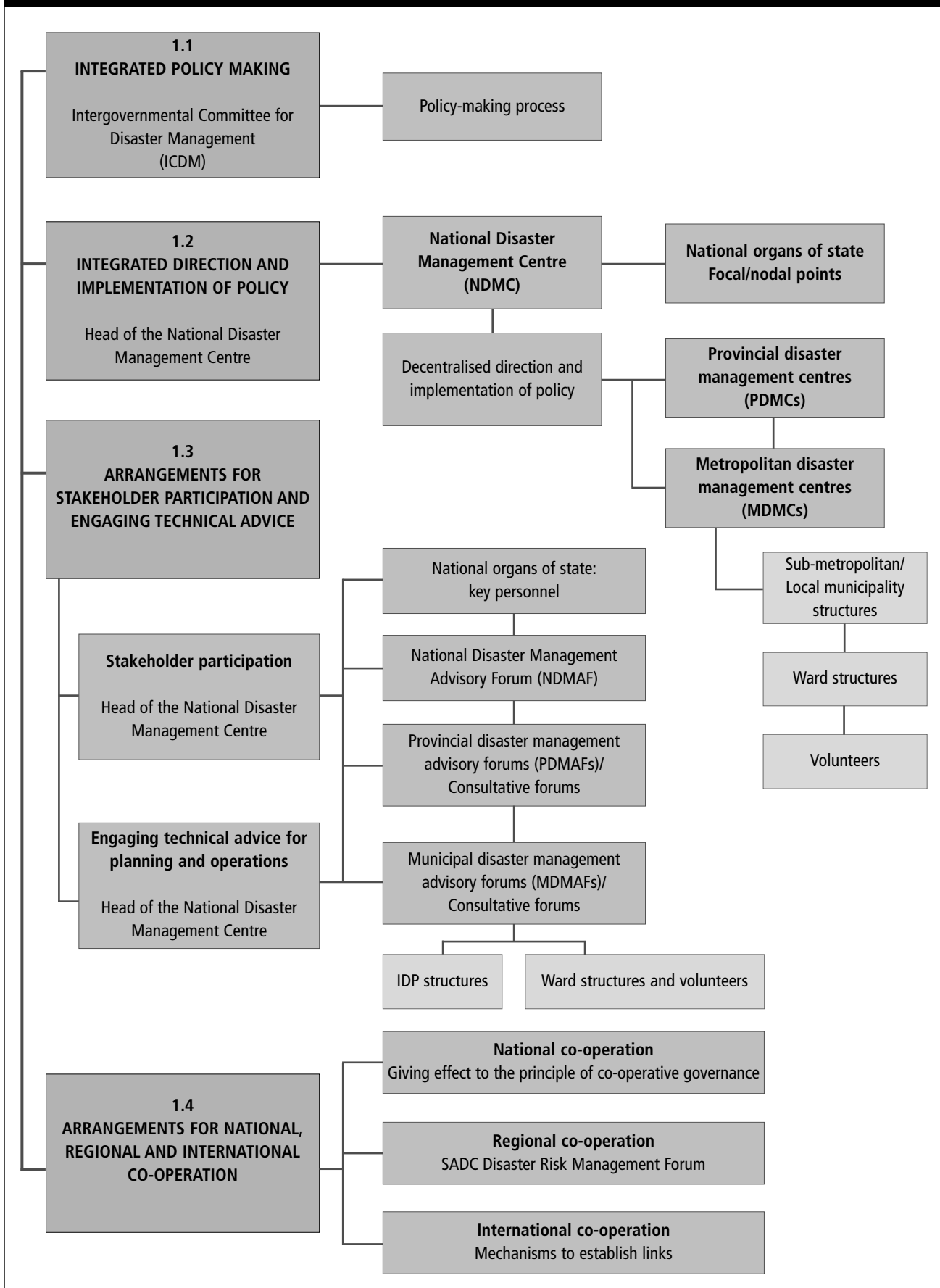
s 4

The NDMC is responsible for establishing effective institutional arrangements for the development and approval of integrated disaster risk management policy. One way of achieving this is through intergovernmental structures. In this regard, the Act calls for the establishment of an Intergovernmental Committee on Disaster Management (ICDM). The ICDM must be established by the President and include representatives from all three spheres of government. It must be chaired by the Cabinet member designated by the President to administer the Act.

s 1(a–b), s 4(1)(a),
s 4(2)

The ICDM must consist of Cabinet members involved in the management of disaster risk or the administration of other national legislation aimed at dealing with an occurrence defined as a disaster in terms of section 1 of the Act. It must include Cabinet members holding the following portfolios:

Figure 1.1: Integrated institutional capacity for disaster risk management



- Agriculture and Land Affairs
- Defence
- Education
- Environmental Affairs and Tourism
- Foreign Affairs
- Health
- Home Affairs
- Housing
- Minerals and Energy
- National Treasury
- Provincial and Local Government
- Public Works
- Safety and Security
- Social Development
- The Presidency
- Transport
- Water Affairs and Forestry.

- s 4(1)(b) Each province must be represented on the ICDM by the Member of the Executive Council (MEC) involved in disaster risk management or the administration of other national legislation aimed at dealing with an occurrence defined as a disaster in terms of section 1 of the Act. The MEC must be selected by the Premier of the province concerned.
- s 4(1)(c) Organised local government must be represented on the ICDM by members of municipal councils selected by the South African Local Government Association (SALGA).
- The ICDM is accountable to Cabinet for:
- s 4(3)(a) • ensuring that appropriate mechanisms and institutional arrangements are in place to give effect to co-operative governance
- s 4(3)(b) • co-ordinating disaster risk management by establishing joint standards of practice between the spheres of government as well as between a particular sphere of government and relevant role players.
- s 4(3)(c)(ii) The ICDM must advise and make recommendations to Cabinet on issues relating to disaster risk management and the establishment of the national disaster management framework.
- The ICDM should meet at least four times a year. Circumstances prevailing at the time may determine whether the Minister:
- convenes a full meeting of the ICDM
 - convenes a meeting of only those members directly involved with or affected by the business in hand
 - refers the matter to the relevant Cabinet cluster committee/s
 - opens the ICDM to Ministers who carry other relevant portfolios, such as Public Service and Administration, the National Intelligence Agency, the Independent Communications Authority of South Africa and Statistics South Africa.
- s 7(2)(d) Apart from addressing disaster risk management issues in meetings of the ICDM, the Minister may also choose to raise disaster risk management issues in the Ministers and Members of the Executive Council (MinMEC) forum.

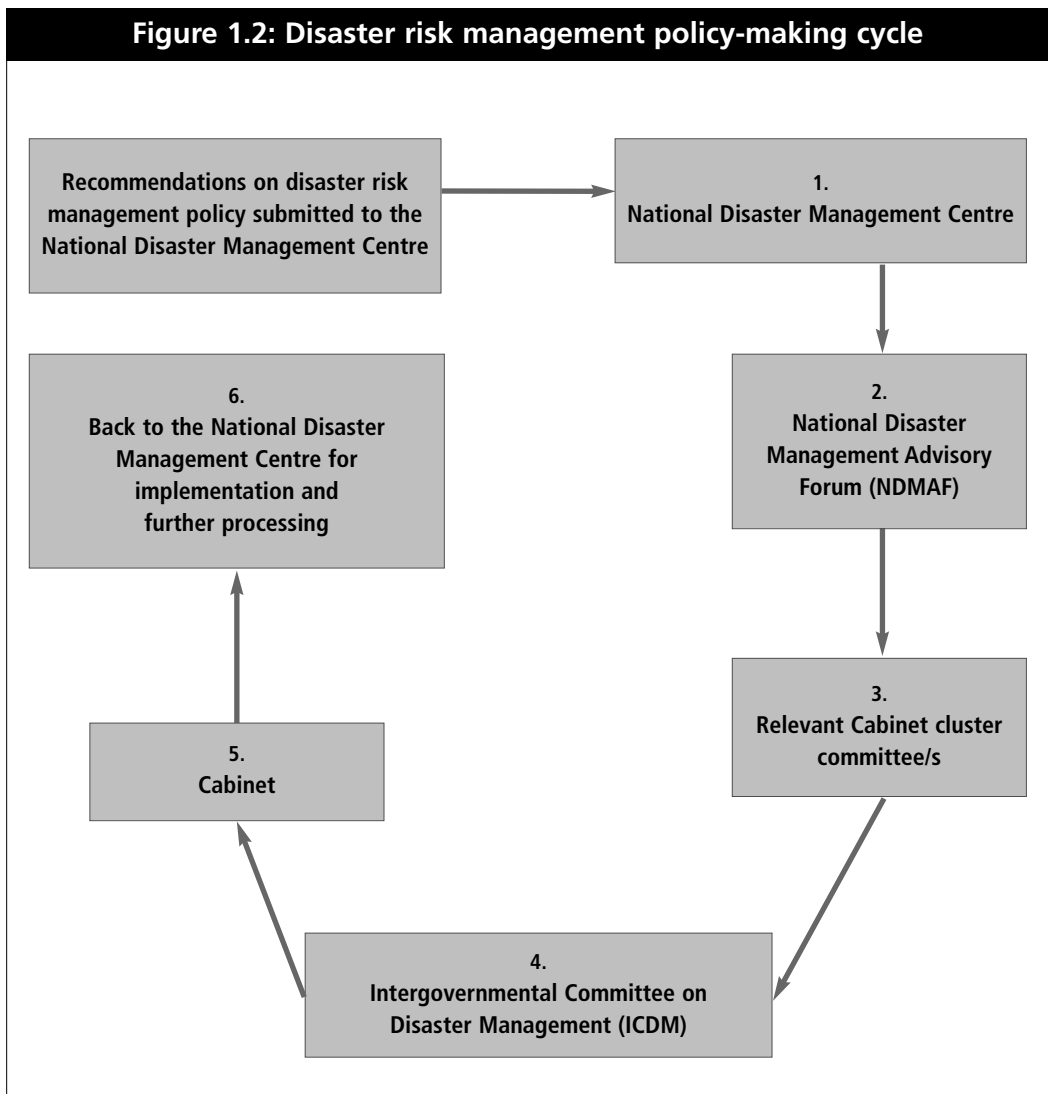
1.1.2 Policy-making process

s 5(3)(b)(i)

Recommendations on issues relating to disaster risk management policy must be submitted to the NDMC for consideration before being submitted to the National Disaster Management Advisory Forum (NDMAF) (see subsection 1.3.1.1 below) and, thereafter, the ICDM.

To allow due consideration to be given to such recommendations, the NDMC must ensure that the financial, constitutional, human resource and interdepartmental implications of the recommendations are included in the documentation submitted to the NDMAF, the relevant Cabinet cluster committee/s (where necessary), and the ICDM.

In view of the multisectoral nature of disaster risk management matters, the NDMC must submit all memoranda containing policy proposals related to disaster risk management legislation and implementation to the relevant Cabinet cluster committee/s for assessment and further recommendations before sending them to the ICDM and thereafter Cabinet. Figure 1.2 illustrates the process for the submission of policy recommendations for disaster risk management.



s 7(2)(m), s 21

1.1.3 Key performance indicators

- The ICDM has been established and is operating effectively.
- Mechanisms for developing and adopting disaster risk management policy have been established and put into operation.

1.2 Arrangements for integrated direction and implementation of disaster risk management policy

s 8, s 9

The Act calls for the establishment of a national disaster management centre to achieve the objective of promoting an integrated and co-ordinated system of disaster risk management. The Act also requires the establishment of a disaster management centre in each province and metropolitan and district municipality.

1.2.1 Location of the disaster risk management function and planning

The co-ordination of the disaster risk management function – through the various government departments at both national and provincial levels, within municipal administrations, and through integrated planning and programming – requires an unbiased overview. Effective co-ordination demands that the various disaster management centres be granted the necessary authority to give effect to their respective disaster management frameworks and to ensure that all disaster risk management-related activities are aligned with government policy.

The NDMC (as well as provincial and municipal disaster management centres) must at all times maintain an unbiased overview and must have the authority, backed by political will, to fulfil its objectives and responsibilities with regard to the improvement of disaster risk management planning, preparedness, and response and recovery across the various organs of state and sectoral role players with individual responsibilities for disaster risk management. The efficiency with which a disaster management centre will be able to perform these functions will depend on its ability to fast-track decision making and minimise red tape.

s 15(1)(b), s 18,
s 25(3)(a–b), s 60

The Act gives the NDMC and provincial and municipal disaster management centres the necessary legislative authority to compel organs of state and other role players to make relevant information available. However, exercising such authority could prove extremely problematic from within a national, provincial or municipal line function department which has a sectoral bias.

s 3

If the NDMC and provincial and municipal disaster management centres are to achieve their objectives, they must be granted the necessary stature and must be able to operate in environments that are robust and seamless. This would be achieved by the establishment of a South African disaster risk management authority or similar entity.

s 3, s 4(1)

Until the establishment of such an authority or entity, an interim measure would be to locate the NDMC in a national department closest to the highest level of decision making and able to cut across departments with individual responsibilities for disaster risk management. Alternatively, given that the co-ordination of the functions of government departments and administrations falls within the ambit of the President's executive authority (Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)), a suitable

location for the NDMC would be in the Presidency. This will not only demonstrate the level of the government's commitment to disaster risk reduction and the integration of disaster risk reduction into developmental initiatives, but also facilitate the fast-tracking of decision making and improved disaster risk management planning and implementation.

In the provincial sphere, provincial disaster management centres (PDMCs) also need to be located closest to the highest level of decision making in their respective provinces and should have the authority to cut across departments which have individual responsibilities for disaster risk management. An interim measure in anticipation of the establishment of a South African disaster risk management authority or similar entity is to locate the PDMC in the Office of the Premier of the relevant province.

The location of the disaster risk management function in the municipal sphere must be given careful consideration. Contrary to popular thinking in the past, disaster risk management is neither a line function nor an emergency service. Rather, it must be seen as a management function within the municipal arena. If municipal disaster management centres (MDMCs) are to fulfil their responsibilities, they need to be located closest to the highest level of decision making and should be able to cut across departments involved with disaster risk management. Until the establishment of a South African disaster risk management agency or entity, it is strongly recommended that the MDMC be located in the Office of the Mayor or Executive Mayor, as the case may be.

1.2.2 National disaster management centre

s 9, s 15 The NDMC is the principal functional unit for disaster risk management in the national sphere. In essence, the NDMC is responsible for guiding and developing frameworks for government's disaster risk management policy and legislation, facilitating and monitoring their implementation, and facilitating and guiding cross-functional and multidisciplinary disaster risk management activities among the various organs of state.

s 12(2), s 15(3)(a–d) The NDMC must exercise its powers and perform its duties:

- within the national disaster management framework
- subject to the direction of the Minister responsible for the administration of the Act
- in accordance with the instructions of the Director-General of the department responsible for administering the Act.

s (10)(i), s 12(1)(a–b), s 15 s 11 The Head of the NDMC is appointed by the Minister. The Head is responsible for ensuring that the NDMC exercises its powers and performs its duties as described in section 15 of the Act, and takes all decisions with regard to the centre. The Head of the NDMC may delegate or assign the functions of office to another official in the event that he or she is absent or otherwise unable to perform the functions of office. The delegation or assignment of powers and duties to another official should be effected by the Director-General of the department responsible for administering the Act.

s 15(1)(d) The NDMC acts in an advisory capacity to the ICDM and provides secretarial support for the ICDM and the NDMAF (see subsection 1.3.1.1 below).

1.2.2.1 Key responsibilities of the NDMC

s 15(1–4), s 21 The Act requires the NDMC to:

- establish and maintain institutional arrangements that will enable implementation of the provisions of the Act

- implement measures that will provide for the development of progressive disaster risk profiles to inform planning and implementation of disaster risk reduction strategies
- monitor progress with the preparation and updating of disaster risk management plans and strategies by organs of state involved in disaster risk management
- ensure the development, implementation and maintenance of disaster risk reduction strategies, which will result in resilient areas, communities, households and individuals
- monitor the integration of disaster risk reduction initiatives with development plans
- facilitate the development of response and recovery plans to ensure rapid and effective response to disasters that are occurring or are threatening to occur and to mitigate the effects of those disasters that could not have been prevented or predicted
- provide support to provincial and municipal disaster management centres to implement awareness programmes for the purpose of disaster risk reduction in communities exposed to specific hazards
- assist with the establishment of mechanisms for creating public awareness to inculcate a culture of risk avoidance
- guide the development of a comprehensive information management and communication system
- make provision for a national education, training and research strategy
- develop, implement and maintain dynamic disaster risk management monitoring, evaluation and improvement programmes
- measure performance to evaluate effectiveness of disaster risk management and risk reduction initiatives
- monitor compliance with the Act, particularly sections 21, 56 and 57, as well as with the key performance indicators outlined in the national disaster management framework
- make recommendations on the funding of disaster risk management and initiate and facilitate efforts to make such funding available.

1.2.2.2 Direction and operational capacity of the NDMC

The minimum criteria for the establishment and optimal performance of the NDMC are outlined below.

Head of the NDMC

s 12, s 15(1)(b), s 23

The performance of the duties of the NDMC and the responsibilities of the Head of the NDMC will require excellent judgement, problem-solving and strategic decision-making skills, and sound managerial and financial acumen. Inevitably, when a disaster occurs or is threatening to occur, independent decisions will have to be made under extremely stressful conditions. Critical decisions, which of necessity would have to be made on the spur of the moment, could have far-reaching effects on the economy, the lives of people, critical national infrastructure and property, and the environment.

s 7

The diverse and complex nature of the disaster risk management function involves wide consultation and co-operation – not only within the spheres of government, but also nationally, regionally and internationally – requiring good communication skills and diplomacy.

s 10(2)

Accordingly, the qualifications and experience of the incumbent must be commensurate with the requirements of the post.

Staffing

s 13

The Head of the NDMC must have suitably qualified disaster risk management and other technical staff, including disaster risk reduction specialists, disaster risk scientists,

planners and information scientists, to perform the duties relevant to the requirements of the national disaster risk management objective and disaster risk management programmes.

Minimum infrastructural requirements

The minimum infrastructural requirements necessary to enable the NDMC (and provincial and municipal disaster management centres) to operate optimally are:

s 19, s 20, s 21, s 23,
s 25, s 26, s 27
s 17, s 18, s 19
s 16, s 17, s 20, s 22

- a disaster operations centre for the facilitation of disaster risk management planning and operations and multidisciplinary strategic management of disaster operations
- an integrated information management and communication system (see Enabler 1).
- a central communications centre, including the establishment and maintenance of a central 24-hour communications facility for reporting purposes as well as for managing the dissemination of early warnings and co-ordinating activation and response to significant events and disasters
- a media and public information service that makes provision for two-way communication within communities and among individuals by providing information on disaster risk reduction strategies, preparedness, response, recovery and all other aspects of disaster risk management, as well as providing communities with the mechanisms for obtaining access to assistance in the event of an emergency and for reporting important local information to the relevant disaster management centre
- an education, training and research facility
- adequate office accommodation and facilities for operational personnel.

s 16, s 17, s 22, s 23,
s 26, s 27

s 15(1)(h), s 20, s 22
s 13

Infrastructure must be established in accordance with national guidelines developed by the NDMC.

1.2.3 Roles and responsibilities of national organs of state

s 2, s 7(2)(a),
s 7(2)(e), s 19(b),
s 19(d), s 25(1)(a–b)
s 2(1)(b), s 7(2)(d),
s 7(2)(f)

National departments must assess any national legislation applicable to their function in terms of section 2 of the Act and advise the NDMC on the state of such legislation.

s 19, s 20,
s 21, s 25, s 56

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. These responsibilities must be reflected in the job descriptions of the relevant role players and appropriate key performance indicators must be provided.

s 7(2)(m),
s 25(1)(a)(iv)

s 7(2)(f)(iii)

In terms of the Act, each national organ of state must determine its role and responsibilities in relation to disaster risk management and assess its capacity to adhere to the requirements of the Act, particularly with reference to setting priorities for disaster risk reduction initiatives (see section 3.2 below) and for response and recovery. Such capacity must be supplemented, where necessary, by collateral support and the sharing of resources among organs of state, and by harnessing the capacity of the private sector and non-governmental organisations (NGOs). The parameters of such assistance must be clearly defined in memoranda of understanding.

s 7(2)(d)(ii)

Each national 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 on the NDMAF. This individual will be responsible for:

- facilitating and co-ordinating the relevant department's disaster risk management arrangements and planning for disaster risk reduction, response and recovery

- ensuring that such arrangements and plans are consistent with the national disaster management framework
- facilitating the alignment of the arrangements and plans with those of other organs of state and other institutional role players
- integrating disaster risk management planning processes with national and provincial initiatives and Integrated Development Plans (IDPs) (see subsection 3.4 below)
- regularly reviewing and updating disaster risk management plans
- ensuring that requests for information from the NDMC are responded to in terms of section 18 of the Act.

These responsibilities must be included in the job description of the relevant appointee and appropriate key performance indicators must be included.

1.2.4 Provincial disaster management centres

The MEC of each province who is responsible for disaster risk management must establish institutional capacity for disaster risk management in the province. Such arrangements must be consistent with national arrangements and must provide the appropriate mechanisms to allow for the application of co-operative governance to facilitate both intergovernmental and provincial interdepartmental relations for the purpose of disaster risk management.

The PDMC is the primary functional unit for disaster risk management in each province. A key responsibility of the PDMC is to provide support to the NDMC and the metropolitan and district disaster management centres in the province. It must provide the link between national objectives and provincial and municipal disaster risk management activities and priorities.

In the event of a significant event or disaster occurring or threatening to occur, the PDMC must provide support and guidance to the relevant MDMCs. In addition, it must mobilise provincial infrastructure and resources to support municipal disaster risk management resources.

1.2.4.1 Key responsibilities of the PDMC

The PDMC must maintain a strategic overview of disaster risk management projects and programmes in the province. Key responsibilities in this regard are described below.

Disaster risk reduction

The PDMC must:

- submit a disaster risk assessment for the province and disaster plans to the NDMC
- identify provincial priorities for disaster risk reduction
- facilitate the development and preparation of provincial plans for disaster risk reduction and response and recovery
- monitor progress with the preparation and regular updating of disaster risk reduction plans and strategies by provincial and municipal organs of state involved in disaster risk management in the province
- institute joint standards of practice for disaster risk management in the province that are consistent with national standards
- establish mechanisms to monitor and manage cross-boundary disaster risks within a province (between districts and between districts and metropolitan areas), as well as between a province and neighbouring provinces and countries, and enter into mutual

- s 33(4) assistance agreements for the purpose of disaster risk management
- submit copies of its disaster risk management plans to the NDMC, neighbouring PDMCs and, where applicable, disaster risk management entities in neighbouring countries.

Integrated development planning

- The PDMC is responsible for:
- monitoring the inclusion of disaster risk management plans in IDP processes (see subsection 3.4 below)
 - ensuring that IDP budgets make provision for disaster risk management.

s 33(1)(c–d) Given these functions, it is imperative that the Head of the PDMC serves on the relevant provincial development planning structures and makes inputs into all development projects undertaken by the province.

Capacity building, education, training and research

- s 30(1)(h),
s 30(1)(j),
s 33(1)(iii) The PDMC must initiate and co-ordinate disaster risk management capacity building, education, training and research in the province, placing particular emphasis on the development of community awareness programmes and promoting the incorporation of such programmes into school curricula.

Information management and communication

- The PDMC must:
- establish an integrated information management and communication system that is consistent with arrangements established by the NDMC
 - ensure the establishment of a strategic provincial emergency communication system that is compatible with emergency communication systems used nationally, to enable communication between essential and emergency services for the purposes of incident command and the management of joint operations
 - establish a system (including emergency communication mechanisms) for reporting, evaluating and disseminating early warnings on a 24-hour basis to ensure that threatened communities are able to respond appropriately and take risk-avoidance measures when a disaster occurs or is threatening to occur in their areas
 - act as a provincial reporting centre.

1.2.4.2 Monitoring and evaluation

- s 34 The PDMC must establish mechanisms to monitor, measure and evaluate all disaster risk management plans and activities by provincial and municipal organs of state. Copies of review and evaluation reports must be submitted to the NDMC. The PDMC must also monitor compliance in the province with the key performance indicators outlined in the disaster management framework.
- s 34(a)(ii)

1.2.4.3 Operational capacity of the PDMC

- s 29(1), s 30 Arrangements must be made for establishing the operational capacity of PDMCs to enable the implementation of the Act in the provincial sphere. These arrangements must be consistent with those of the NDMC.

1.2.4.4 Infrastructural requirements

The infrastructural arrangements of PDMCs must accord with national guidelines for the minimum infrastructural requirements for disaster management centres developed by the NDMC (see subsection 1.2.2.2 above).

1.2.5 Municipal disaster management centres

The council of each metropolitan and district municipality must establish institutional capacity for disaster risk management in its area. Such arrangements must be consistent with national and provincial arrangements and must provide the appropriate mechanisms to allow for the application of co-operative governance to facilitate both intergovernmental and municipal interdepartmental relations as well as community participation for the purpose of disaster risk management.

The MDMC is the primary functional unit for disaster risk management in metropolitan and district municipalities. It must provide direction for the implementation of disaster risk management policy and legislation and the integration and co-ordination of municipal disaster risk management activities and priorities in order to ensure that national and provincial objectives are achieved. In addition, a key function of the MDMC is to provide support to the NDMC and the relevant PDMC.

In the event of a disaster occurring or threatening to occur, the MDMC must provide support and guidance to the relevant sub-administrative units in the case of metropolitan municipalities and to local municipalities in the case of district municipalities. Furthermore, it must mobilise municipal infrastructure and all other available resources to support local disaster risk management resources.

Institutional arrangements for disaster risk management in metropolitan and district municipalities must be consistent with the national disaster management framework and the applicable provincial disaster management framework.

1.2.5.1 Key responsibilities of the MDMC

The MDMC must:

- establish and maintain institutional arrangements that will enable the implementation of the Act
- implement measures to develop progressive risk profiles to inform the IDP processes of municipalities for the purpose of disaster risk reduction and to determine the effectiveness of specific disaster risk reduction programmes and projects undertaken
- facilitate the development, implementation and maintenance of disaster risk reduction strategies that will result in resilient areas, communities, households and individuals
- monitor the integration of disaster risk reduction initiatives with development plans
- develop and implement a comprehensive information management and communication system that is consistent with arrangements established by the NDMC and PDMCs
- facilitate the development of response and recovery plans to ensure rapid and effective response to disasters that are occurring or are threatening to occur and to mitigate the effects of those disasters that could not have been prevented or predicted
- submit copies of its disaster risk management plans to the NDMC, the PDMC, neighbouring disaster management centres and, where applicable, disaster risk management entities in neighbouring countries
- develop and implement mechanisms for creating public awareness to inculcate a culture of risk avoidance
- facilitate and promote disaster risk management education, training and research in the municipality
- implement and maintain dynamic disaster risk management monitoring, evaluation and improvement programmes

- measure performance to evaluate effectiveness of disaster risk management and risk reduction initiatives and submit copies of evaluation reports to the NDMC and the PDMC
- monitor compliance in the municipal area with the key performance indicators outlined in the disaster management framework
- make recommendations regarding the funding of disaster risk management in the municipal area and the initiation and facilitation of efforts to make such funding available.

1.2.5.2 Integrated development planning

s 47(1)(c–d)

In view of the inextricable relationship between disaster and development, it is imperative that the heads of MDMCs and those individuals assigned responsibility for disaster risk management in local municipalities serve on the relevant IDP structures.

1.2.5.3 Operational capacity of the MDMC

Arrangements must be made for establishing the operational capacity of metropolitan and district disaster management centres to enable the implementation of the Act in the municipal sphere. These arrangements must be consistent with those of the NDMC and PDMCs (see subsections 1.2.2 and 1.2.4 above).

It is recommended that all municipal departments within metropolitan and district municipalities and all local municipalities identify appropriately qualified staff in their employ to serve as their disaster risk management focal or nodal points (see subsection 1.2.3 above).

Disaster risk management responsibilities must be included in the job descriptions of all key personnel identified in municipal disaster management frameworks.

1.2.5.4 Infrastructural requirements

The infrastructural arrangements of MDMCs must be conducted in accordance with national guidelines for the minimum infrastructural requirements for disaster management centres developed by the NDMC (see subsection 1.2.2.2).

s 7(2)(m), s 21

1.2.6 Key performance indicators

- The job description and key performance indicators for the position of the Head of the NDMC have been developed.
- The Head of the NDMC has been appointed.
- The NDMC has been established and is fully operational.
- Disaster risk management focal/nodal points have been identified by each national organ of state and responsibilities for disaster risk management have been assigned.
- Roles and responsibilities of national organs of state involved in disaster risk management have been identified, assigned and included in the job descriptions of key personnel and are being applied effectively.
- Provincial and municipal disaster risk management centres have been established and are operating optimally.

1.3 Arrangements for stakeholder participation and the engagement of technical advice in disaster risk management planning and operations

s 5, s 7(2)(c)(i–ii),
s 7(2)(d), s 7(2)(f)

The Act calls for the active participation of all stakeholders, including the private sector, NGOs, technical experts, communities, traditional leaders and volunteers, in disaster risk

management planning and operations. Specific arrangements must be implemented to ensure the integration of stakeholder participation, to harness technical advice and to adopt an holistic and organised approach to the implementation of policy and legislation.

1.3.1 Disaster management advisory forums

1.3.1.1 National Disaster Management Advisory Forum

s 5(3)(a–b) The primary purpose of the NDMAF is to provide a mechanism for relevant role players to consult one another and to co-ordinate their activities with regard to disaster risk management issues.

s 5(1–2) The NDMAF must be established by the Minister responsible for administering the Act and must be chaired by the Head of the NDMC.

s 5(1) The NDMAF must comprise a central nucleus of senior representatives of the relevant national departments whose Ministers serve on the ICDM; the heads of the nine provincial disaster management centres; and municipal officials selected by SALGA. Membership of the forum must be supplemented by technical experts and other role players in disaster risk management designated by the Minister. Such representation must include relevant NGOs, international relief agencies, community-based organisations (CBOs), organised labour and agriculture, institutions of higher education and the private sector, as specified in the Act. The membership of the forum should remain fluid to accommodate changing needs in respect of technical inputs and specific expertise requirements.

s 5(3)(a–b) The NDMAF must make recommendations to the ICDM and act in an advisory capacity with regard to matters pertaining to disaster risk management. The NDMAF is also required to support the programmes of the NDMC by providing technical expertise.

The NDMAF should further play a role in:

- s 5(3)(a) • drafting disaster risk management plans
- s 7(2)(c)(iii) • promoting joint standards of practice
- s 16, s 17 • developing the information management and communication system
- s 16 • contributing critical information to the directory of institutional role players
- s 16 • assisting with effective communication links
- s 5(3)(b)(ii) • advising and making recommendations on training and public awareness
- s 5(3) • participating in the review of programmes and policy.

Meetings of the forum must take place at least quarterly, unless circumstances dictate that meetings be convened more frequently.

1.3.1.2 Provincial disaster management advisory forums

s 7(2)(d–f),
s 28(1–2), s 30(1)(b),
s 30(3)(a), s 33(2) Although the establishment of provincial intergovernmental committees and advisory forums for the purpose of disaster risk management is not a legal obligation, it is difficult to envisage how provinces would be able to effect the implementation of the Act and remain consistent with the requirements of the national disaster management framework in the absence of such structures. Accordingly, it is strongly recommended that provinces establish these mechanisms. However, in the event that a province elects not to do so, appropriate existing alternative structures must be identified for these purposes.

1.3.1.3 Municipal disaster management advisory forums

s 54(1)(a–b)

In terms of disaster risk reduction, the local sphere of government is the first line of defence and, in the event of a disaster occurring or threatening to occur, the community is in reality the first responder. The primary responsibility for the co-ordination and management of local disasters rests with the local sphere. Thorough disaster risk management planning and effective co-ordination are key to saving lives and limiting damage to property, infrastructure and the environment. They are also necessary for the optimal utilisation of resources.

s 7(2)(d–f),
s 42(1–3), s 44(1)(b),
s 44(3)(a–b), s 47(2)

However, the Act leaves it to the discretion of a metropolitan or district municipality to constitute formal structures, such as a municipal disaster management advisory forum, for the purpose of external stakeholder participation. A municipality is also not obliged to establish specific internal structures for disaster risk management.

In this regard, it is difficult to envisage how a municipality would apply the principles of co-operative governance, integrated and co-ordinated disaster risk management and stakeholder participation at the local level in the absence of appropriate structures and without the participation of key personnel from various departments within a municipality. It is equally difficult to envisage how disaster risk management planning and co-ordination would be effected without the appropriate institutional arrangements.

Apart from internal arrangements to allow for interdepartmental co-operation within the municipal sphere, the ideal mechanism for dealing with disaster risk management planning and co-ordination would be the municipal disaster management advisory forum. Such a forum should:

- give advice and make recommendations on disaster-related issues and disaster risk management
- contribute to disaster risk management planning and co-ordination
- establish joint standards of practice
- implement response management systems (see subsection 4.3.2 below)
- gather critical information about the municipality's capacity to assist in disasters and to access resources
- assist with public awareness, training and capacity building.

It is therefore strongly recommended that all metropolitan and district municipalities establish a municipal disaster management advisory forum for their area.

Disaster risk management committees

s 7(2)(d), s 7(2)(f)(ii)

It is further recommended that all metropolitan and district municipalities establish inter-departmental disaster risk management committees for their areas and that all district municipalities establish disaster risk management committees in district management areas. In addition, local municipalities should establish their own disaster risk management committees and ensure the establishment of disaster risk management committees or forums in all municipal wards.

Alternative structures

s 7(2)(f)

In the event that a municipality elects not to establish the aforementioned arrangements, appropriate alternative existing structures must be identified to ensure that the principles of co-operative governance and community participation are applied within the context of the Act and in accordance with the national disaster management framework.

Although the Act makes provision for the establishment of disaster management centres in metropolitan and district municipalities, from a practical point of view, and in the case of municipalities where distance is a factor, consideration must also be given to the establishment of decentralised or satellite disaster risk management units, offices or centres.

1.3.2 Disaster risk management planning

s 19, s 25 The Head of the NDMC is primarily responsible for ensuring that disaster risk management plans are developed and implemented in a uniform and integrated manner. However, the Act places explicit responsibility on organs of state (including provincial organs of state and municipalities) and other institutional role players involved in disaster risk management for the development and implementation of disaster risk management plans (see KPA 3 below).

s 5(3)(a), s 7(1),
s 7(2)(a–b),
s 7(2)(c)(iii),
s 7(2)(d–f) Planning for disasters and disaster risk management is a participative process involving a multitude of role players and stakeholders from across government sectors, disciplines and spheres, the private sector, NGOs, CBOs and communities. It would therefore be necessary to cluster stakeholders into planning groups relevant to the various activities associated with disasters and disaster risk management, for example, development of disaster risk reduction strategies, hazard-specific contingency plans and operational plans, and guidelines for disaster response and recovery activities.

s 7(2)(e), s 26(1) At the start of the planning process, primary responsibility must be allocated to an entity (primary entity) for each of the activities mentioned above. Responsibilities must also be allocated to those entities (support entities) that play a supportive role in the various activities identified in the planning process.

s 7(2)(e) The primary entity is the custodian of the relevant disaster risk management plans and is responsible for co-ordinating the development of such plans and submitting them to the NDMC. This entity is also responsible for ensuring that plans remain relevant and are aligned with changes and new developments.

1.3.2.1 Ad hoc meetings

The Head of the NDMC may convene ad hoc meetings of planning groups, task teams and key personnel from line departments for the purpose of integrated and co-ordinated planning.

1.3.2.2 Community participation

s 7(2)(f)(i–ii) The community is at the coalface of disaster risk management. It is from the conditions of risk that exist in communities that all other disaster risk management activities evolve. It is in the community where all the operational activities related to disaster risk management take place. All disaster risk reduction planning, the development of projects and programmes and the allocation of responsibilities must be founded on the needs and priorities of communities. Disaster risk reduction is a community-driven process.

Municipalities must involve local communities in the development of disaster risk profiles; facilitate understanding of the concepts and values of disaster risk reduction in communities; prioritise projects aimed at risk reduction in their IDPs; and facilitate community participation in training, preparedness planning and awareness programmes.

In the case of specific disaster risk reduction projects, project teams must include community representation. Indigenous knowledge and input from traditional leaders must be included in all of the activities associated with ensuring informed, alert and self-reliant communities. Capacity building, education, training and research are therefore fundamental to this end.

When disasters occur or are threatening to occur, the initial response to the event comes from those directly affected by it. It is only thereafter that their actions are supported by the various response and resource agencies responsible for dealing with the disaster. In this regard, broad community participation in disaster risk management, as well as the enrolment of individuals as volunteers, must be actively promoted and encouraged, particularly in communities at risk.

The establishment of ward disaster risk management committees or forums is critical too. These forums must provide leadership, ensure community ownership of and participation in disaster risk management and awareness programmes, and facilitate preparedness in the local sphere. Should a municipality elect not to establish such ward structures, then appropriate existing structures must be identified and tasked with disaster risk management responsibilities for the ward.

s 44(1)(g), s 58

Every effort should be made to establish units of volunteers trained in special skills in communities at risk, in accordance with the national regulations for the establishment of such units.

1.3.3 Participation of volunteers in disaster risk management

s 15(1)(g), s 58

In order to maintain an inclusive approach to the participation of volunteers in disaster risk management, volunteers are classified into three categories. These categories are:

- units of volunteers
- general volunteers
- spontaneous volunteers.

1.3.3.1 Units of volunteers

In addition to the general provisions in the Act for the recruitment, training and participation of volunteers in disaster risk management in all three spheres of government, Chapter 7 of the Act provides a metropolitan and district municipality with the option of establishing a unit of volunteers to participate in disaster risk management in the municipality.

s 58

This category provides for the participation and registration of individuals (or groups) who wish to become more actively involved in an organised structure for disaster risk management volunteers in the municipality. It includes individuals, groups or organisations that already have specialised skills, as well as those who undertake to be trained in specific skills in order to participate in this category.

1.3.3.2 General volunteers

s 15(1)(g), s 30(1)(g),
s 44(1)(g)

In addition to the provisions relating to the option in Chapter 7 of the Act for municipalities to establish a unit of volunteers, sections 15(1)(g), 30(1)(g) and 44(1)(g) require disaster management centres to promote the recruitment, training and participation of volunteers in disaster risk management. This allows municipalities, especially those that choose not to establish a unit of volunteers, to recruit individuals (or groups of individuals) who are prepared to assist in the event of a disaster but do not want

to participate in an organised structure such as a unit described in subsection 1.3.3.1 above or serve as active volunteers on an ongoing basis. This category provides a general pool of volunteers who can be drawn on by the municipality to perform a variety of functions that may or may not require specialised skills. Volunteers in this category must be registered and must meet minimum criteria set down in accordance with the national standard guideline.

1.3.3.3 Spontaneous volunteers

s 58(6) The Act recognises that people will always respond spontaneously in emergencies. Such humanitarian response should not be discouraged. However, municipalities must take cognisance of the problems and complications, including the possibility of injury and damage to property, that may result from the spontaneous, uncontrolled and unco-ordinated actions of volunteers. Municipalities must take this matter into consideration and must make provision for it in their planning.

s 7(2)(m), s 21

1.3.4 Key performance indicators

- The NDMAF has been formally constituted and operates effectively.
- Provincial and municipal disaster management forums or similar representative consultative forums have been established and are operating effectively.
- Mechanisms for stakeholder participation in disaster risk management planning and operations have been established and are operating effectively.
- Primary responsibility for the facilitation and co-ordination of disaster risk management planning and implementation has been assigned.
- Entities playing a supportive role in facilitating and co-ordinating disaster risk management planning and implementation have been identified and assigned secondary responsibilities
- Heads of disaster management centres have full participation in integrated development planning processes and structures.
- Ward structures have been identified and tasked with responsibility for disaster risk management.
- A current register of disaster risk management stakeholders and volunteers has been established and is maintained.

1.4 Arrangements for national, regional and international co-operation for disaster risk management

1.4.1 Giving effect to the principle of co-operative governance

s 7(2)(d) Constitutionally, the government bears primary responsibility for disaster risk management (Schedule 4, Part A, Constitution of the Republic of South Africa, Act No. 108 of 1996). However, political commitment, legal imperatives and institutional processes are not always enough to ensure success. An effective and comprehensive disaster risk management strategy cannot be achieved without participative decision making, involving a wide range of role players. Strong policy direction is crucial, as is legitimacy, but it is ultimately the commitment of resources to those individuals, households and communities most at risk that will ensure success.

s 7(2)(d-f) Disaster risk management is a shared responsibility which must be fostered through partnerships between the various stakeholders and co-operative relationships between the different spheres of government, the private sector and civil society. Furthermore, disas-

ter risk management is an intergovernmental process, with each sphere of government playing a unique role and performing a specific set of responsibilities in the process. However, the process requires collateral support to enable the sharing of resources fundamental to disaster risk reduction and all facets of response and recovery. In turn, this interdependence also implies that weakness or ineffectiveness in one sphere will result in the failure of the entire system.

s 7(2)(i), s 15(1)(b)

In creating institutional arrangements for co-operative governance and co-ordination, the emphasis must be on facilitating co-operation and co-ordination among existing structures, organisations and institutions wherever possible and on harnessing existing skills and expertise. Disaster risk management functions normally performed by the various sectors and disciplines in the national, provincial and municipal spheres should not be duplicated. The institutional arrangements must also facilitate inclusivity and their primary focus must be on capacitating and building resilience in communities at risk.

Disaster risk management should not be construed as a line function. Instead, it is a management facility, whose purpose is to create an enabling environment for the promotion and implementation of integrated disaster risk reduction measures and the development of institutional capacity to provide improved preparedness and response and recovery services.

1.4.2 Co-operation between national, provincial and municipal spheres

s 4, s 32, s 44(4),
s 46

The ICDM provides the political mechanism for the application of the principle of co-operative governance, by bringing together political representatives from the three spheres of government.

s 7(2)(d)

The NDMAF provides a further mechanism for co-operative governance by providing a forum for input, including technological and specialist input, by a wide range of stakeholders from, among others, civil society and the private sector. To streamline co-ordination, meetings of the NDMAF must be preceded by a meeting between the Head of the NDMC, the Heads of provincial disaster management centres and a representative of the SALGA disaster risk management working group.

Provincial and municipal centres must establish mechanisms to enable the sharing of expertise. They should also give consideration to the development of disaster assistance response teams (DARTs) and other specialist teams composed of professional and technical experts to assist each other in disaster response and recovery activities.

s 4, s 7(2)(c)(iii),
s 30(1)(c), s 39,
s 18, s 19, s 21,
s 24, s 25, s 36,
s 38, s 39, s 50,
s 52, s 53

Issues that are fundamental to interdependence and intergovernmental relations between the three spheres of government include:

- information sharing
- establishment of standards to ensure that the technology required for an integrated information management and communication system is compatible across the spheres
- compilation and sharing of directories of institutional role players across the spheres
- submission of disaster risk management plans and annual reports to other spheres and neighbouring centres.

1.4.3 Mutual assistance agreements

In accordance with the Act, national departments, provinces and municipalities must establish their level of capacity to deal with disaster risk reduction, response and recovery. Where necessary, and to strengthen this capacity, they must enter into mutual assistance agreements with their neighbours, the private sector, other organs of state and communities.

s 7(2)(f)(iii) At provincial and municipal level, co-operation and co-ordination efforts must be supported by cross-boundary mutual assistance agreements (that is, between provinces, between provinces and municipalities and between municipalities), and by creating partnerships within each sphere with the private sector and NGOs through memoranda of understanding.

s 7(2)(c)(iii) Mutual assistance agreements and memoranda of understanding are legal documents. Their parameters must be clearly defined and they should include details of financial arrangements, reimbursements and liability. They must also be in compliance with the national standard guideline on mutual assistance agreements developed by the NDMC.

1.4.4 Regional co-operation

The *White Paper on Disaster Management* (published in 1999) states that disastrous events are not constrained by national boundaries. Measures taken in South Africa have the potential to increase or reduce risk in neighbouring countries. Similarly, threats in countries beyond South Africa's borders have the potential to increase or reduce disaster risk in the country.

s 7(2)(c)(ii) As specified in the Act, regional co-operation for the purpose of disaster risk management is essential, and the appropriate mechanisms must be initiated to establish a forum in which such co-operation can be achieved. Accordingly, it is proposed that a consultative process be undertaken to establish a Southern African Development Community (SADC) forum for the purpose of disaster risk management co-operation in the region. The forum should have the following objectives:

- sharing information on disasters and important disaster risk reduction issues
- creating opportunities for conducting research
- developing and monitoring early warning systems for the region and issuing advisories so that precautionary measures can be taken timeously in the event of threats due to natural hazards, technological accidents or environmental degradation
- establishing strategic communication links and emergency telecommunication procedures and protocols
- concluding bilateral and multilateral agreements with clearly defined protocols to provide for shared disaster risk reduction interventions, preparedness and cross-border disaster response and recovery operations
- sharing expertise in disaster response and recovery, and establishing DARTs, as well as other relevant specialist teams, to assist in response and recovery efforts
- ensuring the clear definition of responsibilities between the various regional and international role players in cross-border disaster response
- s 7(2)(c)(iii) • promoting and facilitating the establishment of joint standards of practice across the region by:
 - ♦ developing standards for disaster risk reduction
 - ♦ developing standards for disaster risk assessment
 - ♦ developing standards for response management systems and the establishment of

regional disaster operations centres to ensure the effective co-ordination of disaster response and recovery management

- ♦ ensuring uniformity in standards for humanitarian assistance and mitigation interventions
- ♦ formulating accredited curricula for disaster risk management education and training
- ♦ establishing uniform protocols and clearly defined responsibilities, which differentiate between responsibilities in the event of persons crossing borders in search of humanitarian assistance only and those seeking (political) asylum in terms of the Refugees Act, 1998 (Act No. 130 of 1998).

In addition to establishing the above arrangements and international protocols for co-operation between national government and other governments in the region, similar arrangements for co-operation must be made between the governments of the following provinces and neighbouring countries:

- Eastern Cape and Free State and Lesotho
- Northern Cape and Namibia and Botswana
- KwaZulu-Natal and Mpumalanga and Swaziland and Mozambique
- Limpopo and Mozambique, Zimbabwe and Botswana
- North West Province and Botswana.

These arrangements can be effected by including representatives from neighbouring countries on PDMAFs.

1.4.5 International co-operation

s 7(2)(c)(i)

Increasingly, climatic changes and disasters originating from natural phenomena, environmental degradation and technological developments are becoming global problems, requiring global strategies and solutions. It is essential therefore that disaster risk management in South Africa is informed by a global perspective. In order for South Africa to remain at the cutting edge of developments, to learn from international best practice and to be in a position to contribute to global thinking on disaster risk management, South Africa must support and actively participate in the strategies and efforts of the international community to reduce disaster risk. It must associate itself with selected international development protocols, agendas and commitments, such as the Millennium Development Goals outlined in the United Nations (UN) Millennium Declaration adopted at the UN Millennium Summit in September 2000 (A/RES/55/2).

A further aspect of South Africa's involvement in the international disaster risk management arena is that of humanitarian assistance. There is a plethora of international relief donor agencies and groups that operate in the wake of disasters. In a world that is becoming increasingly interdependent, there is a pressing need for South Africa to strengthen its engagement with these international organisations. The fundamental objective of effective disaster response and recovery management is to collect and channel resources optimally. South Africa must tap into the extensive expertise and resources of these agencies. At the same time, and as a matter of priority, it must establish appropriate protocols to clarify procedures for requesting external assistance and to discourage ad hoc and unsolicited appeals for relief.

A final aspect of South Africa's activities in the international community is its capacity to provide assistance in the field of humanitarian aid. Currently, because of the country's limited resources, this capacity is focused on the SADC region. Nevertheless, appeals for

assistance from outside the region will be considered in the context of the circumstances prevailing at the time. All appeals for assistance must be directed to the NDMC. The provision of assistance and the mobilisation of resources in response to such requests must be facilitated by the NDMC.

s 7(2)(c)(iii), s 16(3)

The Department of Foreign Affairs is the lead national department responsible for promoting and facilitating South Africa's role in international co-operation in disaster risk management. It must, in liaison with the NDMC and the relevant organs of state, forge links with national agencies that render relief assistance internationally, as well as with international agencies, organisations and institutions involved in disaster risk management, including the:

- African Regional Disaster Risk Reduction Strategy
- Food and Agriculture Organization (United Nations) (FAO)
- International Committee of the Red Cross (ICRC)
- Intergovernmental Panel on Climate Change (IPCC)
- International Federation of Red Cross and Red Crescent Societies (IFRC)
- Joint United Nations Programme on HIV/AIDS (UNAIDS)
- NEPAD structures
- Office for the Coordinator of Humanitarian Affairs (OCHA)
- United Nations Children's Fund (UNICEF)
- United Nations Development Programme (UNDP)
- United Nations Disaster Management Training Programme (UNDMTP)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Environment Programme (UNEP)
- United Nations High Commissioner for Refugees (UNHCR)
- United Nations International Strategy for Disaster Risk Reduction (ISDR)
- World Food Programme (WFP)
- World Health Organization (WHO)
- World Meteorological Organization (WMO).

s 16(3)

To keep abreast with international developments, the NDMC must seek membership of international bodies and professional institutes and must establish links with disaster management centres and appropriate professionals performing similar tasks in other countries.

s 7(2)(m), s 21

1.4.6 Key performance indicators

- Mechanisms have been identified and implemented to ensure the application of the principle of co-operative governance.
- Guidelines have been developed and disseminated for entering into partnerships and concluding mutual assistance agreements and memoranda of understanding.
- A disaster risk management forum established for the purpose of co-operation with countries in the SADC region is operating effectively.
- Mechanisms have been identified and established to enable South Africa to participate internationally in disaster risk management activities.

1.5 Guidelines to be disseminated

- National guidelines for the minimum infrastructural requirements for disaster management centres.
- National guidelines outlining the criteria for the registration of volunteers.
- National guidelines for mutual assistance agreements.

2. Key performance area 2: Disaster risk assessment

Relevant sections of the Disaster Management Act, 2002

s 20, s 25(1–2), s 33, s 38(1–2), s 47, s 53(1–3)

s 17(1)(a–b), s 20(1)(a)(i–iii), s 33(1)(a), s 47(1)(a)

Objective

Establish a uniform approach to assessing and monitoring disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by organs of state and other role players.

Introduction

The Act’s requirements for priority setting with respect to disasters likely to affect South Africa are set out in sections 20, 33 and 47. These sections underscore the importance of disaster risk assessment to guide national, provincial and municipal disaster risk reduction efforts, including disaster risk management planning. KPA 2 outlines the requirements for implementing disaster risk assessment and monitoring by organs of state within all spheres of government. Furthermore, it shows that the outcomes of disaster risk assessments directly inform the development of disaster risk management plans. Planning for disaster risk management is discussed more fully in KPA 3.

Outline

Section 2.1 introduces the process involved in carrying out a disaster risk assessment.

Section 2.2 addresses processes for generating a National Indicative Disaster Risk Profile.

Section 2.3 describes requirements for monitoring, updating and disseminating disaster risk information.

Section 2.4 looks at measures to ensure quality control in disaster risk assessment and monitoring.

2.1 Disaster risk assessment and risk reduction planning

South Africa faces many different types of risk on a daily basis, including health risks, environmental risks, financial risks and security risks. However, 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.

Disaster risk assessment is the first step in planning an effective disaster risk reduction programme. It examines the likelihood and outcomes of expected disaster events. This would include investigating related hazards and conditions of vulnerability that increase the chances of loss.

Disaster risk assessment planning requires identification of key stakeholders, as well as consultation with them about the design and/or implementation of the assessment and the interpretation of the findings.

Disaster risk assessments, supported with good monitoring systems, are essential for:

- effective disaster risk management and risk reduction planning
- sustainable development planning
- identifying potential threats that can undermine a development’s success and sustainability, making it possible for appropriate disaster risk reduction measures to be incorporated into the project design prior to implementation

- shaping focused disaster risk reduction programmes for specific threats
- identifying high-risk periods and conditions
- activating preparedness and response actions.

Relevant national organs of state must execute systematic disaster risk assessments in the following instances:

- prior to the implementation of any national disaster risk reduction, preparedness or recovery programme
- as an integral component of the planning phase for large-scale housing, infrastructure or commercial/industrial developments of national significance
- as an integral component of the planning phase for nationally significant initiatives that affect the natural environment
- when social, economic, infrastructural, environmental, climatic or other indicators suggest changing patterns of risk that increase the likelihood of nationally significant disaster impacts.

s 20(1)(a–d)

All national organs of state must carry out disaster risk assessments to identify priority disaster risks relevant to their functional areas (see subsection 2.1.3 below). Where possible, these should be undertaken interdepartmentally to avoid duplication of efforts and to ensure uniformity of findings.

All proposed disaster risk assessments and related studies planned by national and provincial organs of state must be reviewed by the NDMC prior to implementation to ensure consistency in approach.

2.1.1 Situations requiring a disaster risk assessment

Disaster risk assessments must be undertaken to:

- anticipate and plan for known hazards or disasters to prevent losses and limit endangering impacts
- ensure that development initiatives maximise their vulnerability reduction outcomes.

2.1.1.1 Undertaking disaster risk assessments for specific known hazards or disasters

A disaster risk assessment is required at national level to guide disaster risk reduction efforts for specific known hazards or disasters that:

- due to their scale and magnitude are likely to affect more than one province
- are of recurrent high and medium magnitude, occur in most provinces and may require national support and/or intervention
- are of high magnitude and low frequency (for example, nuclear accidents and oil spills)
- occur infrequently or seasonally (for example, veld fires and flooding), have the potential to cause severe loss, and require levels of specialist support not available at provincial level
- affect neighbouring countries and have consequences for South Africa (for example, unplanned cross-border movements and events that require humanitarian or other relief assistance).

2.1.1.2 Maximising vulnerability reduction outcomes

s 7(2), s 20(1)

With respect to the implementation of the Act, a disaster risk assessment must be undertaken when one or more of the vulnerability reduction criteria listed in Table 2.1 are considered priorities in any nationally initiated project or programme.

Table 2.1: Situations requiring disaster risk assessments

Key vulnerability criteria To achieve:	Examples of where disaster risk assessments must be done
Increased <i>sustainability</i> of a development project or programme to support vulnerable households	As part of the planning for an infrastructural development, for example, assessing the likelihood of weather, flooding, subsidence and other threats damaging the structure, so that these can be factored into the construction specifications.
<i>Reduction of potential harmful consequences</i> associated with industrial, commercial or other developments	As part of environmental impact assessments for large-scale developments, including industrial, commercial and other enterprises that may increase disaster risk.
Increased <i>understanding of a rapidly changing risk</i> for improved disaster risk management planning	In a flood-prone estuarine area that has recently experienced considerable population growth and is facing increased coastal erosion.
<i>Increased robustness of development initiatives</i> in poor communities and areas	In an informal settlement characterised by recurrent small and medium-size disaster losses that undermine assets and livelihoods.
<i>Management of high-risk periods and conditions</i> to ensure service and/or business continuity	Electricity transmission lines and rail infrastructure, as well as health and emergency services, to ensure these essential services do not ‘fail’ under expected high-risk conditions.
Provision of appropriate <i>support for at-risk activities, services, areas, communities and households following an ‘alert’</i>	Following a drought warning or cholera alert in rural areas, to identify communities and households most at risk and to focus or target preparedness and response actions.

2.1.2 Steps involved in a disaster risk assessment

s 19(e)

Disaster risk assessment is a process that determines the level of risk by:

- identifying and analysing potential hazards and/or threats
- assessing the conditions of vulnerability that increase the chance of loss for particular elements-at-risk (that is, environmental, human, infrastructural, agricultural, economic and other elements that are exposed to a hazard, and are at risk of loss)
- determining the level of risk for different situations and conditions
- helping to set priorities for action.

A reliable disaster risk assessment for a specific threat should answer the following questions:

- How frequently can one expect an incident or a disaster to happen?
- Which areas, communities or households are most at risk?
- What are the likely impacts?
- What are the vulnerability or environmental and socio-economic risk factors that increase the severity of the threat?

- What capabilities or resources exist to manage the risk?
- Is the risk becoming more serious?
- Is the risk undermining development progress in the areas, communities and households it affects?
- If so, is the management of the risk a development priority?
- In the areas and communities affected by the risk, are there any other significant risks?

2.1.3 Undertaking a disaster risk assessment

There are many different methods for carrying out disaster risk assessments. These vary, depending on the type of risk being assessed, the specific characteristics of the population-at-risk, as well as those related to the area, infrastructure, service or business concerned. Methods used are also determined by the urgency for the assessment and the availability of relevant hazard and vulnerability information, as well as appropriate specialist and other resources to undertake it.

The NDMC must through a process of consultation develop a national standard for conducting comprehensive disaster risk assessments, including guidelines for the application of a uniform disaster risk assessment methodology and approach, as well as the standardisation of reporting formats for disaster risk assessments.

The general process for assessing disaster risk involves the following stages, namely:

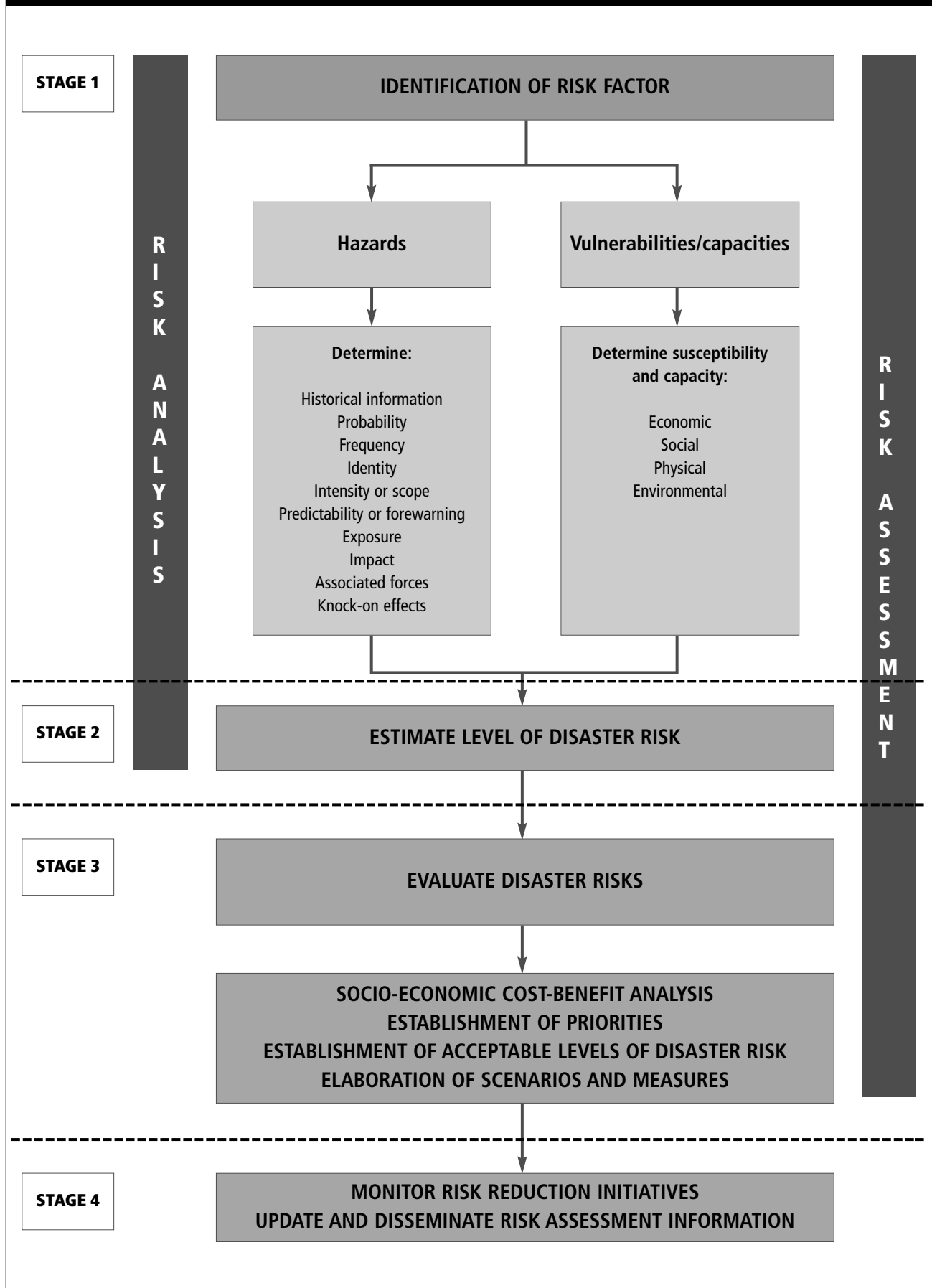
- **Stage 1:** This initial stage involves identifying the specific disaster risk to be assessed.
- **Stage 2:** The second stage involves analysing the disaster risk concerned.
- **Stage 3:** The third stage requires an evaluation of the disaster risk being assessed – usually in relation to other risks. It involves undertaking much more comprehensive assessments of specific threats and establishes priorities for action.
- **Stage 4:** The fourth stage is required to inform ongoing disaster risk assessment and planning. It involves monitoring disaster risks and the effectiveness of risk reduction initiatives. It also involves updating disaster risk assessment information and disseminating this information to all stakeholders.

The disaster risk assessment process must be conducted using a staged approach if the outcomes are to be synchronised with the requirements of the planning process. Figure 2.1 shows the basic stages undertaken in a disaster risk assessment process.

2.1.3.1 Stage 1: Identify the specific disaster risk(s)

1. Identify and describe the hazard with respect to its frequency, magnitude, speed of onset, affected area and duration.
2. Describe and quantify vulnerability to determine susceptibilities and capacities. This is done by describing, where possible, the vulnerability of people, infrastructure (including homes and dwellings), services, economic activities and natural resources exposed to the hazard.
3. Estimate the likely losses resulting from the action of the hazard on those that are vulnerable, to evaluate likely consequences or impacts.

Figure 2.1: The basic stages of a disaster risk assessment



4. Identify relevant capacities, methods and resources already available to manage the risk. Assess the effectiveness of these, as well as gaps, inconsistencies and inefficiencies in government departments and other relevant agencies.

2.1.3.2 Stage 2: Analyse the disaster risk(s)

1. Estimate the level of risk associated with a specific threat to determine whether the resulting risk is a priority or not. Estimating the level of risk is done by matching the likelihood of a hazard or disaster with its expected impact or consequences. This process allows different threats to be compared for the purpose of priority setting.

2.1.3.3 Stage 3: Evaluate the disaster risk(s)

This stage involves the further prioritisation of disaster risks when there are multiple threats to assess. When several threats are assessed at the same level of risk, limited resources and budgets require that they be prioritised even further. This process, called ‘risk evaluation’, is necessary because it is not possible to address all disaster risks at the same time (see section 3.2 below).

The priority at-risk people, areas, communities, households and developments identified during this stage of the assessment will be the subject of highly specialised multidisciplinary, comprehensive disaster risk assessments. These assessments must inform the holistic and integrated planning and implementation of focused disaster risk reduction initiatives.

This stage of the disaster risk assessment will require unique combinations of risk science expertise relevant to the particular types of disaster risk facing the specific at-risk groups, areas or developments. See Table 2.2 on page 32 for the range of assessment methods and expertise required for different types of disaster risk.

2.1.3.4 Stage 4: Monitor disaster risk reduction initiatives and update and disseminate disaster risk assessment information

s 21, s 34, s 48

This stage involves ongoing monitoring to measure the effectiveness of disaster risk reduction initiatives, identify changing patterns and new developments in risk profiles, and update and disseminate information for the purpose of disaster risk management planning.

2.1.3.5 Link with disaster risk management planning

s 25(1–2), s 38(1–2),
s 53(1–3)

The findings of stages 1 and 2 will directly inform the development of a Level 1 Disaster Risk Management Plan (the first level of the planning process) as well as components of a Level 3 Disaster Risk Management Plan, by identifying:

- known priority risks for the purpose of contingency planning
- priorities for vulnerability reduction planning
- high-risk areas, communities and households exposed to multiple risks, and high-risk developments requiring further evaluation and prioritisation through focused comprehensive disaster risk assessments (see subsection 3.1.1.2 below).

The outcomes of Stage 3 will directly inform the development of a Level 2 Disaster Risk Management Plan as well as components of a Level 3 Disaster Risk Management Plan (see subsection 3.1.1.2 below).

The results of Stage 4 will inform the development of a Level 3 Disaster Risk Management Plan (see subsection 3.1.1.2 below).

s 7(2)(f)(ii), s 7(2)(j),
s 20(1)(a), s 20(2),
s 33(1)(i–iii), s 33(2),
s 47(1)(a)(i–iii),
s 47(2)

2.1.4 Community-based disaster risk assessment

In accordance with the Act’s intent to increase local capacity so as to minimise the risk and impact of disasters, disaster risk assessment efforts must actively include the participation of vulnerable communities and households, including physically isolated communities and female-headed and child-led households. The information collected using more technically sophisticated methods employed by risk scientists can be significantly enhanced by local and indigenous knowledge relating to disaster risk management. In addition, the active engagement of special needs groups, such as women, children and the elderly, improves the quality of the disaster risk assessment findings and increases the likelihood of community ownership in any disaster risk reduction interventions that may follow.

2.1.5 Sourcing additional information when undertaking a disaster risk assessment

Information on specific disaster risks is often fragmented. Government departments or commissioned agents undertaking specific disaster risk assessments must undertake and document the following when doing an assessment:

1. Do an audit of past significant events and events classified as disasters. A review of previous small and medium-size events as well as declared disasters, where relevant, can identify areas and communities most at risk and help focus more detailed disaster risk assessment efforts. A review of newspaper articles may facilitate this.
2. Consult with community members and traditional leaders in areas affected by past events for information on frequency and severity of events classified as disasters, significant events and recurrent small-scale occurrences. Locate these events on a user-friendly map and record them on a graph to show seasonality/change over time.
3. Consult with long-standing members of emergency services, the South African Red Cross Society, the Salvation Army or other humanitarian assistance organisations who can remember or have recorded ten years or more of past disaster responses.
4. Consult with specialist research commissions, universities and the private sector and obtain existing or past research reports.
5. Check with the appropriate ministries for information or relevant research that may have already been carried out or commissioned.
6. Consult with the (re-)insurance industry.

2.1.6 Selecting disaster risk assessment methods and approaches

s 20(1)(a)(i–ii)

There is a wide range of disaster risk assessment methods. These differ according to the hazards being considered, the size and character of the area being assessed, the time frame under consideration and the resources available (including financial resources, risk-related data/information and access to appropriate expertise). Table 2.2 provides examples of different types of risk and appropriate disaster risk assessment methods.

Table 2.2: Types of disaster risk and disaster risk assessment methods

Types of risk	Possible disaster risk assessment methods	Expertise
Potential flood risk in a developed estuarine area	<ul style="list-style-type: none"> • Flood hydrology and hydraulics • Ecological and environmental assessment 	<ul style="list-style-type: none"> • Environmental and hydrological specialists
Potential cholera risk in an isolated area known to be cholera-prone	<ul style="list-style-type: none"> • Epidemiological risk assessment • Environmental health assessment • Groundwater evaluation 	<ul style="list-style-type: none"> • Public and environmental health specialists
Potential fire risk in a large informal settlement	<ul style="list-style-type: none"> • Historic and seasonality review of past fire events graphed or mapped over time • Aerial photographs to indicate density or other spatial changes over time • Participatory rural appraisal (PRA)/livelihoods analysis/focus group interviews • Demographic and socio-economic analysis 	<ul style="list-style-type: none"> • Urban development facilitators/planners • Fire prevention specialists • Social scientists
Potential wind storm or tornado risk in a rural area	<ul style="list-style-type: none"> • Consultation with local leadership • History of past events • Historic climatology and seasonal analysis 	<ul style="list-style-type: none"> • Indigenous knowledge • Community facilitators • Climate scientists
Drought risk in a rural community	<ul style="list-style-type: none"> • PRA/livelihoods analysis/focus group interviews • Historic rainfall information, history of drought and impacts • Remote-sensed information on vegetation and cloud cover 	<ul style="list-style-type: none"> • Rural development facilitators • Agricultural specialists • Public health specialists • Climate scientists

2.1.6.1 National standard for assessment of priority disaster risks

The national disaster management framework gives priority to the establishment of a uniform approach to disaster risk management and the provision of a national standard to guide the assessment of priority disaster risks. This is necessary for managing cross-boundary risks and for consolidating risk and disaster loss information from different sources. In this context, the framework foresees the development of a national standard for the assessment of priority disaster risks as well as guidelines, developed by the NDMC, for assessing priority disaster risks in national, provincial and municipal spheres.

In the interim, prior to the development of a national standard and guidelines for assessing priority disaster risks:

- all proposed disaster risk assessments planned by national and provincial organs of state must be reviewed by the NDMC prior to commissioning of the assessments
- all proposed disaster risk assessments planned by metropolitan municipalities must be reviewed by the NDMC and the appropriate PDMC prior to commissioning of the assessments
- all proposed disaster risk assessments planned by district municipalities must be reviewed by the appropriate PDMC prior to commissioning of the assessments

- all proposed disaster risk assessments planned by local municipalities must be reviewed by the appropriate MDMC prior to commissioning of the assessments.

For guidance on selecting the most effective disaster risk assessment team or method, see section 2.4 (below) on conducting quality control.

2.1.7 Consolidation and classification of disaster risk information

s 20(1)(a)(i–ii)

Hazard and vulnerability assessment findings must be consolidated according to uniform classifications. This facilitates integrated multisectoral planning across government departments and with other partners. It also supports risk management co-operation between administrative areas (for example, two or more district municipalities) affected by the same risk. An internationally recognised classification of hazards that should be used is given in Table 2.3. This classification is provided by the ISDR.

Vulnerability should be assessed as social, economic, political, environmental or physical (infrastructural). As vulnerability factors are often the major drivers of disaster risk, rather than external hazard processes, it is critical to identify these during a disaster risk assessment. This provides important insights for developing vulnerability reduction interventions that lower the levels of disaster risk.

s 7(2)(m), s 21

2.1.8 Key performance indicators

- A national standard for conducting comprehensive disaster risk assessments has been generated by the NDMC.
- National guidelines for the application of a uniform disaster risk assessment methodology have been developed by the NDMC.

Table 2.3: Classification of hazards

Table 2.3: Classification of hazards	
Natural hazards	Examples
Geological	Landslides, rockslides, liquefaction, subsidence
Biological	Epidemic diseases affecting people or livestock, veld fires, plant infestations
Hydrometeorological	Floods, debris flows, tropical cyclones, storm surges, severe storms, drought, desertification
Technological hazards	Examples
	Industrial pollution, nuclear activities, toxic waste, dam failure, transport accidents
Environmental hazards	Examples
Environmental degradation	Land degradation, deforestation, loss of biodiversity

- A national standard for assessing priority disaster risks has been generated by the NDMC.
- National guidelines for assessing priority disaster risks in national, provincial and municipal spheres have been generated by the NDMC.
- Disaster risk assessment legislation, policies, standards and implementation guidelines by national organs of state and their provincial counterparts have been developed and applied.
- Disaster risk assessments have been conducted and progressively integrated into the development plans of organs of state and other role players, with evidence of this seen in IDPs and annual reports submitted to the NDMC.

2.2 Generating a National Indicative Disaster Risk Profile

s 17(1), s 17(2)(a–c),
s 17(2)(f)

The NDMC must establish the necessary capability to generate a National Indicative Disaster Risk Profile and to maintain the profile’s dynamic character by continuously monitoring and updating it.

2.2.1 Consolidating information across sectors and government spheres

s 7(2)(i), s 15(1)(c)

Disaster risk assessment information generated by national and provincial departments, municipalities and research commissions must be consolidated by the NDMC to provide a National Indicative Disaster Risk Profile. This risk profile must include maps that represent priority disaster risks affecting South Africa, as well as consolidated information on recorded losses for specific threats in individual provinces. It is expected that uniform assessment information on priority disaster risks will be available from the National Indicative Disaster Risk Profile within five years of the commencement of the Act.

In this context, geographic information systems (GIS) represent a powerful tool for spatially representing hazard, vulnerability and consolidated risk information. The NDMC must, however, ensure that the information represented in GIS format is scientifically validated and sufficiently robust for inclusion in the profile.

The process of auditing and compiling information must be inclusive. The NDMC must contact specialist research units, private sector partners, government departments and committees, and other sources for relevant scientific reports and data on hazard and vulnerability patterns. It must also consult with NGOs, CBOs and traditional authorities on historical and changing patterns of risk.

The profile will need to take into account the unevenness in the quality of available hazard and vulnerability information in South Africa and the dynamic nature of the risks they describe. In this context, information provided at national scale will not fully represent risk conditions at provincial or municipal levels. However, establishment of the profile may lead to more detailed risk investigations being done at provincial and municipal levels.

s 7(2)(m), s 21

2.2.2 Key performance indicators

- Mechanisms to consolidate, document, map and make accessible information on South Africa’s priority disaster risks have been established by the NDMC.
- Priority disaster risks of national significance have been identified and mapped by the NDMC.

- Procedures to consolidate, map, update and make accessible information on South Africa's priority disaster risks have been established and documented by the NDMC.

2.3 Monitoring, updating and disseminating disaster risk information

2.3.1 Monitoring disaster risks

s 17(1), s 21, s 34,
s 48

Just like other risks, disaster risks are not static. They change seasonally and over time. To recognise such changes, and to strategically adjust programmes accordingly, all government departments must have monitoring systems in place that are relevant to their specific functional responsibilities.

These systems form the basis for sounding timely warnings of, or alerts for, impending significant events or disasters. They are also essential for monitoring the effectiveness of ongoing disaster risk reduction efforts. Risk monitoring systems involve:

- hazard tracking
- vulnerability monitoring
- disaster event tracking.

2.3.1.1 Hazard tracking

Hazard tracking systems monitor the physical phenomena that can trigger disaster events. They include systems that provide seasonal and early warning information on approaching adverse weather conditions. For example, systems that track the seasonal build-up of grass fuels over large areas provide critical warning information on potential veld fire conditions.

2.3.1.2 Vulnerability monitoring

Vulnerability monitoring systems track the ability of areas, communities, households, critical services and natural environments to resist and withstand external threats. Censuses, regular poverty surveys, nutritional surveys and information collected from health clinics provide important insights into changing social vulnerability patterns in at-risk communities (for example, an increase in the number of child-headed households or elderly adults with dependants). As this information is often routinely collected by government services, special surveys or parallel monitoring initiatives are not usually required to gather it.

These quantitative data must be supported by qualitative information that tracks local capabilities to absorb recurrent shocks and stresses, as well as local capacities to resist and recover from external threats.

2.3.1.3 Disaster event tracking

Disaster event tracking systems monitor changing patterns in disaster risk. Increasing or decreasing frequencies of unclassified disaster incidents are sensitive indicators of changing risk patterns in at-risk areas. For instance, a rising incidence pattern of small and medium-size informal settlement fires may represent an early warning of accumulating risks, which may result in a more serious and destructive fire event. It also signals a call for urgent measures to avert the impending disaster.

Information on small and medium 'undeclared' events can be found in many different sources, including local newspapers, fire and disaster risk management reports, and records of the relevant Department of Social Development and the South African Red Cross Society.

2.3.2 Updating a comprehensive disaster risk assessment

s 20(1)(a)(i– ii),
s 33(1)(a)(i–ii),
s 47(1)(a)(i–ii)

Disaster risk is driven by a combination of hazard and vulnerability processes, including changing patterns of land use, infrastructure development/maintenance, urban growth and settlement densification. Similarly, household size and composition, health status and level of livelihood security affect household potential for loss. Some risks, particularly those triggered by climate processes, must be reviewed seasonally prior to the rainy season or hot summer months. Other risks, such as riverine flood risk, require extensive flood hydrology investigations, and may be undertaken once during a 20-year period. National, provincial and municipal organs of state must seek technical advice from recognised risk specialists to determine the need for updating a comprehensive assessment for a specific threat.

National, provincial and municipal organs of state with responsibilities for reducing and managing specific risks must review the National Indicative Disaster Risk Profile for their functional areas annually to determine if risk conditions have changed detrimentally. If physical, atmospheric, environmental, health or socio-economic conditions have worsened considerably, or if there are increasing disaster losses reported from small and medium-size events, the assessment and profile must be updated.

2.3.3 Responsibility for monitoring and updating disaster risk information

National and provincial organs of state and other specialist role players with responsibilities for reducing and managing disaster risks must have clear mechanisms for:

- accessing and updating relevant hazard and vulnerability information on disaster risks specific to their functional areas
- making this information available to the NDMC.

In addition, national, provincial and municipal disaster management centres must:

- establish clear mechanisms for accessing, consolidating and updating relevant information on hazards, vulnerability and disaster occurrence from specialist government and non-governmental partners responsible for monitoring specific disaster risks, including fire, coastal threats, drought and epidemics
- develop and implement clear mechanisms for disseminating disaster risk assessment and monitoring information for ongoing planning, as well as for managing conditions of heightened risk
- establish clear procedures for accessing, interpreting and disseminating timely weather information, particularly when this is associated with potentially endangering rapid-onset storm or cyclone processes, hot, dry temperatures, strong winds, heavy rainfalls or snow, ice or fog conditions
- ensure that the disaster risk information management systems implemented by the various disaster management centres are managed by skilled individuals with both information technology capabilities and disaster risk analytic skills.

s 7(2)(m), s 21

2.3.4 Key performance indicators

s 17(1)(a)

- National and provincial departments with responsibilities for reducing and managing disaster risks specific to their functional areas have established clear and documented mechanisms for rapid accessing and updating of relevant hazard and vulnerability

s 17(1), s 30(1)(c),
s 32(1)(b), s 44(1)(c),
s 46(b)

s 17(1)(d), s 17(2)(e),
s 33(1)(a)(iv), s 35(1),
s 47(1)(a)(iv), s 49(1)

information and for rapidly making this information available to the NDMC.

- National, provincial and municipal disaster management centres as well as all organs of state in all spheres of government have established and documented clear mechanisms for accessing, consolidating and updating relevant information on hazards, vulnerability and disaster occurrence from partners responsible for monitoring specific risks.
- National, provincial and municipal disaster management centres as well as all organs of state in all spheres of government have established and documented clear mechanisms for disseminating disaster risk assessment and monitoring information for ongoing planning, as well as for managing conditions of heightened risk.
- National, provincial and municipal disaster management centres have established and documented clear procedures for accessing, interpreting and disseminating early warnings of both rapid- and slow-onset hazards.

2.4 Conducting quality control

s 56(4)(a–c),
s 57(a–c)

Disaster risk assessments must be robust and reliable in order to inform disaster risk reduction planning.

2.4.1 Who should carry out disaster risk assessments?

Disaster risk assessments almost always require specialist input. This applies to both the process of characterising the hazard conditions that can trigger loss and understanding the vulnerability factors that increase the severity of the impact.

There are many research institutions, government departments and private companies in South Africa with expertise in assessing and managing different types of risk. When working with technical specialists, the commissioning organ of state must define terms of reference that specify feedback, consultation, skills transfer and capacity-building processes by the specialists commissioned. This is particularly important given the complex character of hazard and risk science for non-specialists, and the serious legal and other implications of disseminating incorrect or unverified disaster risk assessment findings which then inform planning decisions.

In South Africa, disaster risks are more significantly shaped by social, economic and environmental conditions than by external threats. It is therefore critical that disaster risk assessments should be ground-truthed (that is, based on the actual situation ‘on the ground’), with field consultations in areas and communities most at risk.

Field consultation increases the accuracy of the disaster risk assessment findings, provides insight into the vulnerability conditions that can potentially be reduced, and builds a greater sense of responsibility for ‘sharing the risk’ among the communities affected. In this context, it is critical that the assessment process includes respectful pre-assessment consultation with the affected communities prior to the arrival of external assessment teams, to build a co-operative partnership.

2.4.2 Measures to establish the accuracy of disaster risk assessments

The following two mechanisms must be used to ensure the accuracy of the disaster risk assessment undertaken to inform national, provincial and municipal area planning:

- establishment of a technical advisory committee
- external validation or external peer review of methods and findings.

2.4.2.1 Technical advisory committee

The relevant sphere of government or organ of state that commissions the disaster risk assessment must appoint a technical advisory committee comprising nationally recognised specialists in the hazards, vulnerabilities and disaster risks being assessed. A technical advisory committee is particularly necessary when complex disaster risk assessments are being carried out. This applies mainly to national, provincial and large metropolitan disaster risk assessment processes. This committee can assist with the development of terms of reference, the monitoring of progress, and the validation and/or interpretation of the findings.

2.4.2.2 External validation process for methods and findings

At a minimum, all assessments carried out at national, provincial and municipal levels should be externally validated with respect to the methods used and findings generated.

This external validation process should be undertaken before any programmes are implemented or before any maps or reports for planning purposes are published or disseminated, where such programmes, maps or reports are based on the assessment findings.

External validation of the findings should be undertaken with the input of nationally recognised specialists who may be drawn from specialist ministries, research institutions, NGOs or the private sector.

s 7(2)(m), s 21

2.4.3 Key performance indicators

s7(2)(f)(i–iii)

- Disaster risk assessments undertaken show documented evidence of:
 - ♦ capacity building and skills transfer
 - ♦ ground-truthing (that is, based on the actual situation ‘on the ground’ or verified by those being assessed), through field consultations in the areas and with communities most at risk from the threat(s) being assessed
 - ♦ consultation with appropriate governmental and other stakeholders about the design and/or implementation of the disaster risk assessment and the interpretation of the findings.
- The methodology and results of the disaster risk assessment have been subjected to an independent technical review process and external validation prior to:
 - ♦ the publication or dissemination of hazard, vulnerability or risk maps and/or reports for planning purposes
 - ♦ the implementation of disaster risk reduction or other initiatives based on the disaster risk assessment results.
- Disaster risk assessments undertaken show documented evidence of technical consultation with the appropriate disaster management centre(s) prior to implementation.

s 20(1)(a)(i–ii),

s 33(1)(a)(i–ii),

s 47(1)(a)(i–ii),

s 56(4)(a–c),

s 57(a–c)

2.5 Guidelines to be disseminated

- National standard and guidelines for conducting comprehensive disaster risk assessments.
- National guidelines for the application of a uniform disaster risk assessment methodology and the standardisation of a format for disaster risk assessments.
- National standard and guidelines for assessing priority disaster risks in national, provincial and municipal spheres.

3. Key performance area 3: Disaster risk reduction

Relevant sections of
the Disaster
Management Act,
2002

Objective

Ensure all disaster risk management stakeholders develop and implement integrated disaster risk management plans and risk reduction programmes in accordance with approved frameworks.

Introduction

s 25, s 38, s 53

The successful implementation of the Act critically depends on the preparation and alignment of disaster management frameworks and plans for all spheres of government. The legal requirements for the preparation of disaster management frameworks and plans by national, provincial and municipal organs of state are specified in sections 25, 38 and 52 of the Act. This KPA addresses requirements for disaster risk management planning within all spheres of government. It gives particular attention to the planning for and integration of the core disaster risk reduction principles of prevention and mitigation into ongoing programmes and initiatives.

Outline

Section 3.1 introduces disaster risk management planning as a strategic priority.

Section 3.2 describes priority setting with regard to disaster risk reduction initiatives.

Section 3.3 outlines approaches for scoping and developing disaster risk reduction plans, projects and programmes.

Section 3.4 addresses the integration of disaster risk reduction initiatives into other strategic integrating structures and processes.

Section 3.5 focuses on the implementation and monitoring of disaster risk reduction activities.

3.1 Disaster risk management planning

s 7(1)(a), s j19(a–f)

The NDMC must ensure that coherent and relevant disaster risk management planning is undertaken by national, provincial and municipal organs of state, municipal entities and other institutional role players.

3.1.1 Disaster management frameworks and disaster risk management plans

Disaster management frameworks and disaster risk management plans are the strategic mechanisms through which disaster risk management action is co-ordinated and integrated across all spheres of government (see Figure 3.1).

3.1.1.1 National, provincial and municipal disaster management frameworks

s 7(1), s 28(1),
s 42(1)

The Act requires the development of one national disaster management framework, a provincial disaster management framework for each province and disaster management frameworks for all district and metropolitan municipalities.

In all spheres of government, the disaster management framework is the guiding and co-ordinating policy instrument for ensuring an integrated and uniform approach to disaster risk management by all organs of state and other institutional role players. This includes, among others, NGOs, the private sector and institutions of higher learning. With specific reference to district municipalities, the disaster management framework is the integrating instrument for consolidating the disaster risk management plans of individual municipalities within the district.

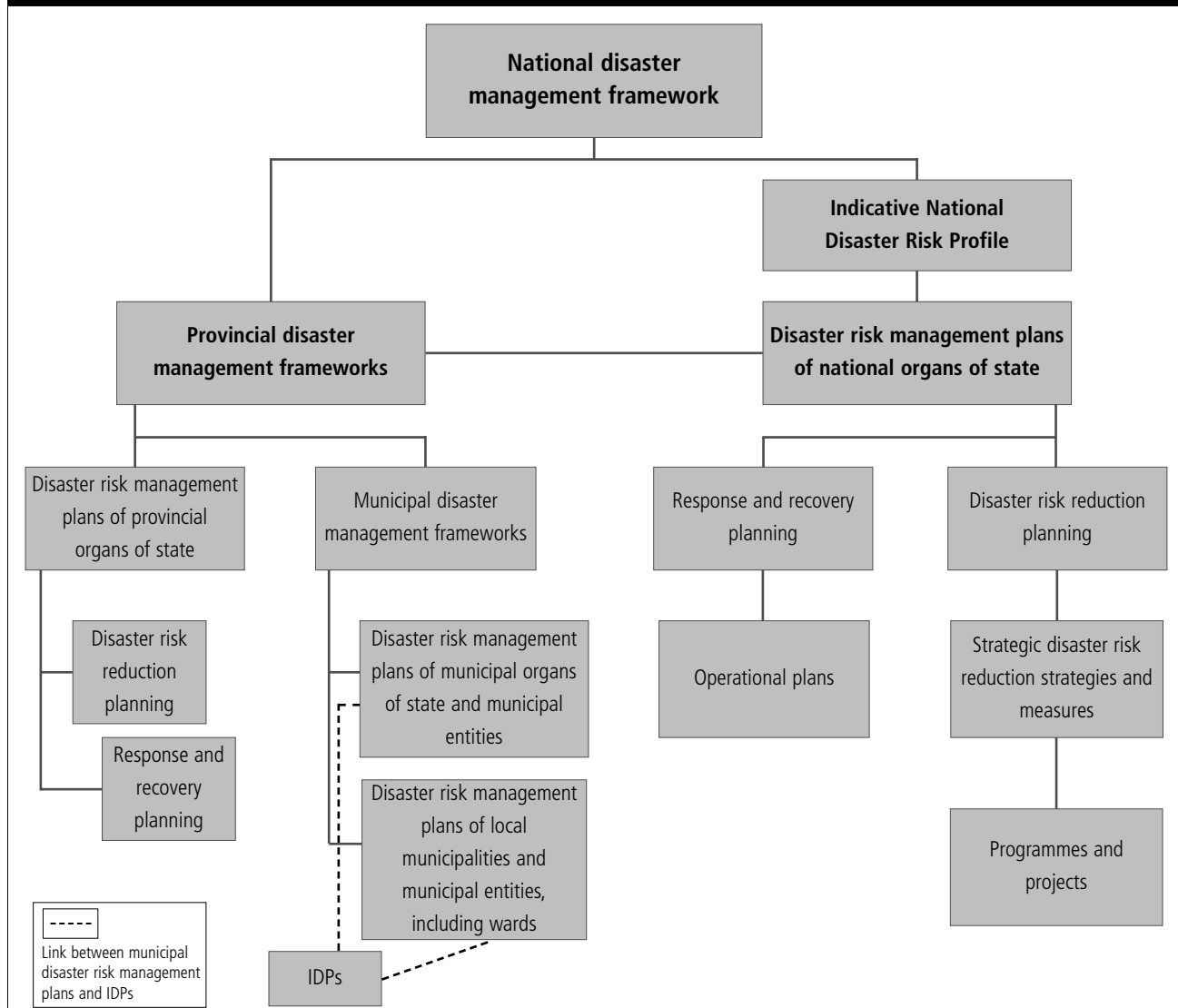
Each disaster management centre in the respective sphere of government is responsible for consultatively facilitating the development of the disaster management framework in its area of jurisdiction, and subsequently amending it in consultation with key stakeholders.

s 7(2)(a-m)

Provincial and municipal disaster management frameworks must be consistent with the national disaster management framework and must:

- establish foundation institutional arrangements for disaster risk management, including formal consultative processes that provide for participative planning

Figure 3.1: National, provincial and municipal disaster management frameworks and disaster management plans across the spheres of government



- consultatively define an appropriate vision and approach to disaster risk management for the area concerned
- define processes for undertaking appropriate disaster risk assessments for the areas in which they will be implemented
- specify arrangements for disaster risk reduction planning and contingency planning, including response and recovery planning
- establish an integrated supportive disaster risk information system
- identify processes for building public awareness capabilities, as well as supporting relevant education, training and research initiatives
- define supportive funding arrangements for implementing disaster risk management.

3.1.1.2 Disaster risk management plans

s 25(1–2),
s 38(1–2),
s 53(1–3)

All national, provincial and municipal organs of state, municipal entities and other institutional partners identified as key role players in disaster risk management are required to prepare and complete disaster risk management plans. Although the Act specifies clear requirements for completed disaster risk management plans, it is also recognised that:

- there is considerable unevenness in disaster risk management planning capacity and experience, especially across newly established district municipalities
- national and provincial organs of state engaging seriously with disaster risk management for the first time will need to undertake careful consultation before developing a comprehensive disaster risk management plan.

To address this wide range of disaster risk management planning capabilities, the national disaster management framework provides for a phased approach to disaster risk management planning and implementation. It comprises three progressive steps from a Level 1 Disaster Risk Management Plan to a Level 3 Disaster Risk Management Plan. The completion of each level of disaster risk management plan will yield indicative information about common vulnerabilities in communities, local areas or provinces. This information should be incorporated into IDP planning processes and projects.

The requirements for each level of disaster risk management plan and the steps to be taken in developing the different levels are detailed in priority guidelines distributed by the NDMC to all stakeholders. The implementation of these plans will form an integral part of the implementation strategy of the Act.

Level 1 Disaster Risk Management Plan

A Level 1 Disaster Risk Management Plan applies to national or 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 the disaster risk assessment, identifying key governmental and other stakeholders, and developing the capability to generate a Level 2 Disaster Risk Management Plan.

Level 2 Disaster Risk Management Plan

A Level 2 Disaster Risk Management Plan applies to national, 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.

Level 3 Disaster Risk Management Plan

A Level 3 Disaster Risk Management Plan applies to national, 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 co-ordinating 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.

s 19 The framework foresees that within two years of the commencement of the Act, all national, provincial and municipal organs of state will have submitted to the NDMC at a minimum, Level 1 Disaster Risk Management Plans. Within three years of the commencement of the Act, all national, provincial and municipal organs of state will have submitted, at a minimum, Level 2 Disaster Risk Management Plans. Within four years of the commencement of the Act, all national, provincial and municipal organs of state will have submitted Level 3 Disaster Risk Management Plans.

s 19 National, provincial and municipal organs of state must specify which one of the three specified disaster risk management planning levels is most appropriate for their respective capabilities, experience and functional responsibilities. They must also indicate proposed steps that will allow progress to more advanced planning levels.

Disaster risk management plans developed by municipalities must be incorporated into IDP, funding and implementation processes.

3.1.2 Strategic integrating role of disaster management centres

The national, provincial and municipal disaster management centres play important strategic roles in integrating disaster management frameworks, plans and actions between the three spheres of government and across sectors and other role players within spheres.

To achieve integration across and between spheres:

- s 19 • The NDMC must:
 - ♦ guide the development of disaster risk management plans and align these to ensure a coherent and uniform national approach to disaster risk management
 - ♦ consult the ICDM and the NDMAF with regard to the development of standard guidelines to inform uniform disaster risk management planning and implementation.
- s 28(1–2) • The PDMC must:
 - ♦ 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
- s 37(1–2) • align the disaster risk management plans of provincial organs of state and those of their respective district and metropolitan municipalities and other role players
- ♦ consult the PDMAF (or, in the absence of an advisory forum, an appropriate alternative consultative forum in the province) with regard to the development of disaster risk management plans as well as guidelines.

- s 42(1) • The MDMC must:
 - ♦ ensure that the municipal disaster management framework is consistent with the national disaster management framework and the provincial disaster management framework of the province concerned, as well as the priorities, strategies and objectives specified in the municipality’s IDP
- s 48(1)(a)(i) ♦ ensure that the municipality’s disaster risk management plans inform and are aligned with those of other organs of state and role players
- s 51 ♦ consult the MDMAF (or, in the absence of an advisory forum, an appropriate alternative consultative forum in the municipality) with regard to the development of disaster risk management plans as well as guidelines

s 7(2)(m), s 21 **3.1.3 Key performance indicators**

- s 6, s 28(1–2), s 42(1) • A national disaster management framework has been developed and provincial and municipal disaster management frameworks that are consistent with the national disaster management framework have been submitted to the NDMC.
- s 19(a–f) • Disaster risk management planning guidelines have been developed and disseminated by the NDMC.
- Disaster risk management plans have been submitted to the NDMC by all relevant national, provincial and municipal organs of state and municipal entities.
- National, provincial and municipal disaster management frameworks and plans are revised at least two-yearly, as evidenced in annual reports submitted to the NDMC.

3.2 Setting priorities for disaster risk management planning

s 7(1–2), s 39(2)(b–e) Although South Africa faces a broad range of disaster risks, it is not possible, given resource constraints, to address all potential threats at once. Effective disaster risk management planning by all organs of state as well as other role players requires careful identification of priority disaster risks and the most vulnerable areas, communities and households to these risks. The process of identifying priority disaster risks is critically informed by the disaster risk assessment findings obtained by taking the steps described in KPA 2.

3.2.1 Identifying national priority disaster risks

s 7(2), s 39(2)(b–e) National disaster priority setting is informed by three important considerations:

- the expected magnitude for specific disaster types (variously referred to as ‘impact’, ‘severity’ or ‘consequences’ of a disaster)
- the expected frequency of specific types of disaster (variously referred to as ‘the probability’ or ‘likelihood’ of a disaster)
- the expected manageability of specific types of disaster at provincial and municipal levels (which refers to ‘how difficult’ it is to manage a disaster event, including the level of cross-sectoral management effort involved to reduce the risk).

While a wide range of different disaster events can occur at provincial and local levels, these are relevant as a national disaster risk management planning priority only when disaster risk assessments and/or ongoing risk monitoring processes indicate that:

- a disaster event or process affects more than one province or exceeds the capabilities of a single province to manage it effectively
- the same type of disaster event or process occurs repeatedly and at different times in

more than one province with significant cumulative impacts on lives, property and the natural environment, but is not necessarily classified as a national disaster.

In this context, national disaster risk management priorities must focus on averting or limiting the impact of the following disaster risks:

- Wide-area events that, due to their scale and magnitude, are likely to affect more than one province. These include extreme weather processes, such as cyclones and severe droughts as well as riverine floods.
- Recurrent high- and medium-magnitude events that occur in most provinces and may require national support and/or intervention. These include veld, urban fringe or large informal settlement fires. They can also include destructive wind storms, rainstorms and communicable disease outbreaks affecting people or livestock.
- Low-frequency/rare high-magnitude disaster risks with potential for severe loss and which require levels of specialist support possibly not available within a province. These include nuclear accidents, earthquakes, major transport disasters and maritime disasters such as severe oil spills.
- Disaster risks that affect neighbouring countries and have consequences for South Africa. These include unplanned cross-border movements, as well as those events that require humanitarian or other relief assistance.

In implementing the Act, all national organs of state must identify and prioritise those disaster risks relevant to their respective functional areas.

3.2.2 Identifying provincial and municipal priority disaster risks

s 7(2) While a wide range of different disaster events can occur at district municipality and municipal levels, they are relevant as a provincial disaster risk management planning priority only when a disaster risk assessment and/or ongoing risk monitoring processes indicate that:

- a specific disaster risk affects more than one municipality or district municipality or exceeds the capabilities of a single district municipality to manage it effectively
- a disaster risk results in the same type of disaster event occurring repeatedly and at different times in more than one municipality or district municipality with significant cumulative impacts on lives, property and the natural environment, but that are not necessarily classified as provincial disasters.

In this context, provincial disaster risk management priorities must focus on averting or limiting the impact of the following disaster risks:

- Wide-area events that, due to their scale and magnitude, are likely to affect more than one district municipality. This includes extreme weather processes, such as cyclones and severe droughts as well as riverine floods.
- Recurrent high- and medium-magnitude events that occur in most district municipalities and may require provincial support and/or intervention. These include veld, urban fringe or large informal settlement fires. They can also include destructive wind storms, rainstorms and communicable disease outbreaks affecting people or livestock.
- Low-frequency/rare high-magnitude disaster risks with potential for severe loss and which require levels of specialist support possibly not available within a province. These include nuclear accidents, earthquakes, major transport disasters and maritime disasters such as severe oil spills.
- Disaster risks that affect neighbouring provinces and countries and have consequences for the province. These include unplanned cross-border movements as well as those events that require humanitarian or other response and relief assistance.

In implementing the Act, all provincial organs of state must identify and prioritise those disaster risks relevant to their respective functional areas.

3.2.3 Identifying the most vulnerable areas, communities and households

s 39(2)(c),
s 39(2)(e–f),
s 39(2)(h), s 53(2)(c),
s 53(2)(e–f)

Not all areas, communities and households face the same disaster risks. 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. These are called at-risk areas, communities or households.

3.2.4 Priorities for focusing disaster risk protection efforts

s 7(1), s 19(e), s 20(c)

For disaster risk management planning purposes, all national, provincial and municipal organs of state must, according to their functional area or area of jurisdiction, give priority to protecting:

- strategic infrastructure or lifeline services whose damage or disruption in disaster events would result in serious and widespread consequences
- critical economic, commercial, agricultural and industrial zones or sites whose damage or disruption would have serious and widespread consequences
- fragile natural ecosystems and environmental assets that offer protective environmental services and which, if damaged or destroyed in a disaster event, would result in serious natural and economic losses
- communities in areas exposed to extreme weather and/or other natural and technological hazards and which are therefore likely to sustain serious human and property losses in the event of a disaster
- poor and underserved rural and urban communities, including informal settlements, especially those located in fragile ecological areas, that sustain repeated losses from recurrent small, medium, and large disaster events, and that lack insurance coverage to facilitate recovery
- 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.

Where possible, this process must take place in consultation with those most at risk.

3.2.5 Strategic planning: disaster risk reduction

s 7(2)(b), s 39(2)(1),
s 53(2)(i)

In keeping with the Act's emphasis on vulnerability reduction and the use of international best practice in this regard, strategic planning must focus efforts on reducing disaster risks. This includes the identification of strategies and measures that lessen the likelihood of harmful losses by avoiding endangering hazards or reducing vulnerability, as well as those that increase capacity to prepare for and enable timely response and recovery.

Disaster risk management involves a wide range of role players, especially since it requires both developmental efforts that reduce the risk of disasters as well as strengthened capabilities for preparedness, response and recovery. In this context, the disaster risk management plans of different organs of state will necessarily differ in their emphasis on disaster risk reduction or on more operational response issues, depending on their respective functional areas.

3.2.5.1 Core disaster risk reduction principles of disaster prevention and mitigation

All disaster risk management plans must give explicit priority to the core principles of disaster prevention and mitigation. Internationally, disaster prevention, mitigation and preparedness are referred to as disaster risk reduction measures, because they lessen the likelihood of harmful losses by avoiding endangering hazards or reducing vulnerability. In this way, prevention and mitigation are central to achieving the goal of disaster risk reduction, in which vulnerabilities and disaster risks are reduced and sustainable development opportunities strengthened.

It is often difficult to decide whether an intervention is preventive or mitigative. For this reason, it is more practical to refer to them jointly as disaster risk reduction measures, because both minimise the risk of disasters.

Disaster prevention

Disaster prevention refers to actions that provide ‘outright avoidance’ of the adverse impact of hazards and related environmental, technological and biological disasters.

Many disasters can be prevented through effective land-use planning, basic public works and effective municipal services that factor in the frequency and severity of natural or other hazards as well as human actions. Examples include:

- replanting indigenous grasses or trees on a recently burned slope near roads or dwellings to stabilise the soil and prevent damaging land subsidence
- locating critical rail, road and telecommunications structures behind a coastal ‘set-back’ line in areas exposed to storm surges to prevent disruption to critical services during violent summer or winter storms
- careful positioning of storm-water drainage and its ongoing maintenance, along with protection of natural wetlands, to prevent destructive flooding during heavy rain.

Unfortunately, many small, medium and large disaster events cannot completely be prevented. Their severity can be reduced, however, through ongoing disaster mitigation efforts.

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. These efforts can target the hazard or threat itself (for example, a fire break that stops a fire spreading close to residential areas). This is often referred to as ‘structural mitigation’, since it requires infrastructure or engineering measures to keep the hazard away from those at risk.

Disaster mitigation efforts can also target people who are at risk, by reducing their vulnerability to a specific threat (for instance, promoting community responsibility for controlling fire risk in an informal settlement). This is often called ‘non-structural mitigation’, as it promotes risk-avoidance behaviours and attitudes.

3.2.5.2 Operational planning: preparedness, response and recovery

Disaster risk management plans must also incorporate elements of preparedness, response and recovery appropriate to the respective functional areas of different organs of state.

Preparedness

Preparedness contributes to disaster risk reduction through measures taken in advance to

s 25(1)(a)(iii),
s 25(1)(a)(vi),
s 27(1–3), s 35(1),
s 38(1)(a)(iii),
s 38(1)(a)(vi),
s 39(2)(j), s53(1)(j–k)

s 39(2)(j–k),
s 52(1)(a)(iii),
s 52(1)(a)(vi),
s 53(2)(f),
s 53(2)(j)

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 (see section 4.1 below).

Preparedness enables organs of state and other institutions involved in disaster risk management, the private sector, communities and individuals to mobilise, organise, and provide relief measures to deal with an impending or occurring disaster, or the effects of a disaster.

Preparedness differs from prevention and mitigation as it focuses on activities and measures taken in advance of a specific threat or disaster.

Preparedness actions include:

- planning for seasonal threats, such as heavy rainfall, flooding, strong winds, veld or informal settlement fires, and communicable disease outbreaks
- anticipating and planning for the potential dangers associated with large concentrations of people at sporting, entertainment or other events
- establishing clear information dissemination processes to alert at-risk communities of an impending seasonal threat, such as a potential outbreak of cholera during the rainy season
- specifying evacuation procedures, routes and sites in advance of expected emergencies, including the evacuation of schools in areas exposed to flash-floods
- defining in advance clear communication processes and protocols for different emergency situations, including the dissemination of an early warning for an impending extreme weather threat to isolated or remote communities.

These actions are key components of the contingency plans that should be developed for specific threats as part of a provincial or municipal disaster risk management plan.

Disaster 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. It can be of an immediate, short-term or protracted duration. (See KPA 4.)

Disaster recovery

s 25(1)(a), s 25(3),
s 38(1)(a)(iii),
s 52(1)(a)(iii)

Disaster recovery (including rehabilitation and reconstruction) focuses on the decisions and actions taken after a disaster to restore lives and livelihoods, services, infrastructure and the natural environment. In addition, by developing and applying disaster risk reduction measures at the same time, the likelihood of a repeated disaster event is reduced.

Disaster recovery includes:

- rehabilitation of the affected areas, communities and households
- reconstruction of damaged and destroyed infrastructure
- recovery of losses sustained during the disaster event, combined with the development of increased resistance to future similar occurrences.

Disaster recovery initiatives present excellent opportunities to incorporate disaster risk reduction actions. Following a disaster event, there are usually high levels of awareness about the risk factors that increased its impact. These present opportunities to introduce disaster risk reduction efforts consultatively with the affected communities and key stakeholders in order to reduce the likelihood of future loss. (See KPA 4.)

3.2.6 Key performance indicators

- National priority risks have been identified and mapped by the NDMC.
- Specific provincial priority risks have been identified and mapped by provincial disaster management centres and documented in annual reports to the NDMC.
- Specific municipal priority risks have been identified and mapped by MDMCs and documented in annual reports to the NDMC.
- Specific priority areas, communities and households within provincial and municipal spheres have been identified and mapped, and documented by provincial and municipal disaster management centres in annual reports to the NDMC.
- Focused initiatives to reduce priority risks have been identified by national and provincial organs of state and documented in annual reports submitted to the NDMC and consolidated by the NDMC in its annual report to the Minister.

3.3 Scoping and development of disaster risk reduction plans, projects and programmes

3.3.1 Eight key planning points for disaster risk reduction projects or programmes

There are eight key planning points or requirements that must be applied and documented by all national and provincial organs of state and municipal entities when planning disaster risk reduction initiatives. These enhance the established principles and approaches detailed in existing guidelines for integrated development planning.

3.3.1.1 Planning point 1: Use disaster risk assessment findings to focus planning efforts

Disaster risk reduction efforts must be informed by a reliable disaster risk assessment. This is essential for providing insights into the frequency, seasonality, severity and spatial extent of recurrent threats. It also provides detailed information on the social, environmental and economic vulnerability factors that increase losses.

3.3.1.2 Planning point 2: Establish an informed multidisciplinary team with capacity to address the disaster risk and identify a primary entity to facilitate the initiative

Disaster risk reduction planning must be multidisciplinary and must draw on appropriate expertise. Disaster risk management is highly multidisciplinary, as it requires both technical expertise in hazard processes as well as understanding of the complex social and economic conditions that drive disaster risk in vulnerable communities.

3.3.1.3 Planning point 3: Actively involve communities or groups at risk

Disaster risk reduction planning must always involve constructive consultation between at-risk groups and/or communities and external service providers. Risk reduction initiatives are more effective when they are discussed and implemented collaboratively with those affected, as this allows for the inclusion of local knowledge and expertise.

3.3.1.4 Planning point 4: Address multiple vulnerabilities wherever possible

Multiple vulnerabilities can be addressed by:

- improving socio-economic conditions and building community cohesion
- ensuring the continuity of protective environmental services
- increasing resilience and/or continuity of public services and infrastructure to better respond to expected external shocks.

Disaster risk reduction projects and programmes must add value to other development initiatives. Risk reduction is a value-adding capability, as it aims at reducing disaster losses in vulnerable areas and groups. It is therefore more effective to implement broadly defined disaster risk reduction initiatives that add value to development programmes than specific ‘disaster management’ projects.

3.3.1.5 Planning point 5: Plan for changing risk conditions and uncertainty, including the effects of climate variability

Disaster risk is extremely dynamic and is driven by many rapidly changing environmental, atmospheric and socio-economic conditions. This requires that plans are not only robust enough to manage anticipated and expected threats but also sufficiently adaptive to minimise the impacts of unexpected events or processes.

3.3.1.6 Planning point 6: Apply the precautionary principle to avoid inadvertently increasing disaster risk

Effective disaster risk reduction planning efforts must apply the precautionary principle of ‘do no harm’. This is because well-intentioned disaster risk reduction projects can inadvertently increase disaster loss potential by reconfiguring and accelerating risk processes. The likelihood of negative consequences is reduced if a careful disaster risk assessment actively informs the planning process, a competent multidisciplinary team is established, and mechanisms for transparent community consultation are put in place.

3.3.1.7 Planning point 7: Avoid unintended consequences that undermine risk-avoidance behaviour and ownership of disaster risk

The disaster risk reduction planning process must anticipate and manage unintended consequences that increase disaster risk. Well-intentioned disaster risk reduction programmes that ‘deliver’ external services to at-risk areas, communities and households can inadvertently reward risk-promotive behaviour and undermine existing capabilities. For example, the repeated distribution of relief for recurrent threats such as fire, flooding and drought can discourage ownership of disaster risk by reinforcing the expectation of external support and transferring individual and/or household risk on to governmental and humanitarian assistance agencies.

3.3.1.8 Planning point 8: Establish clear goals and targets for disaster risk reduction initiatives, and link monitoring and evaluation criteria to initial disaster risk assessment findings

Disaster risk reduction plans must define clear monitoring and evaluation criteria for measuring their effectiveness. These must be linked to initial assessment findings to demonstrate the effectiveness of the specific initiative in reducing vulnerability or reducing disaster loss. Assessment findings must also be used to highlight learning points for future projects and programmes.

3.3.2 Research

s 25(1)(a)(i–ii),
s 7(2)(b),
s 7(2)(h),
s 30(1)(b),
s 38(1)(a)(i–ii),
s 44(1)(b),
s 52(1)(a)(i–ii),
s 53(2)(c)

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).

Robust research carried out as a prerequisite for any risk reduction intervention increases the likelihood of a successful programme. It also improves co-ordination across services and reduces the chance that resources are wasted in the long-term. (See Enabler 2.)

s 21(a)(i)
s 24(1)(b),
s 24(1)(g),
s 24(1)(i),
s 34(a)(i–ii),
s 36(1)(b)(i),
s 48(1)(a)(ii),
s 50(1)(b)(i)

3.3.3 Monitoring effectiveness and disseminating results

As part of the annual reporting requirements specified in the Act, municipal and provincial disaster management centres must include documented accounts of the disaster risk reduction projects, programmes and initiatives planned and implemented, including those aimed at reducing vulnerability and loss for defined priority disaster risks. This information must be further consolidated by the NDMC in its annual report to the Minister, and communicated accessibly via the NDMC’s website.

s 7(2)(m), s 21

3.3.4 Key performance indicators

- Case studies and lessons learned in integrating disaster risk reduction measures with initiatives in the national, provincial and municipal spheres have been documented and disseminated by the NDMC.
- Documentation, which is accessible to key stakeholders, demonstrates the effectiveness of disaster risk reduction measures for different risk scenarios.
- The effectiveness of disaster risk reduction initiatives is monitored by the NDMC.

3.4 Inclusion of disaster risk reduction efforts in other structures and processes

3.4.1 Integration of disaster risk reduction with spatial development planning

s 39(2)(a)

Disaster risk is driven by both hazard and vulnerability factors reflected in spatial development frameworks. In addition, disaster risk assessment findings, along with ongoing monitoring information on disaster occurrence, are directly applicable to spatial development planning. For this reason, provincial and municipal disaster management centres must establish mechanisms in association with spatial planners in both spheres to ensure that relevant spatial information informs disaster risk reduction planning. They must also ensure that verified risk information is incorporated into spatial development plans and maps.

3.4.2 Incorporation of disaster risk reduction planning into integrated development planning¹

s 53(2)(a)

As disaster risk reduction efforts are medium- to long-term multisectoral efforts focused on vulnerability reduction, they must be incorporated into ongoing IDP projects, processes, programmes and structures. Effective and adaptive disaster risk reduction interventions in the municipal sphere are best planned and implemented as development initiatives through IDP mechanisms and phases.

s 7(2)(h),
s 20(1)(a–d)

In addition, national, provincial and municipal organs of state must also test and evaluate specific disaster risk reduction initiatives before these are undertaken and implemented. This is to foster innovation and cross-sectoral linkages at a small or local scale. It also provides for assessment of the vulnerability reduction potential, appropriateness, cost-effectiveness and sustainability of previously untested disaster risk reduction strategies prior to a more widespread programme roll-out or ‘scaling-up’.

1. Based on Botha, J. *How to prepare a risk reduction plan: a municipal guide* (Draft) (Cape Town, March 2004).

Focused pilot projects are particularly applicable when investigating ways to:

- add value to an existing municipal, provincial or national programme (for example, weather-proofing homes and critical infrastructure in engineering projects planned for areas regularly exposed to extreme weather systems)
- protect a specific at-risk group (for example, establishing evacuation procedures for school children attending schools in areas repeatedly exposed to fire, flood or extreme weather systems)
- introduce a new initiative or project to address a specific risk scenario (for example, the introduction of small-scale rainwater harvesting initiatives in areas repeatedly exposed to drought)
- integrate disaster risk reduction with relief or recovery actions, to identify opportunities for changing the underlying drivers of risk as well as possible unintended consequences (for example, the spatial reconfiguration of informal settlements to provide fire breaks after large fires)
- investigate new approaches to promoting risk-avoidance attitudes and behaviour (for example, exploring a system of community or household incentives for ‘well-managed’ risks rather than creating dependence on external relief).

3.4.3 Risk-avoidance enforcement mechanisms

s 20(1)(a–d)

Critical components of effective disaster risk reduction are regulations, standards, by-laws and other legal enforcement instruments that discourage risk-promotive behaviour and minimise the potential for loss. National, 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 specified in the Act.

Within provincial and municipal spheres, this may involve:

- amendment of urban planning standards
- amendment of land-use regulations and zoning
- amendment of minimum standards for environmental impact assessments
- introduction of standards for ‘risk-proofing’ lifeline services and critical facilities from known priority disaster risks
- introduction of by-laws to implement extraordinary measures to prevent an escalation of a disaster or to minimise its effects.

s 7(2)(m), s 21

3.4.4 Key performance indicators

- Mechanisms to disseminate experience from pilot and research projects that explore the vulnerability reduction potential, appropriateness, cost-effectiveness and sustainability of specific disaster risk reduction initiatives have been established.
- Risk-related information has been incorporated into spatial development frameworks.
- Projects and initiatives that include a focus on disaster risk reduction have been included in IDPs.
- Guidelines for incorporating disaster risk management programmes and initiatives into the activities of other national organs of state and key institutional role players have been consultatively developed and implemented.
- Regulations, standards, by-laws and other legal instruments that encourage risk-avoidance behaviour have been enforced by national, provincial and municipal organs of state and documented in annual reports to the NDMC.

3.5 Implementation and monitoring of disaster risk reduction programmes and initiatives

3.5.1 Effective implementation of disaster risk reduction programmes

s 34(a)(i–ii),
s 36(1)(b)(i),
s 48(1)(a)(ii),
s 50(1)(b)(i)

The eight planning points outlined in subsection 3.3.1 above must also be applied when implementing disaster risk reduction programmes and initiatives. The monitoring processes and evaluations for disaster risk reduction initiatives specifically targeted at at-risk communities must include both qualitative and quantitative vulnerability reduction outcomes.

In addition, projects should demonstrate close compliance with the goals, objectives, time frames and resource requirements identified in the planning process. Mechanisms must also be established to allow for project adaptation and adjustment for unforeseen conditions and opportunities.

Municipal and provincial disaster management centres must include in their annual reports documented accounts of the disaster risk reduction projects, programmes and initiatives planned and implemented. This includes reports documenting effectiveness of disaster risk reduction pilot projects and research initiatives, as well as initiatives that aim to reduce vulnerability and loss for defined priority disaster risks.

3.5.2 Measurable reductions in small-, medium- and large-scale disaster losses

s 17(1)(a), s 17(1)(c),
s 17(2)(c),
s 24(1)(c–e),
s 36(1)(c–e),
s 50(1)(c–e)

The Act specifies that national, provincial and municipal disaster management centres must incorporate in their respective annual reports, as well as in a disaster management information system, a report on disaster risk reduction initiatives undertaken. They are also required to report on disasters that occurred within their specific areas of jurisdiction. In this context, national, provincial and municipal disaster management centres must report on the frequency and severity of small-, medium- and large-scale disaster events, especially those in communities and areas identified as high risk through disaster risk assessment processes. Significant changes in frequency and severity, type or location of occurrences must also be reported, including systematic accounts of recorded loss.

3.5.3 Reduced need for social relief in disaster-prone and economically vulnerable communities

s 7(2)(a),
s 36(1)(e–g),
s 50(1)(e–g)

While effective social relief is an important component of disaster response and recovery, the Act explicitly gives priority to vulnerability reduction in disaster-prone areas, communities and households. Annual reports generated by the national Department of Social Development and its provincial counterparts must include an account of the number of households receiving social relief assistance. This information must be further differentiated by location, date, disaster type and amount provided. An important benchmark for monitoring the effectiveness of disaster risk reduction initiatives in the most vulnerable communities will be changing demands for social relief assistance.

3.5.4 Generation and dissemination of case studies and best-practice guides in disaster risk reduction

s 7(2)(g–h),
s 15(1)(c)

The promotion of a ‘culture of prevention’ is practically enabled by access to examples of best practice in disaster risk reduction. In addition to the adoption of measures outlined

s 15(1)(h–i),
s 17(1)(d),
s 19(e), s 20(1)(a)(iii),
s 20(1)(b), s 20(1)(c),
s (20)(2)

in subsections 3.3.1 and 3.5.1, the NDMC must develop as a component of its education, training and capacity-building strategy, mechanisms for disseminating information on best practice in disaster risk reduction for South Africa. This includes the development of learning materials and support guides for different risk scenarios and contexts. (See Enabler 2.)

3.5.5 Progressive application of disaster risk reduction strategies, techniques and measures by national and provincial organs of state, municipalities and other key stakeholders

s 7(2)(d–f),
s 15(1)(b),
s 21(a)(i–iii),
s 24(1)(b),
s 24(1)(f–i)

In consultation with other national, provincial and municipal organs of state and municipal entities, the NDMC must develop monitoring indicators for tracking the application of disaster risk reduction strategies, techniques and measures in all spheres. These include indicators to track shifts in policies, planning and project implementation, generation of standards, regulations, by-laws and other risk-avoidance enforcement mechanisms.

s 7(2)(m), s 21

3.5.6 Key performance indicators

- Disaster risk reduction programmes, projects and initiatives have been implemented by national, provincial and municipal organs of state and other key role players.
- Measurable reductions in small-, medium- and large-scale disaster losses have been recorded.
- A measurable reduction in social relief in disaster-prone economically vulnerable communities has been recorded.
- Case studies and best-practice guides in disaster risk reduction, facilitated by the NDMC, have been generated and disseminated.
- There is evidence of the progressive application of disaster risk reduction techniques and measures by national, provincial and municipal organs of state, as reported in annual reports submitted to the NDMC.

3.6 Guidelines to be disseminated

- National guidelines specifying the requirements for each progressive level of disaster risk management plan, from a Level 1 Disaster Risk Management Plan to a Level 3 Disaster Risk Management Plan, for use by national, provincial and municipal organs of state.
- National guidelines to ensure uniform disaster risk management planning and implementation.
- National guidelines for the incorporation of disaster risk reduction programmes and initiatives into the activities of other national organs of state and key institutional role players.

4. Key performance area 4: Response and recovery

Relevant sections of
the Disaster
Management Act,
2002

Objective

Ensure effective and appropriate disaster response and recovery by:

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

Introduction

The Act requires an integrated and co-ordinated policy that focuses on rapid and effective response to disasters and post-disaster recovery and rehabilitation. When a significant event or disaster occurs or is threatening to occur, it is imperative that there should be no confusion as to roles and responsibilities and the procedures to be followed. This section addresses key requirements that will ensure that planning for disaster response and recovery as well as for rehabilitation and reconstruction achieves these objectives.

Outline

Section 4.1 addresses the requirements for disseminating effective early warnings.

Section 4.2 focuses on procedures and guidelines in respect of the assessment, classification, declaration and review of disasters.

Section 4.3 outlines mechanisms to ensure integrated response and recovery plans.

Section 4.4 focuses on relief measures following a significant event or an event classified as a disaster.

Section 4.5 deals with rehabilitation and reconstruction processes following a significant event or an event classified as a disaster

4.1 Early warnings

4.1.1 Dissemination of early warnings

Early warnings are designed to alert areas, communities households and individuals to an impending or imminent significant event or disaster so that they can take the necessary steps to avoid or reduce the risk and prepare for an effective response.

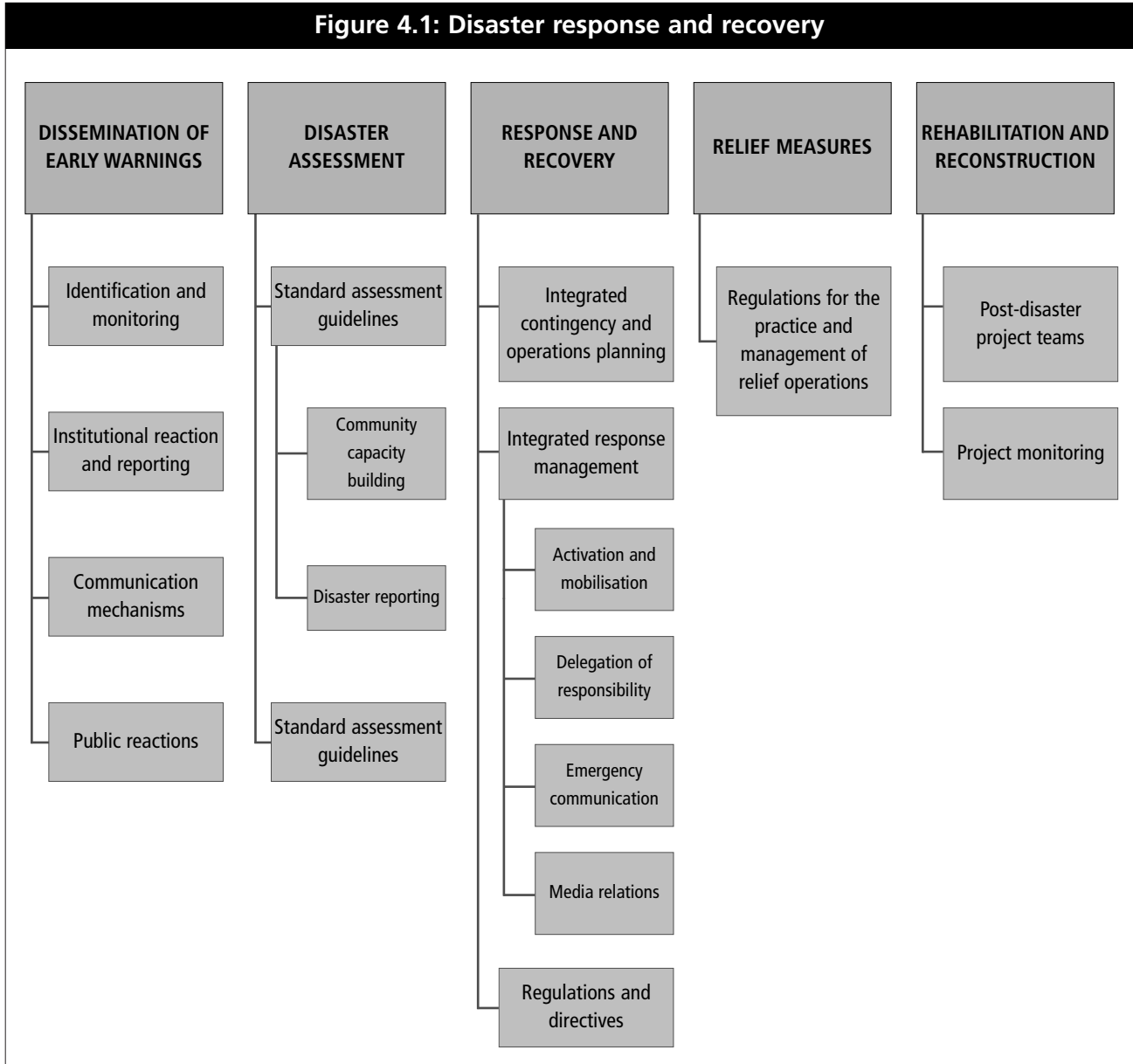
s 7(2)(b), s 7(2)(e–f),
s 20

The NDMC is responsible for ensuring the technical identification and monitoring of hazards and facilitating the development of standard early warnings by national organs of state tasked with primary responsibility for a specific hazard.

s 17(1–2),
s 20(1)(a)(iii))

The NDMC must prepare and issue hazard warnings of national 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. Warnings of impending or imminent significant events and/or disasters must include information and guidance that will enable those at risk to take risk-avoidance measures to reduce losses.

Figure 4.1: Disaster response and recovery



s 17(1)(d) | The NDMC must identify and establish strategic intersectoral, multidisciplinary and multi-agency communication mechanisms, including emergency communication mechanisms accessible to communities at risk, for the purpose of disseminating early warnings.

s 16(1), s 17(1) | The NDMC must also identify communication links and mechanisms for the dissemination of early warnings through the media (television, radio and electronic and print media). (See Enabler 1.)

s 7(2)(m), s 21 | **4.1.2 Key performance indicator**

- Effective and appropriate early warning strategies have been developed and implemented and the information communicated to stakeholders to enable appropriate responses.

4.2 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.

4.2.1 Assessment of a disaster

s 23(1)(a),
s 23(2)(a–b) Uniform methods and guidelines for conducting initial on-site assessments of both damage and needs when significant events or disasters occur or are threatening to occur are critical tools for informed decision making. Typically, on-site assessments would include establishing what resources are necessary to ensure the delivery of immediate, effective and appropriate response and relief measures to affected areas and communities and to facilitate business continuity.

s 25(1)(a)(iii–iv) National organs of state tasked with primary responsibility for dealing with disasters as a result of a particular hazard or significant event must prepare operational guidelines for initial assessments in respect of the extent of the area affected and the damage to critical infrastructure, lifeline facilities, property and the environment.

s 25(1)(a)(vi) Those agencies tasked with primary responsibility for co-ordinating specific activities associated with disaster response and relief efforts, such as emergency medical care, search and rescue, evacuation, shelter and humanitarian relief, must prepare operational guidelines for initial assessments of the immediate needs of those affected.

s 15(1)(h), s 26(1) Provincial and municipal disaster management centres must ensure that the information contained in the guidelines is also disseminated to the relevant role players in communities and/or areas at risk. The dissemination of the guidelines must be complemented by training and capacity building to ensure their correct application.

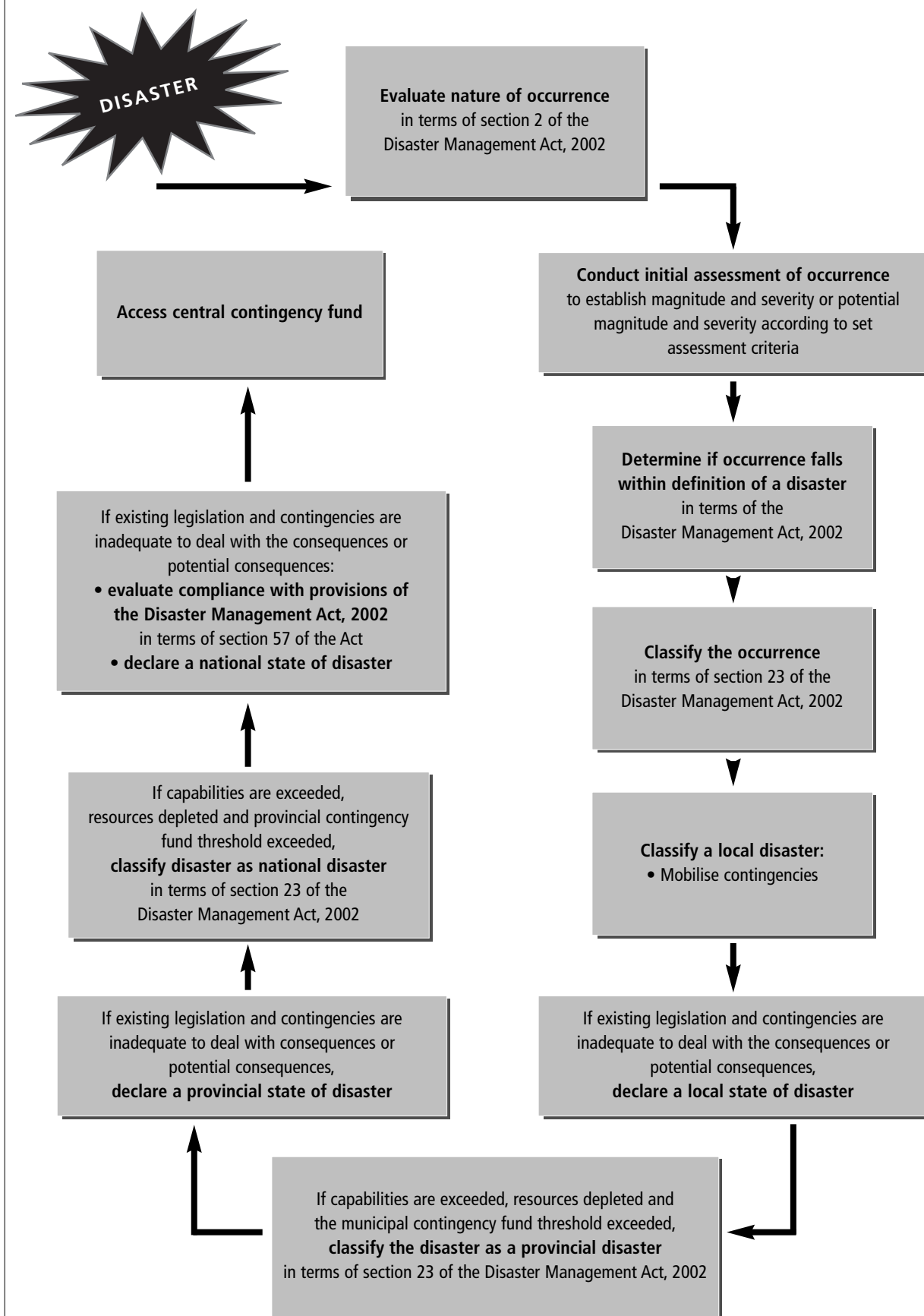
s 56, s 57 The guidelines must include protocols for the inclusion of the results of initial assessments in reports of significant events and events classified as disasters to the disaster management centre of the relevant province or district or metropolitan municipality as well as the NDMC. It is critical that these assessments show evidence that due consideration had been given to the implications of sections 56 and 57 of the Act.

On the whole, limited information about the costs associated with disasters or significant events in South Africa is available. Disaster reviews must therefore include information about the costs of significant events and disasters to inform planning, budgeting and evaluation processes (see subsection 4.2.3 below). To capture this information, a template for the collection of the relevant data must be produced by the NDMC.

4.2.2 Classification of a disaster and the declaration of a state of disaster

s 15(1)(f)(iii) With the exception of a security-related event, the responsibility for strategic co-ordination in responding to a national disaster or significant event which occurs or is threatening to occur rests with the Head of the NDMC.

Figure 4.2: Processes for the classification and declaration of a state of disaster



s 27 The Head of the NDMC must make recommendations to the appropriate organ of state or statutory functionary on whether a national state of disaster should be declared in terms of section 27 of the Act.

s 23, s 41, s 55 The NDMC must establish uniform mechanisms and develop guidelines to facilitate the rapid and effective processing of disaster classifications and declarations.

4.2.3 Disaster reviews and reports

s 20, s 21, s 33, s 34, s 47, s 48, s 56, s 57 Comprehensive reviews must be conducted routinely after all significant events and events classified as disasters. The reviews will provide the information against which to assess the application of the principles of sections 56 and 57. They findings will directly influence the review and updating of disaster risk management plans and will also serve as valuable training aids.

To maximise the benefits gained from regular reviews of significant events and disasters, the NDMC must develop a review programme in consultation with provincial and municipal disaster management centres. Such a programme should include:

- guidelines for the process and procedures to be followed in conducting reviews of significant events and events classified as disasters, including the principles specified in section 56 and the requirements outlined in section 57 of the Act
- appointment of review panels with the relevant expertise
- a mechanism for reporting on the actual performance in a disaster situation with the aim of improving performance
- mechanisms to ensure that post-disaster reviews and reports are disseminated to stakeholders
- mechanisms to ensure that immediately following a significant event or disaster, disaster risk management plans are reviewed and, based on the outcomes of post-disaster reviews, appropriate amendments are made
- mechanisms to ensure that learning occurs.

The NDMC is responsible for providing guidance on the review process. When conducting a review, the appointed review team must take into account local conditions, disaster risk management plans implemented prior to the significant event or disaster, and existing disaster risk management plans.

s 7(2)(m), s 21 4.2.4 Key performance indicators

- Guidelines and uniform methods, including templates, for the assessment and costing of significant events or disasters have been developed.
- Mechanisms for the rapid and effective classification of a disaster and the declaration of a state of disaster have been established.
- s 56, s 57 • Mechanisms for conducting and updating disaster reviews and reporting, including mechanisms to enable assessments that will comply with and give effect to the provisions of sections 56 and 57 of the Act, have been developed and implemented.
- Review and research reports on significant events and trends are routinely submitted to the NDMC and disseminated to stakeholders.
- s 24, s 36, s 50 • Review reports on actual disasters are routinely submitted.

4.3 Integrated response and recovery

4.3.1 Co-ordination of response and recovery efforts

s 25(1)(a)(vi),
s 7(2)(c)(iii)

Responsibility for co-ordinating response to specific known rapid- and slow-onset significant events and disasters must be allocated to a specific organ of state. For example, flood response and recovery efforts would involve the combined efforts of many stakeholders, but the primary responsibility must be allocated to a specific organ of state with the other stakeholders assuming supportive responsibilities. In the case of riverine floods, for example, the Department of Water Affairs and Forestry could bear primary responsibility. In the case of drought, the Department of Agriculture could be the primary agency, and in the case of extreme weather events, the NDMC could assume primary responsibility.

The operational plans and guidelines of the various response agencies that contribute to field operations must be considered when allocating responsibilities for response and recovery. In this regard, primary and secondary responsibilities must be allocated for each of the operational activities associated with disaster response, for example, evacuation, shelter, search and rescue, emergency medical services and fire-fighting.

s 11

Response and recovery operations must also make provision for the delegation of responsibilities of the Head of the centre and the assignment of alternate arrangements for a disaster management centre in a particular sphere as a contingency in the event that the particular disaster management centre itself is affected and unable to continue to operate.

4.3.1.1 Resources

Mechanisms for the activation and mobilisation of additional resources for response and recovery measures must be clearly set out in operational plans.

4.3.1.2 Volunteers

Mechanisms for the deployment of volunteers must be outlined in operational plans.

4.3.2 National standard response management system

Incidents and emergencies handled on a daily basis by emergency and essential services personnel are routinely managed by an incident commander of a particular agency. However, in the case of significant events and disasters which occur or are threatening to occur, a response management system must be implemented to ensure a systematic approach to the effective utilisation of facilities, personnel, equipment, resources, procedures and communication. A response management system provides for the clear allocation of responsibilities, mechanisms for strategic, tactical and operational direction and a participative approach to the management of the event. (See Enabler 1.)

The NDMC must initiate the development of regulations for the implementation of a national standard response management system. The system must identify specific roles and responsibilities for each response and recovery activity included in the operational plans of the various agencies participating in response and recovery efforts. It must also provide for mechanisms to determine the level of implementation of response and recovery measures according to the magnitude of the event or disaster and the capacity of an agency to deal with it. The system must be introduced in all spheres of government. It

should also make provision for the development of partnerships between agencies involved in response and recovery and the private sector, NGOs, traditional leaders, technical experts, communities and volunteers for the purpose of enhancing capacity.

Each agency identified in the response management system must establish standard operating protocols or procedures (SOPs) for co-ordinating response and recovery operations and for ensuring government/business continuity. The SOPs must be consistent with the requirements of relevant legislation, regulations and standards.

The response management system must include common terminology for the identification of stakeholders responsible for direction, control and co-ordination of an event at the operational, tactical and strategic level as well as for the title used for each level. For example, the tactical level (field operations) from where the event is being co-ordinated could be referred to as the Joint Operations Centre (JOC). Where strategic intervention is also required, for example in the case of a significant event, the head of the disaster management centre will be responsible for activating the Disaster Operations Centre (DOC) located in the centre of the relevant sphere.

The system must take into account conditions in South Africa where frequent significant events occurring on a daily basis require extraordinary measures but do not necessarily justify the declaration of a local state of disaster.

The system must provide for a mechanism to track escalation of incidents and facilitate the reporting of 'trigger' indicators. 'Trigger' indicators must be clearly identified and must be reported to the disaster management centres in the various spheres. Examples include the routine reporting of all veld and forest fire incidents to the disaster management centre when fire danger rating indices are at certain levels, or the reporting of all incidents that require a predetermined level of response.

4.3.3 Emergency communication system

In view of the critical role of interagency communication in the management of incidents, significant events and disasters, the NDMC must give priority attention to the development of an emergency communication system for this purpose. (See Enabler 1.)

4.3.4 Media relations

Responsibilities and protocols for media liaison, including press releases and media interviews, in the event of a national disaster occurring or threatening to occur must be determined by the NDMC (see subsection 6.5.3 below).

4.3.5 Regulations and directives for response and recovery operations

s 27(2-4), s 41(2-4),
s55(2-4)

The NDMC must ensure the development of regulations and directives to standardise and regulate the practice and management of response and recovery operations in all spheres of government.

s 7(2)(m), s 21

4.3.6 Key performance indicators

- The organs of state which must bear primary responsibility for contingency planning

and the co-ordination of known hazards have been identified and allocated such responsibility.

- Stakeholders which must bear secondary responsibility for contingency planning and the co-ordination of known hazards have been identified and allocated such responsibility.
- Contingency plans for known hazards by national organs of state have been developed.
- Response and recovery plans are reviewed and updated annually.
- Field operations guides (FOGs) for the various activities associated with disaster response and recovery have been developed and are reviewed and updated annually.
- A national standard response management system has been developed and is reviewed and updated annually.
- SOPs and checklists have been developed and are understood by all stakeholders.
- Regulations and directives for the management of disaster response and recovery operations have been developed and gazetted or published.

4.4 Relief measures

4.4.1 Regulation of relief measures

s 7(2)(f)(iii), s 27,
s 41, s 55

Relief operations following significant events and/or events classified as disasters must be co-ordinated and relief assistance and donations equitably distributed.

The NDMC must initiate the development of regulations to standardise and regulate the practice and management of relief operations.

The regulations must address:

- responsibilities for the release of appeals for donations
- standards of relief (in keeping with international standards)
- duration of relief efforts
- acceptance of international assistance
- South Africa's assistance to other countries.

s 7(2)(m), s 21

4.4.2 Key performance indicators

- Regulations for the management of relief operations have been developed and gazetted.
- Progressive monitoring and annual reviews of regulations for the management of relief operations, based on lessons learned, are conducted.

4.5 Rehabilitation and reconstruction

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In order to ensure an holistic approach to rehabilitation and reconstruction in the aftermath of a significant event or disaster, the organ of state tasked with primary responsibility for a known hazard must facilitate the establishment of project teams for this purpose.

Checks and balances must be effected to ensure that projects and programmes maintain a developmental focus. Project teams established for this purpose must determine their own terms of reference and key performance indicators and must report on progress to the NDMC.

4.5.1 Key performance indicators

- Post-disaster project teams for rehabilitation and reconstruction have been established and operate effectively.
- Mechanisms for the monitoring of rehabilitation and reconstruction projects have been established and regular progress reports are submitted to the NDMC.

4.6 Guidelines and regulations to be disseminated

- National guidelines for conducting disaster assessments.
- National guidelines for the classification and declaration of states of disaster.
- National guidelines for the process and procedures to be followed in conducting reviews of significant events and events classified as disasters.
- National guidelines (set out in FOGs) for the various activities associated with disaster response and recovery.
- Regulations for the management of relief operations.

5. Enabler 1: Information management and communication

Relevant sections of
the Disaster
Management Act,
2002

s 7(2)(i), s 16, s 17

Objective

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

Introduction

Disaster risk management is a collaborative process that involves all spheres of government, NGOs, the private sector, a wide range of capacity-building partners and communities. It requires capabilities to manage risks on an ongoing basis, and to effectively anticipate, prepare for, respond to and monitor a range of natural and other hazards.

Integrated disaster risk management depends on access to 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:

- provide an institutional resource database, including a reporting and performance measurement facility
- facilitate information exchange between primary interest groups
- facilitate risk analysis, disaster risk assessment, mapping, monitoring and tracking
- guide and inform focused risk management and development planning and decision making
- facilitate timely dissemination of early warnings, public awareness and preparedness, especially for at-risk people, households, communities, areas and developments
- enable timely and appropriate decision making to ensure rapid and effective response and recovery operations
- facilitate integrated and co-ordinated multi-agency response management
- record and track real-time disaster response and recovery information
- facilitate education, training and research in disaster risk management
- facilitate funding and financial management for the purpose of disaster risk management.

The system must have the capabilities to acquire, sort, store and analyse data for the purpose of targeting information for primary interest groups. In addition, it must include GIS (geographical information systems) mapping and information display applications, as well as standardised multimedia communication capabilities.

Outline

Section 5.1 introduces the basic requirements of an integrated information management and communication system for the purpose of disaster risk management.

Section 5.2 outlines an integrated information management and communication model for disaster risk management as envisaged in the Act.

Section 5.3 addresses the requirements for the collection of data required to achieve the objectives described in the Act and the national disaster management framework.

Section 5.4 focuses on the information and communication requirements in respect of the KPAs and enablers described in the national disaster management framework.

Section 5.5 focuses on additional specialised functionalities that need to be included in the integrated information management and communication system.

Section 5.6 outlines the development and system requirements of an integrated information management and communication system.

Section 5.7 describes the various communication media required to enable the receipt, dissemination and exchange of information.

5.1 Establishing an information management and communication system

s 7(2)(l), s 16, s 17,
s 32, s 46

Sections 16 and 17 of the Act envisage an integrated and uniform system that provides for information exchange between all the relevant interest groups in all three spheres of government, in communities and in the private sector through a variety of communication mechanisms and media. The system must provide for the receipt, storage, analysis and dissemination of information.

In addition, the information management and communication system must include the establishment of communication links, which will enable the receipt, transmission and dissemination of information between disaster management centres and those likely to be affected by disaster risks as well as other role players and stakeholders involved in disaster risk management. In this regard, the design of the system must take into account the lack of technological infrastructure in areas and communities most at risk, as well as telephonic system failures during disasters. This will require the use of a dedicated two-way national emergency radio communication network.

The NDMC serves as an information clearing house for disaster risk management. In this it is supported by provincial and municipal disaster management centres, which must assist the NDMC with the development and maintenance of information management and communication systems relevant to their areas of responsibility. Provincial and municipal systems must be compatible with the national system and must conform to the requirements of the NDMC.

Responsibility for the various components of the information management and communication system is addressed below (see section 5.4 below).

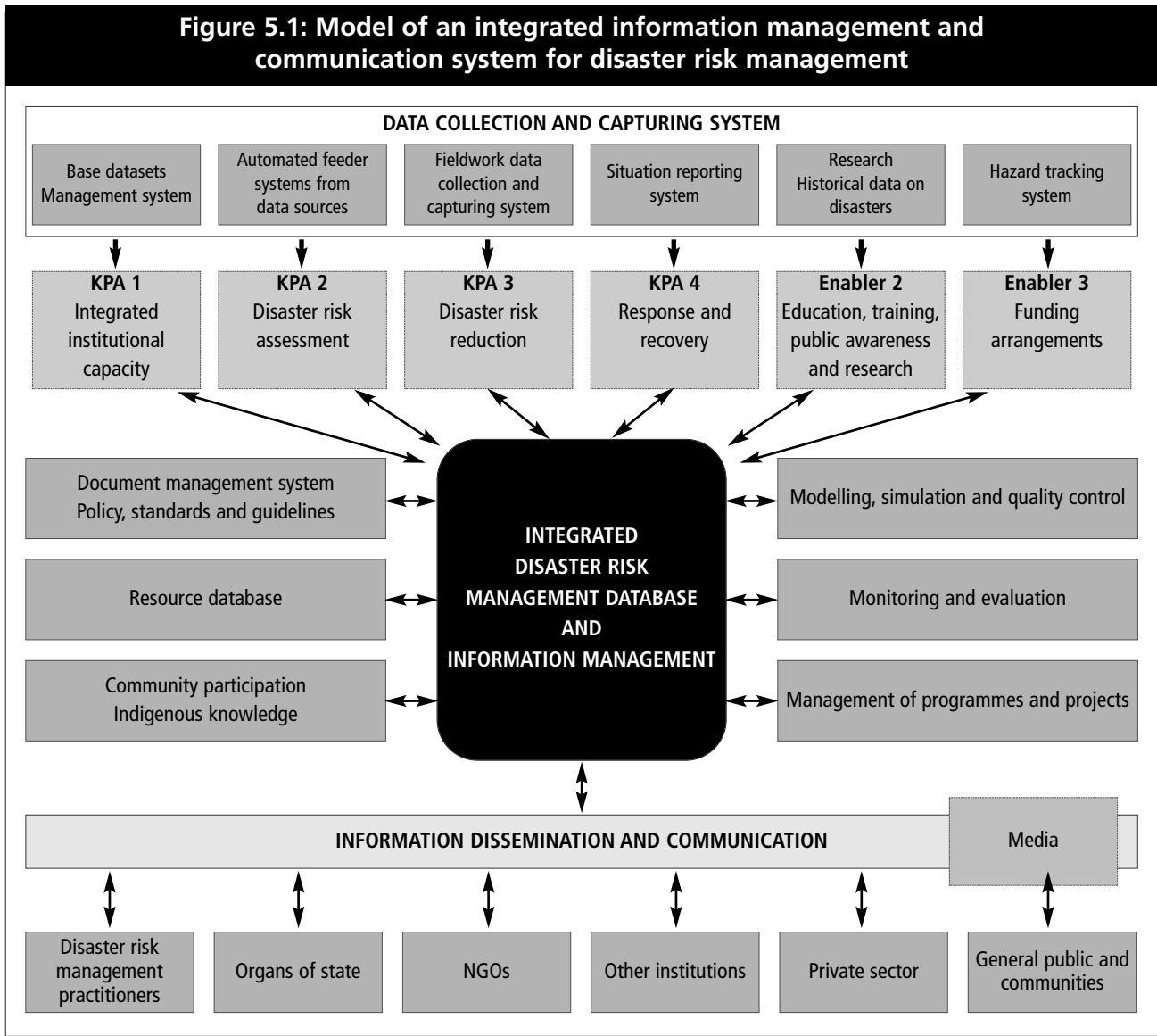
5.2 Integrated information management and communication model

An integrated information management and communication system must be established to achieve the objectives of the KPAs and enablers outlined in the national disaster management framework. Such a system must encompass the following primary functionalities (see Figure 5.1):

- Data acquisition system (data gathering and collection) (see section 5.3 below).
- Support for KPAs (see section 5.4 below)
 - ♦ institutional capacity
 - ♦ disaster risk assessment

- ♦ disaster risk reduction
- ♦ response and recovery.
- Support for the enablers (see section 5.4 below)
 - ♦ education, training and research
 - ♦ funding.
- Additional functionalities required (see section 5.5 below).
- Integrated disaster risk management database and information management (see section 5.6 below).
- Information dissemination and communication links to facilitate information flow between role players (see section 5.7 below).

Responsibility for the different components of the integrated information and communication system needs to be assigned to specific role players. This will ensure that the functionalities required to support the system are developed and maintained. The components must be integrated into a single standardised system that is user-friendly, scaleable per component, and easy to maintain and upgrade.



5.3 Data acquisition (data collection and capturing)

s 18 The NDMC must perform a detailed analysis of the data needs of each KPA and enabler to ensure the objectives of the Act and the national disaster management framework are met. To this end, it must identify both the inputs and data sources (data custodians/data owners) that will be required to ensure effective support for the implementation of the Act and the framework.

The following types of data, among others, will be required:

- base data (for example, topographical, census, land cover, infrastructure, deeds, environmental)
- dynamic data (for example, contact and other relevant details of all role players)
- field data (for example, features of buildings, infrastructure)
- situational reporting system (for example, incidents, local conditions)
- research and historical data (for example, research reports, data on historical incidents)
- hazard tracking (for example, weather conditions, flood, fire hazard conditions, droughts)
- early warnings.

Data obtained in the field, whether electronically recorded (for example, with electronic hand-held devices and differential GPS for real-time data capture) or paper-based (for example, questionnaires) must be uploaded to the integrated disaster risk management database using standardised input forms or templates to ensure uniformity of data capturing formats. The Internet, via wireless communication, could also be used to obtain access to source data.

To obtain access to data required for disaster risk management activities, provision must be made for importing data from identified existing databases and GIS systems owned and used by other organs of state and organisations to perform their primary activities (for example, topographical datasets owned and maintained by the Department of Land Affairs; census data owned by Statistics South Africa). The NDMC must negotiate agreements with all identified data custodians for access to the relevant datasets and the management and maintenance of such datasets to ensure quality and reliable data inputs. The NDMC must also assign responsibility to the respective data custodians with regard to the provision of access to data and the quality and reliability of the data provided.

s 7(2)(m), s 21

5.3.1 Key performance indicators

- Data needs have been defined by the NDMC.
- Data sources have been identified by the NDMC.
- Data collection and capturing methodologies have been developed and implemented.
- The responsibilities of the respective data custodians have been defined and assigned.
- Agreements with identified data custodians have been negotiated to ensure availability, quality and reliability of data.

5.4 Information management and communication support for key performance areas and enablers

This section describes the basic information management and communication system features required to support the KPAs and enablers described in the national disaster management framework.

5.4.1 Key performance area 1: Integrated institutional capacity for disaster risk management

KPA 1 deals with the establishment of integrated institutional capacity to give effect to the Act. In this regard, it outlines a number of functions that have to be performed by the information management and communication system. These are listed below.

- A directory of the names, contact details and roles and responsibilities of all key role players in national, provincial and municipal organs of state involved in disaster risk management must be developed and maintained.
- A directory of the names, contact details and roles and responsibilities of all key role players in the ICDM must be recorded and regularly updated.
- The names, contact details and roles and responsibilities of all members of the NDMAF and similar forums established at provincial and municipal levels, as well as mechanisms for accessing emergency resources under their control, must be recorded and regularly updated.
- A record of decisions and recommendations made by the ICDM and the NDMAF must be disseminated to all role players affected by the decisions.
- A directory of the names and contact details of all members of planning project teams initiated by the various disaster management advisory forums (or similar forums at provincial and municipal level) must be established and maintained. Minutes of meetings must also be recorded and records kept.
- A central communications centre, with a central 24-hour communications facility for reporting purposes as well as for managing the dissemination of early warnings, must be established. A reflexive facility for confirming or acknowledging receipt of early warnings should be part of the system. The centre must also allow for the co-ordination of response measures in the case of significant events and disasters.
- International co-operation, memoranda of understanding, mutual assistance agreements and bilateral and multilateral agreements must be recorded and updated.
- An accurate record-keeping system, incorporating disaster risk management, disaster risk reduction and contingency plans, plans for specific projects, minutes, reports, memoranda and correspondence, must be established and maintained.
- Comprehensive records of units of volunteers, including skill levels and capabilities, must be maintained.
- A directory of the names of community participation structures and the contact details of the participants must be established and maintained.
- A record of performance measurement and monitoring of disaster management centres and primary entities tasked with disaster risk management responsibilities must be kept.

5.4.2 Key performance area 2: Disaster risk assessment

Critical analysis and assessment of the implications of natural or technological hazards and environmental degradation depend on both spatial and non-spatial information. Such information assists in:

- identifying hazards and their potential impacts
- mapping of hazards and disaster risks
- planning appropriate disaster risk reduction measures
- monitoring and tracking hazards for the purposes of early warnings and updating this information
- facilitating response management when significant events or events classified as disasters occur, assessing and tracking the damage caused by hazards, and planning appropriate response and recovery measures

- evaluating the appropriateness and effectiveness of disaster risk reduction measures as well as response and recovery plans.

The disaster risk assessment component of the information management system must therefore be able to produce electronic GIS-based risk profiles generated from standardised data inputs. Such inputs may be drawn from a range of sources, including hazard and disaster event tracking, vulnerability monitoring, historical reviews of significant events and disasters, scientific and specialist research, and field consultations in areas and communities most at risk. Data and information captured and used in the municipal and provincial spheres also need to be included in the information management system. To develop comprehensive profiles, the information management system is required to reflect changes in status through the use of predefined and customisable parameters.

The hazard and vulnerability functionality must allow for disaster risk assessment information to be represented as GIS-based risk maps, with different layers holding data about particular features of the map. Maps must be produced for different types of hazard, including, among others, fire, flood, drought, major transport incidents and infrastructure collapse. In addition, they should provide information on political boundaries, transport networks, settlements and natural resources. These maps must make provision for layers of data containing basic location information about hazards with thematic support maps displaying data about specific features such as population distribution, infrastructure, geological information, landforms, drainage, land use/land cover and soils.

The vulnerability of communities, businesses and infrastructure must be determined by overlaying different risk maps on base maps to evaluate and analyse the potential impacts of identified hazards and risks. These hazard and vulnerability maps must also be disseminated or displayed for orientation and training purposes.

5.4.3 Key performance area 3: Disaster risk reduction

5.4.3.1 Disaster risk reduction planning component

Once indicative disaster risk profiles have been developed, an integrated planning functionality will be required to assist role players in all spheres of government with the development and updating of disaster risk management plans. Such a component would need to draw on the risk profiles and a detailed resource database and would have to facilitate both risk reduction planning and contingency planning.

5.4.3.2 Disaster risk reduction component

This component must facilitate the inclusion of disaster risk reduction strategies in IDPs and other development initiatives and programmes. It must enable tracking of the status of these initiatives, programmes and plans and storage of related documentation and correspondence. Planning templates must facilitate standardised planning and recording of programmes and plans and must be linked to GIS for easy retrieval and updating.

5.4.4 Key performance area 4: Response and recovery

5.4.4.1 Response and recovery component

This component is intended to facilitate the management of response and recovery operations and the recording, retrieval and updating of specific real-time information during single and multiple significant events and/or disasters. It must also allow for direct links with the communication system to provide the information required for mobilisation.

The response and recovery component must include the following:

- the area affected (indicating the specific and surrounding affected areas and links to all the spatial and other relevant data associated with the area)
- the type of event (classification by type, magnitude and severity)
- analysis of status of critical lifeline infrastructure
- analysis of reported impacts and monitoring of progress with recovery operations in accordance with standard assessment and situation report formats
- situation reporting, tracking and analysis of status of critical disaster operations, such as search and rescue, emergency medical care, access routes and fire suppression
- response and recovery resource database, including:
 - ♦ primary agency (contact details of the primary agency, response and recovery plans and SOPs applicable to the specific area and event)
 - ♦ resources and support agencies (contact details of the support agencies, response and recovery plans and SOPs applicable to the specific activity)
 - ♦ relevant service providers (listing of all other related services that may be required to assist with response and recovery operations in a specific area).

The response and recovery features should be designed as templates and drop-down menus to make the information easily accessible for use by all role players during a disaster or significant event.

Provision must be made for real-time manipulation of data related to the event or disaster gathered during the planning phase. The component must also be linked to the resource database (see subsection 5.5.2 below) to assist in identifying the location of resources locally and to facilitate and record the management and allocation of resources during a significant event or disaster. The DOC must be able to access this information in order to track the deployment of resources and the progress of response activities.

Specialist GIS-based applications must facilitate computer-aided management of response and recovery operations by allowing for simulated or real-time modelling, tracking and situational reporting in an affected area. These applications must be linked to the information management system.

5.4.4.2 Mobilisation and communication component

The primary system requirements for mobilisation and communication are an on-site automated dialling and/or message delivery system and two-way radio communication facilities that call designated small or large groups of people, community members, volunteers and response agencies where required. The method of communication should be determined consultatively with various role players.

The system must be able to use standard landline telephones, cellular telephones connected to all available networks, and telephony-enabled radio systems. It must relay digitally recorded voice messages to and request responses from recipients, who must be able to use the telephone keypad to send signals in reply. All details of all calls must be logged and reports generated from this information. The system must also be capable of sending messages to pagers (alpha and digital) and sending e-mails and faxes.

5.4.4.3 Event logging and tracking management component

The system must allow for the recording and logging of all messages received and sent, all decisions made, and instructions or directives communicated during a significant event or disaster. Recording devices must allow for the recording and storage of voice,

pictures and documents as well as their retrieval ‘on the fly’ for management and evaluation purposes.

5.4.5 Enabler 2: Education, training, public awareness and research

To support the education, training, public awareness and research enabler, the following functionalities are required:

- Education and training programmes pertaining to disaster risk management in all spheres of the education system need to be recorded and monitored.
- The content of education and training programmes as well as records of participants (professionals, volunteers, communities, learners) and the education and training programmes they attended must be recorded.
- A register and records need to be kept of all accredited service providers as well as accredited facilitators to ensure that minimum standards set by Sector Education and Training Authorities (SETAs) are met.
- Research programmes and projects need to be registered and monitored and the information disseminated to relevant stakeholders.
- Initiatives related to an integrated awareness programme by all spheres of government need to be recorded to minimise duplication and to ensure synergy among stakeholders.

The NDMC is responsible for the development of such a system. All organs of state in all spheres of government must use the system to record information related to disaster risk management training, education, awareness and research.

5.4.6 Enabler 3: Funding arrangements for disaster risk management

Provision must be made for a database that contains data relating to all funding matters. The funding mechanisms for different aspects of disaster risk management, budgets, applications for funding, approvals and spending need to be recorded to ensure proper usage and management of available funding.

s 7(2)(m), s 21

5.4.7 Key performance indicators

An integrated information management and communication system has been designed and implemented to support:

- integrated institutional capacity
- disaster risk assessment
- disaster risk reduction programmes and plans
- response and recovery operations
- education, training, public awareness and research
- funding mechanisms and financial controls.

5.5 Specialised system functionalities

5.5.1 Document management system

A comprehensive documentation management system must be developed to allow for classification, storage and retrieval of all documents pertaining to disaster risk management policies, standards, regulations and guidelines. The system must also provide for the classification, storage, and retrieval of all documents pertaining to institutional capacity (minutes of meetings, agreements), disaster risk assessments (risk assessment

s 25(3)(a), s 38(3)(a),
s 52(2)(a)

reports), disaster risk reduction programmes, plans and operational activities (action plans, SOPs, memoranda). This would facilitate ease of access for all users in the three spheres of government. It would also facilitate the inclusion of relevant information in the training and information systems. The system must accommodate text, video, digital, electronic and voice formats.

The NDMC is responsible for developing a uniform documentation management system, which must be used by all national, provincial and municipal organs of state to submit, record and retrieve documentation related to disaster risk management.

5.5.2 Resource and capacity database

s 17(2)(i)

A comprehensive, uniform and easily updateable resource and capacity database must be developed and implemented to support the activities described in the KPAs and enablers. To this end, the following data must be captured:

- infrastructure and facilities
- human resources
- equipment and material.

The database must be accessible to all national, provincial and municipal organs of state as well as NGOs. These users must be able to access, record and update their data sections, which should include the resources and capacities they have available for the purpose of disaster risk management. It is therefore necessary to assign responsibility for the updating and maintenance of the respective sections of the database to designated officials in the relevant organs of state. The NDMC must ensure that the system is maintained and the information is available to all role players.

5.5.3 Modelling and simulations functionality

The functionality to perform modelling and simulation of risks related to different scenarios and the probability that specific events would occur must be provided in order to ensure a continuous situational awareness and the effective allocation of resources.

Furthermore, simulations can also be used in training programmes aimed at developing and evaluating skills and competencies in particular roles. The effectiveness of specific courses of action in real-life situations can also be determined through the use of modelling and simulations. Such models can be used to ensure that policies and procedures to address specific situations or events follow best practice.

5.5.4 Monitoring and evaluation system

s 15(1)(b), s 19(a–b),
s 21

The Act and the national disaster management framework emphasise the role of the NDMC, PDMCs and MDMCs in monitoring and measuring performance and evaluating the status of all disaster risk management activities in their respective areas of jurisdiction. To facilitate a uniform approach and simplify reporting on the status of disaster risk management by organs of state in all spheres of government, one integrated monitoring, reporting and evaluation system must be developed and implemented. The NDMC is responsible for the development and implementation of such a system. All organs of state in all spheres of government must use the system to report on the status of their programmes, plans and operations.

s 7(2)(m), s 21(a)(iii),
s 24, s 36, s 49

The key performance indicators outlined in the national disaster management framework must be used as a basis for the monitoring and evaluation system. Annual reports submitted by the NDMC, PDMCs and MDMCs, as required by the Act, must also be included in the system.

5.5.5 Management of disaster risk management programmes and projects

s 19(e), s 25, s 38,
s 39, s 53

An integrated portfolio (homogeneous grouping of programmes or projects and programmes per KPA, province or department), programme and project management system must be developed and implemented by the NDMC. Features that need to be included in this component are:

- disaster risk management planning
- mechanisms to monitor progress with the preparation and regular updating of disaster risk management plans
- mechanisms to track the status of projects.

The portfolio, programme and project management system must allow all role players in all spheres of government involved in implementing disaster risk management programmes and projects to view information related to their respective programmes and projects. These role players must also have secure access to the system, allowing them to register new projects, update existing information, view and track progress and cost information.

5.5.6 Quality management system

A quality management system (QMS), which will form an integral part of the disaster risk management database, must be established. The purpose of the QMS is to ensure the quality of management and operational processes conducted by organs of state involved in disaster risk management in the three spheres of government. It will ensure the integrity and effectiveness of the information management and communication system on an ongoing basis and in a planned and systematic manner.

The QMS must conform to the requirements of ISO 9001 – the standard for quality management systems set by the International Organization for Standardization (ISO). The NDMC, PDMCs and MDMCs must establish, document, implement and maintain a QMS and continually improve its effectiveness in accordance with the requirements of ISO 9001.

A designated person within each disaster management centre must be assigned responsibility for performing the quality management function and must report directly to the Head of the centre.

All organs of state involved in planning and implementing disaster risk management projects, either as primary agencies or as members of project teams, must use the system to record and update their project plans.

s 7(2)(m), s 21

5.5.7 Key performance indicators

- A uniform document management system has been developed and implemented and is used by all role players.

- A comprehensive, uniform and easily updateable resource and capacity database has been developed and implemented and is used by all role players.
- A modelling and simulation application has been developed and is used by all role players.
- An integrated monitoring and evaluation system has been developed and implemented and is used by all role players.
- A uniform programme and project management tool has been developed and is used by all role players involved in disaster risk management programmes and projects.
- A QMS has been developed and implemented, and designated individuals in relevant national, provincial and municipal organs of state have been assigned responsibility to administer the system.

5.6 Development of an integrated information management and communication system

The initial step in developing an integrated information management and communication system for disaster risk management is to integrate the data in existing databases and information management systems, as well as the databases developed for each KPA and enabler (as described in this enabler), into a coherent, integrated database (utilising a tool appropriate for the purpose) (see sections 5.3, 5.4 and 5.5 above). In addition, shortcomings and problem areas must be identified and addressed to ensure that the system meets the requirements detailed in the national disaster management framework.

A comparative analysis to identify the difference between the actual or current system and the desired, future system described in the national disaster management framework must be undertaken to inform the development process. The analysis must incorporate relevant standards and inputs from all stakeholders.

5.6.1 System requirements

The minimum system requirements for an information management and communication system are listed below.

- The development and management of the information management and communication system must occur within the context of the objectives identified in the Act and the national disaster management framework.
- The information management and communication system must be designed in such a way that it can be built, implemented, maintained and modified in a modular, flexible, evolutionary and incremental manner.
- The various components and functionalities of the information management and communication system must provide the platform for a single, shared Disaster Risk Management Common Operating Environment designed for use in the field of disaster risk management. The Common Operating Environment (COE) must facilitate:
 - ♦ interoperability between systems and system components
 - ♦ sharing of common system components
 - ♦ common infrastructure components and common data/information
 - ♦ reuse and customisation of system solutions or components.
- A critical aspect of the COE, and, by extension, the entire information management and communication system, is the need for improved, high-performance communications solutions.
- Clear roles and responsibilities for the provision and governance of an information management and communication system for disaster risk management must be

identified and assigned to the appropriate primary and support agencies and stakeholders involved in disaster risk management.

- Users and user communities must carefully formulate their own requirements with regard to management information requirements.
- Secure access remains a crucial concern. Users must be able to trust the information management and communication system.
- The information management and communication system must accommodate a management information component for the production of reports as required by the Act.
- The information management and communication system must be designed to keep pace with the constantly increasing flow of data, information and intelligence resulting from greater use of computer systems as well as the ongoing development of high-performance data communications and powerful sensor systems.
- Appropriate and ongoing training in working with new digital tools must be provided.

s 7(2)(m), s 21

5.6.2 Key performance indicators

- A disaster risk management information and communication system for all spheres of government has been established and implemented.
- The disaster risk management information and communication system supports the KPAs and enablers in all spheres of government.
- Provincial and municipal information management and communication systems are fully compatible with the national system and are part of a single integrated network.

5.7 Information dissemination and display system

s 17(3)

To ensure accessibility and widespread use of disaster risk management data and information, an effective information dissemination and display system needs to be developed and implemented by the NDMC in consultation with PDMCs and MDMCs. The identification and definition of the information needs of all role players as well as the identification of the most appropriate channels of communication are an integral part of this process. In addition, the NDMC must ensure that public-access systems are available in several languages.

Section 17(3) of the Act requires the NDMC to take reasonable steps to ensure that disaster risk management information is electronically available to any person free of charge. To this end, the NDMC must develop, implement and maintain an interactive website to provide controlled access to the information management system based on defined information needs.

A public information service which makes provision for two-way communication within communities and among individuals by providing information on disaster risk reduction, preparedness, response, recovery and all other aspects of disaster risk management, is required. Such a service must provide communities with the mechanisms for obtaining access to assistance in the event of a significant event or disaster and for reporting important local information to the relevant disaster management centre. A facility for the purpose of information dissemination to the media must also be included in the service.

This information dissemination and display system must make provision for the dissemination of visual, electronic and hard-copy information. Links to all components in the information management and communication system must be created to obtain the required information. Links must also be established with the recipients of information

to facilitate an easy-to-use reporting and publishing function. The system must also allow for the visual display of GIS-related information and for functionality to connect to and publish information on the Internet.

s 7(2)(m), s 21

5.7.1 Key performance indicators

- Information dissemination programmes and channels of communication between all spheres of government, organs of state, communities and the media have been established.
- Disaster risk management information is easily accessible for all at no additional charge.

5.8 Guidelines to be disseminated

- National guidelines for the implementation of the integrated information and communication system in provincial and municipal spheres.
- National guidelines for disaster risk management programme and project management.
- National guidelines for a disaster risk management performance measurement, monitoring and evaluation system.

6. Enabler 2: Education, training, public awareness and research

Relevant sections of
the Disaster
Management Act,
2002

s 15, s 20(2)

Objective

Promote a culture of risk avoidance among stakeholders by capacitating role players through integrated education, training and public awareness programmes informed by scientific research.

Introduction

Sections 15 and 20(2) of the Act specify the encouragement of a broad-based culture of risk avoidance, the promotion of education and training throughout the Republic, and the promotion of research into all aspects of disaster risk management. This enabler addresses the requirements for the development and implementation of a national education, training and research needs and resources analysis and a national disaster risk management education and training framework, the development of an integrated public awareness strategy, including effective use of the media, the development of education and training for disaster risk management and associated professions, and the inclusion of disaster risk management in school curricula. It also outlines mechanisms for the development of a disaster risk research agenda.

Outline

Section 6.1 focuses on the development of a national education, training and research needs and resources analysis.

Section 6.2 outlines the requirements for the development and implementation of an integrated national disaster risk management education and training framework.

Section 6.3 discusses the promotion of education for professionals in disaster risk management and associated fields and for learners in primary and secondary schools.

Section 6.4 addresses the development of disaster risk management training programmes.

Section 6.5 describes the development of an integrated public awareness strategy and the promotion of risk-avoidance behaviour.

Section 6.6 focuses on research programmes and the provision of information and advisory services.

6.1 National education, training and research needs and resources analysis

A national education, training and research needs and resources analysis must be conducted to determine the disaster risk management education, training and research needs of those involved in disaster risk management across sectors, levels and disciplines. The needs and resources analysis must include an audit of existing resources. The design of the analysis must be based on scientifically acceptable research principles and methods and not on perceived needs.

6.1.1 Responsibility for conducting a national education, training and research needs and resources analysis

It is the responsibility of the NDMC to undertake a national education, training and research needs and resources analysis (NETaRNRA) and facilitate the process. The analysis must be conducted as a matter of urgency and should be completed within two years of the implementation of the national disaster management framework.

s 7(2)(m), s 21

6.1.2 Key performance indicators

- A scientific NETaRNRA has been completed within two years of the implementation of the national disaster management framework.
- The NETaRNRA serves as the foundation for the development of a national disaster risk management education and training framework.
- The NETaRNRA informs the development of appropriate education and training programmes that not only build on existing strengths but are responsive to southern Africa's changing disaster risk management needs.

6.2 National disaster risk management education and training framework

In order to ensure that education and training needs are addressed in a uniform manner and in accordance with the NETaRNRA and the National Indicative Disaster Risk Profile, a national education and training framework must be developed. The framework should focus on the areas outlined below.

- Communication of the Act and the national disaster management framework, by:
 - ♦ communicating and integrating the policy objectives of the Act across the three spheres of government
 - ♦ defining a comprehensive education, training, research and human resource capacity-building guide which contains the requirements for successfully delivering the outputs called for in the Act, the Green Paper on Disaster Management, the White Paper on Disaster Management and the national disaster management framework.
- Establishment of uniform qualification criteria, by:
 - ♦ identifying and defining all levels of disaster risk management education and training
 - ♦ identifying and defining possible exit level qualifications and the registration of these qualifications in accordance with the requirements of the South African Qualifications Authority (SAQA) and the National Qualifications Framework (NQF)
 - ♦ identifying measures that support regional and associated efforts in disaster risk management education and training
 - ♦ establishing minimum standards for education and training materials.
- Establishment of procedures for registration and certification of education and training professionals and programmes, by:
 - ♦ determining criteria and a process for the registration of disaster risk management training providers and facilitators/trainers, and for the appointment of a custodian of such a register
 - ♦ determining criteria and a process for certification and accreditation of various education and training programmes through a central quality assurance body
 - ♦ reviewing current qualification requirements and, where necessary, establishing appropriate qualification requirements for different levels of disaster risk manage-

- ment officers and heads of disaster management centres in all spheres of government
 - ♦ determining the requirements for disaster risk management learnerships
 - ♦ allowing for regular assessments and adaptations of disaster risk management unit standards.
- Integration of disaster risk management training, education and research into strategic areas, by:
 - ♦ establishing a process for the integration of disaster risk management into education and training programmes of other relevant disciplines
 - ♦ determining criteria for a research directory of disaster risk management research for academics and students, as well as criteria for the appointment of a custodian of such a directory
 - ♦ investigating the mainstreaming of disaster risk management research into development planning and practice
 - ♦ determining criteria and processes for recording awareness programmes, and for the custodian of such information.

The education and training framework must also serve as a mechanism for recording available education and training programmes and courses in both South Africa and other countries in southern Africa.

6.2.1 Responsibility for developing a national disaster risk management education and training framework

The NDMC must ensure the development of a national education and training framework within two years of the implementation of the national disaster management framework.

The NDMC must ensure that all education and training standards and qualifications comply with the requirements of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995) and the guidelines prescribed in the NQF.

6.2.2 Mechanisms for standards, accreditation and registration

A technical advisory body, straddling both national and provincial spheres of government, must be established to assist the NDMC, PDMCs, MDMCs and SETAs to maintain the required standards of disaster risk management education across all functional/professional areas. The technical advisory body should also ensure that similar standards underpin the national education and training framework. Subcommittees of the technical advisory body with specific roles and responsibilities may be initiated by each province.

Members of the technical advisory body must be appointed by the NDMC. They must be recognised individuals in the field and their appointments must be based on their knowledge of and their contributions to disaster risk management as a whole. These role players should include representatives from institutions of higher learning, research institutions, the Department of Labour, the Department of Education, SETAs, provincial governments, NGOs and the private and public sectors.

An accreditation and registration system must be established to ensure that all education and training initiatives undertaken by specialist agencies, trainers, training institutions, NGOs, and the private and public sectors comply with the minimum standards established for disaster risk management education and training.

Where possible, short and/or modular education and training courses and programmes must be designed and structured in such a way that participants are awarded credits that contribute towards obtaining a formal qualification.

6.2.3 Key performance indicators

- A national disaster risk management education and training framework has been developed and directs the implementation of all disaster risk management education and training in South Africa.
- All disaster risk management education and training standards and qualifications comply with the requirements of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995) and the guidelines prescribed in the NQF.
- A technical advisory body has been established.
- An accreditation and registration system has been established to ensure that all education and training providers and facilitators are registered and accredited.

6.3 Disaster risk management education

Disaster risk management education programmes must be designed as part of the formal education system and must be in line with the NETaRNRA, the national education and training framework and SAQA and NQF requirements.

6.3.1 Education for disaster risk management professionals (NQF levels 5–8)

Specific education programmes that will enhance a professional career path in disaster risk management must be further developed and implemented by tertiary institutions in accordance with approved unit standards and academic requirements.

6.3.2 Education for practitioners in professions associated with disaster risk management (NQF levels 5–8)

Aspects of disaster risk management must be integrated into the existing education programmes of relevant professions associated with disaster risk management.

6.3.3 Integration of disaster risk reduction education in primary and secondary school curricula (NQF levels 1–4)

Disaster risk reduction education must be integrated in primary and secondary school curricula. Schools should be regarded as focal points for raising awareness about disaster risk management and disaster risk reduction. The risk reduction component of disaster risk management education should be linked to broader education programmes on development and the environment.

6.3.4 Responsibility for the development of accredited education programmes

The NDMC is responsible for promoting, facilitating and monitoring the development, implementation and accreditation of education programmes for professionals in disaster risk management and associated fields. The NDMC should also promote, facilitate and monitor the development and implementation of education programmes in schools.

6.3.5 Monitoring and evaluation

The NDMC must establish a register of all disaster risk management programmes and institutions offering education in disaster risk management and related fields.

The NDMC must facilitate the appointment of an independent body to serve as an education and training quality assurer (ETQA) of facilitators, presenters, other service providers and course materials.

The NDMC must also establish a register of all accredited facilitators, presenters, instructors, educators and institutions offering formal disaster risk management programmes, as well as a register of formal disaster risk management course materials.

s 7(2)(m), s 21

6.3.6 Key performance indicators

- Curricula for various NQF levels within different disciplines have been developed and applied in line with the NETaRNRA.
- Aspects of disaster risk management are included in the curricula of all relevant tertiary disciplines as well as relevant primary and secondary school programmes.
- Various quality professional courses, workshops, seminars and conferences, focusing on issues of disaster risk through a multidisciplinary approach, are held.
- Approved service providers have been registered and are offering education and training services and products.
- There is widespread use of education and training materials.
- Qualified facilitators, instructors and presenters have been accredited.
- An ETQA has been appointed.

6.4 Training programmes for disaster risk management

Disaster risk management training programmes must be designed in line with the NETaRNRA, the national education and training framework and, where appropriate, SAQA and NQF requirements.

6.4.1 Types of training

Training outside of the formal primary, secondary and tertiary education systems has a pertinent role to play in the drive to transfer skills and to capacitate disaster risk management stakeholders and other interested persons.

Such training programmes may include accredited interventions registered with the NQF which may earn trainees credits towards a registered qualification, as well as programmes that are not accredited.

Training interventions may include:

- modular courses
- short courses
- workshops
- conferences
- seminars
- mentorships
- in-service training

- learnerships
- self-teaching, experiential training
- mass communication
- indigenous knowledge
- drills, exercises and rehearsals.

The NDMC must make every effort to promote the registration of training programmes, such as short courses and workshops, with the relevant SETAs so that they can count as credits towards formal qualifications.

6.4.2 Training programmes for government officials and policy makers

Training programmes for government officials and policy makers must cover disaster risk reduction and other relevant areas, which may include development planning, hazard identification and assessment, communicable diseases, dry land agriculture, participatory rural appraisal, applied climate science and GIS. Such training programmes must embrace the multidisciplinary and interdisciplinary dimensions of disaster risk reduction and should be informed by the relevant indicative risk profile. The training of municipal councillors and officials should take place within the context of the national education and training guidelines provided by the Skills Development Act, 1998 (Act No. 97 of 1998), the Skills Development Levies Act, 1999 (Act No. 9 of 1999) and the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995). The provisions contained in these Acts will have a direct bearing on the qualifications and career paths of officials involved in disaster risk management.

6.4.3 Training programmes for communities

Training programmes for communities must focus on disaster risk awareness, disaster risk reduction, volunteerism and preparedness. Local indigenous knowledge needs to be incorporated into training programmes aimed at local communities. Where appropriate, communities must be given the opportunity to modify and enhance training programmes through the inclusion of indigenous knowledge, practices and values, and the incorporation of local experience of disasters and disaster risk management. Indigenous knowledge must also be harnessed and incorporated into needs analyses and course development processes.

6.4.4 Training of volunteers

s 58 Special training programmes must be developed for persons interested in volunteering their services (see subsection 1.3.3 above). These programmes should address issues such as disaster risk reduction, vulnerability assessments, greater awareness of risks and hazards and general preparedness and response. There should be an emphasis on the training of community trainers in order for them to serve as ‘force multipliers’ by, in turn, training others. In this regard, special consideration must be given to the costs of training, provision of protective clothing, travel expenses, insurance and incentives.

MDMCs must maintain a record of all volunteers trained in such programmes for submission to the NDMC for inclusion in the national database.

6.4.5 Training of trainers and facilitators

Training programmes must facilitate the development of accredited trainers and facilitators in the field of disaster risk management so that they can transfer improved skills and knowledge to relevant organisations and or communities at risk. Such programmes must be in line with the education and training framework and informed by the NETaRNRA.

6.4.6 Learnerships

Disaster risk management learnerships must be developed and promoted. These should include mentorship programmes that involve the transfer of skills from experienced officials to young inexperienced learners. Such learnerships must be in line with SAQA and NQF requirements. Existing learnership programmes covering aspects of disaster risk management should also be explored, both for training purposes and to augment disaster risk management learnerships.

6.4.7 Responsibility for the development of training programmes

s 7(2)(g) The NDMC is responsible for promoting, facilitating and overseeing the development and implementation of training programmes and materials for practitioners in disaster risk management and associated fields (including government officials, policy makers, trainers and facilitators), relevant stakeholders and interested people and communities.

National, provincial and municipal organs of state must plan, organise and implement training programmes relevant to their respective areas of responsibility in consultation with local communities and in line with the NETaRNRA.

NGOs and private sector institutions should be encouraged to plan, organise and implement disaster risk management training programmes for clients, suppliers, service providers and the general public.

6.4.8 Monitoring and evaluation

The NDMC must establish a service provider register to regulate the quality and standards of training programmes. The NDMC must ensure that a register of facilitators, presenters, service providers and course materials is kept in accordance with the national disaster risk management education and training framework.

The NDMC must facilitate the appointment of an independent body to serve as an ETQA to approve course materials as well as facilitators, presenters and other service providers.

s 7(2)(m), s 21

6.4.9 Key performance indicators

- Ongoing training interventions, including short courses, workshops, seminars and conferences, are available to stakeholders.
- Training programmes have been developed and implemented.
- Facilitators, instructors and presenters have become qualified and have been accredited.
- Approved service providers have been registered and are offering training services and products.
- Widespread community-based disaster risk management training (in line with national training standards) is taking place.

- Disaster risk management learnerships have been developed and are operational.
- An ETQA has been appointed.

s 20(2)

6.5 Creating awareness, promoting a culture of risk avoidance and establishing good media relations

6.5.1 Integrated public awareness strategy

s 20(2), s 17(1)(d),
s 17(2)(f)

An integrated public awareness strategy must be developed and implemented nationally to encourage risk-avoidance behaviour by all role players, including all departments in the three spheres of government, and especially in schools and in communities known to be at risk. Such a strategy is necessary for the promotion of an informed, alert and self-reliant society capable of playing its part in supporting and co-operating with the government in all aspects of disaster risk and vulnerability reduction. The National Indicative Disaster Risk Profile (see KPA 2) and the NETaRNRA must inform the integrated awareness strategy.

s 17(1), s 17(2)(g)

To achieve this objective, a disaster risk management public awareness and information service, which takes cognisance of relevant international trends and initiatives as well as indigenous knowledge, must be established by the NDMC. As part of this service, the NDMC must support provincial and municipal disaster management centres with the implementation of programmes in communities at risk which focus on the hazards to which the communities are exposed and the steps they should take to reduce the impact. The disaster risk management public awareness and information service will be a critical interface between the information management system, the emergency communication system, all organs of state involved in disaster risk management and the general public. (See Enabler 1.)

The development of a user-friendly public-access website with relevant and up-to-date information on disasters, disaster risk and key institutional role players is a critical component of such an information service. The employment of qualified resource personnel to take responsibility for functions, for example, materials development, external consultation processes and liaison with the media (print, radio and television), will be necessary to ensure the success of the service.

In order to inculcate risk-avoidance behaviour by all stakeholders, public awareness campaigns aimed at raising consciousness about disaster risks must provide information on how to reduce vulnerability and exposure to hazards. Such campaigns could include:

- organised and planned awareness programmes aimed at communities, officials, politicians and other stakeholders, using the media, posters, videos, publications and any other innovative means
- planned conferences by all disaster management centres in all spheres of government, with participation by the relevant intergovernmental relations structures, and, in the case of provinces, the inclusion of municipal intergovernmental structures in provincial conferences
- imbizo meetings (the participation of volunteers at such meetings is recommended)
- awareness campaigns conducted at least 30 days before a change of season or climate
- annual recognition and celebration of World Disaster Risk Reduction Day (the first Wednesday in October)
- rewards, incentives, competitions and recognition schemes to enhance awareness of and participation in risk reduction activities

- dissemination of information to all role players, especially those at risk, through the use of communication links and early warning systems.

Public information should be disseminated through radio, television, print and electronic media and schools. In addition, information centres and networks should also be established.

6.5.2 Schools

The NDMC must seek to establish links with existing awareness creation programmes in schools for the purpose of disseminating information on disaster risk management and risk avoidance. The creation of programmes in schools, focusing on relevant and appropriate aspects of disaster risk management, must be encouraged.

All disaster management centres in metropolitan areas and districts must play an active part in engaging schools to ensure a practical approach to awareness programmes. School awareness programmes must be conducted, assessed and adapted on an annual basis.

6.5.3 Role of the media

Communication about disaster risk reduction, preparedness, response and recovery activities is important to ensure that information is passed on to communities and those involved in early warning, response and recovery efforts. The role of the media during disasters must be defined and managed through a consultative process involving the media, role players involved in response and recovery efforts, and communities routinely affected by disasters or impending disasters.

Informed publicity about disaster risk management initiatives and achievements will increase public awareness and support. In order to achieve this, national, provincial and municipal disaster management centres must establish and manage ongoing relations with relevant local and national media. Media relations can be complicated and, at times, of a sensitive nature. It is therefore advisable that all centres adhere to organisational policy guidelines in this regard.

Organised promotions and positive reinforcement of disaster risk reduction programmes through the media must be initiated in order to ensure public participation in, and support for, such programmes. The objectives, benefits and major activities of disaster risk reduction programmes must be communicated to all role players and specifically to communities that are directly affected by disaster risks.

The following has to be monitored on a regular basis:

- positive and negative publicity
- effectiveness of media communications, especially in communities at risk.

6.5.4 Responsibility for an integrated public awareness strategy

The NDMC must plan, organise and initiate a national public awareness strategy that is informed by robust disaster risk assessment findings and consultation with relevant stakeholders. It is the responsibility of the NDMC to ensure that programmes aimed at creating awareness and encouraging risk-avoidance behaviour by stakeholders are developed and implemented. The NDMC must also establish good media relations to ensure

balanced media coverage and publicity to increase public awareness and understanding of disaster risk management.

Each organ of state in all three spheres of government must formulate and implement appropriate public awareness programmes that are aligned with the national strategy. Communities, NGOs and the private sector must be consulted about the design of such programmes. The use of volunteers to assist with the roll-out of awareness creation programmes should be encouraged to ensure ownership of and participation in public awareness programmes.

Each organ of state and disaster management centre in the national, provincial and municipal spheres must assign responsibility for managing media relations to a specific functionary or office. Where possible, the NDMC should be informed in advance about electronic broadcasts, the publication of press reports or the public appearances of officials in respect of disaster risk management issues.

s 7(2)(m), s 21s

6.5.5 Key performance indicators

- An integrated national public awareness strategy based on the National Indicative Disaster Risk Profile and the NETaRNRA has been developed and implemented.
- Disaster risk reduction is the focus of all disaster risk management awareness programmes.
- Awareness of disaster risk management is promoted at schools and in communities known to be at risk.
- Awareness of disaster risk management is widespread, and risk-avoidance behaviour is integrated into the day-to-day activities of all stakeholders.
- There is widespread evidence of balanced media reports and coverage on hazards, disasters and disaster risk management issues.
- Articles on disaster risk management are regularly published in the media.
- Good relationships with media representatives have been established and are maintained.
- Disaster risk reduction is included as a standard agenda item for consideration at executive meetings of all role players and stakeholders.

6.6 Research programme and information and advisory services

The aims of a research programme and information and advisory services are to:

- create additional applied knowledge and information on disaster risk
- provide access to disaster risk management and related information to all stakeholders and role players
- provide an organised and value-added advisory service to all stakeholders.

6.6.1 Research

15(1)(i), s 30(1)(i),
s 44(1)(i), s 17(2)(m)

The Act calls for ongoing research into all aspects of disaster risk reduction and management. The NDMC, through a process of consultation, must develop a strategic disaster risk reduction research agenda to effectively inform disaster risk management planning and implementation in southern Africa. Research initiatives should also be linked to the IDP processes of municipalities. Research is the responsibility of each and every role player in the disaster risk management arena.

- s 15(1)(i) There are many existing and ongoing research initiatives taking place in the region that provide important insights into disaster risk reduction. In order to develop a focused research agenda, the NDMC must facilitate:
- consultation and engagement between the communities of disaster risk scientists and disaster risk reduction professionals in southern Africa to identify priorities for collaborative research and development, as well as mechanisms for implementing such initiatives
 - a process for auditing existing research initiatives and programmes to identify those that add value to an understanding of disaster risk management processes and trends and provide insights into effective disaster risk reduction strategies and measures
 - consultation with appropriate national and international agencies and foundations that support research, including the private sector, to profile the importance of focused and co-ordinated funding support for disaster risk management research
 - the development of an integrated disaster risk reduction research agenda and programme, along with mechanisms for publishing and disseminating research results.

6.6.2 Information provision

- s 15(1)(d) In order to provide a comprehensive information service, the NDMC must undertake the following:
- develop an information database
 - establish a library or resource centre on disaster risk reduction
 - make provision for easy access to the information database.

6.6.3 Advisory service

- s 22 An effective advisory service must encompass the following:
- Technical advice should be provided to national, provincial and municipal spheres of government by other specialist stakeholders.
 - National, provincial and municipal disaster management centres must create the capacity to act as information repositories of, and conduits for, disaster risk reduction information in their respective areas.
 - Consultants must be registered to ensure that acceptable standards of consulting services are rendered in line with the national disaster management framework and the national disaster risk management education and training framework.

6.6.4 Responsibility for establishing a research programme and information and advisory services

- s 19, s 20 The NDMC must create an organised national research programme and establish an information and advisory service.

All national organs of state must participate in the gathering and provision of information relating to disaster risk management in their respective functional areas for inclusion in a national information management system.

6.6.5 Monitoring and evaluation

The NDMC must monitor and evaluate all research projects under its management to ensure that national research objectives are met.

s 7(2)(m), s 21

6.6.6 Key performance indicators

s 15(1)(i)

- A strategic disaster risk research agenda has been established.
- Research institutions participate in the national research programme on an organised basis.
- A link between scientific research and policy exists (evidence-based policy and policy-oriented research).
- Regional and international exchange, co-operation and networking occur on a regular basis.
- Disaster risk management research contributes to technology development.

s 15(1)(i)

- All stakeholders have access to a comprehensive research database.

s 15(1)(c–d)

- All stakeholders have access to a comprehensive advisory service.

6.7 Guidelines to be disseminated

- National guidelines for the design and content of disaster risk management education and training programmes.
- National guidelines for the development and accreditation of course materials for accredited education and training programmes.
- National guidelines for the registration of disaster risk management education and training institutions and organisations.
- National guidelines for the accreditation and registration of trainers, facilitators and service providers.
- National guidelines for the design and development of public awareness programmes related to risk-avoidance behaviour.
- National guidelines for media relations.

7.

Enabler 3: Funding arrangements for disaster risk management

Relevant sections of the Disaster Management Act, 2002 s 7(1), s 7(2)(k)

Objective

Establish mechanisms for the funding of disaster risk management in South Africa.

Introduction

Section 7(2)(k) of the Act requires that the national disaster management framework makes provision for ‘a framework within which organs of state may fund disaster risk management with specific emphasis on preventing or reducing the risk of disasters, including grants to contribute to post-disaster recovery and rehabilitation and payment to victims of disaster and their dependants’. Given the provisions of the Act, funding arrangements must be designed in a manner that ensures that disaster risk management activities are funded adequately and in a sustainable way. This enabler describes the disaster risk management funding arrangements for organs of state in the national, provincial and local spheres of government.

Enabler 3 builds on the recommendations made by the Financial and Fiscal Commission (FFC) on funding arrangements in its *Submission on the Division of Revenue 2003/04*.

Outline

Section 7.1 describes the legislative framework governing funding arrangements for organs of state.

Section 7.2 reviews the principles underpinning funding arrangements.

Section 7.3 provides an overview of the recommended funding arrangements.

Section 7.4 describes the funding arrangements required to establish the necessary institutional arrangements, including an information management and communication system for disaster risk management, for the effective implementation of the Act.

Section 7.5 sets out the mechanisms for funding disaster risk assessment in different spheres of government as part of a national disaster risk reduction strategy.

Section 7.6 examines the funding requirements for disaster risk reduction planning and its integration with existing development planning processes.

Section 7.7 delineates the funding arrangements for disaster response and recovery.

Section 7.8 addresses ways of funding education, training, public awareness and research.

7.1 Legislative framework for funding arrangements

The following primary legislation provides the context within which funding arrangements for disaster risk management should be designed:

- Constitution of the Republic of South Africa, 1996 (Act No. 108 of 1996)
- Disaster Management Act, 2002, (Act No. 57 of 2002)
- Public Finance Management Act, 1999 (Act No. 1 of 1999) (PFMA)
- Municipal Finance Management Act, 2003 (Act No. 53 of 2003) (MFMA)
- Municipal Systems Act, 2000 (Act No. 32 of 2000).

s 23(7) The Constitution assigns exclusive or concurrent functions to different spheres of government. Schedule 4 of the Constitution designates disaster risk management as a concurrent national and provincial competence. However, the Act places the responsibility for certain disaster risk management activities squarely within the local government sphere. For example, section 23(7) of the Act states that until a disaster is classified as either a national or a provincial disaster, it must be regarded as a local disaster.

In terms of section 10A of the Municipal Systems Act as amended, the disaster risk management function imposes new constitutional obligations on local government. These obligations are that the responsible Cabinet member, MEC or other organ of state must take appropriate steps to ensure sufficient funding and capacity-building initiatives as may be needed for the performance of the assigned function. Since disaster risk management at municipal level encompasses a wide range of activities (including disaster risk reduction, preparedness, response and recovery), funding mechanisms must be designed to allocate optimal resources to each of these activities.

s 56(2) , s 57 Chapter 6 of the Disaster Management Act outlines two principles that should be applied to funding the cost of a disaster when such an event is declared. Firstly, section 56(2) of the Act states that in the event of a disaster, ‘national, provincial and local organs of state may financially contribute to response efforts and post-disaster recovery and rehabilitation’. Secondly, the Act assigns the responsibility for repairing or replacing infrastructure to the organ of state responsible for the maintenance of such infrastructure. Section 57 of the Act, however, provides some leeway for a municipality or provincial government to request financial assistance for recovery and rehabilitation from national government.

s 56(3), s 56(4) The Act attempts to encourage budgeting for disaster recovery and rehabilitation through threshold funding. Section 56(3) allows the Minister to prescribe a percentage of the budget of a provincial or municipal organ of state as a threshold for accessing national funding for disaster response efforts. The extent to which an organ of state has implemented disaster risk reduction efforts will be taken into account when requests for disaster response and post-disaster rehabilitation funding are considered.

The broad funding guidelines set out in sections 56 and 57 of the Act make access to disaster recovery and rehabilitation funding contingent on organs of state earmarking funds for disaster risk reduction activities. This principle reduces the risk of moral hazard behaviour on the part of provincial or municipal organs of state by ensuring that they budget for all disaster risk management activities. In this way, national government does not implicitly guarantee the provision of financial assistance to organs of state for disasters that could have been reasonably prevented or reduced in some way.

Apart from the Act, there are other legislative provisions that govern the release of funds for disaster recovery and rehabilitation. Sections 16 and 25 of the PFMA allow the Minister of Finance or relevant MEC to appropriate funds from their respective revenue funds for use in emergency situations. Funds released in terms of these provisions must be reported to either Parliament or the provincial legislature, as the case may be, and to the Auditor-General within 14 days of their authorisation. In addition, these funds must be attributed to a vote when the adjustments budget is passed.

Similarly, section 29 of the MFMA allows the Mayor of a municipality to authorise unforeseeable and unavoidable expenditure in an emergency. Such expenditure must be ratified by the council in an adjustments budget within 60 days of the expenditure hav-

ing been incurred. Furthermore, section 29(2)(b) of the MFMA states that unforeseeable and unavoidable expenditure may not exceed a percentage of the budget. This restricts the amount of funds available to respond to emergencies. This percentage must be prescribed by National Treasury in regulations.

7.2 Principles underpinning funding arrangements

Any funding arrangement must be consistent with the principles set out in the Act and any other related legislation (see section 7.1 above). Furthermore, the management of intergovernmental transfers must be grounded in public finance theory.

Anwar Shah, in his seminal book, *The Reform of Intergovernmental Fiscal Relations in Developing and Emerging Market Economies* (published in 1994), points out that the design of any funding mechanism should ensure that the objectives of the relevant legislation are safeguarded, and that the recipients of the funds are held accountable for implementation of the legislation. According to Shah, the important criteria against which any funding mechanism should be evaluated include:

- **Adequacy.** Provincial governments and municipalities should have adequate resources to perform their functions effectively. In relation to disaster risk management, all organs of state should have access to sufficient funding to be able to discharge their legislative responsibilities.
- **Equity.** Funding mechanisms should ensure that legislation is implemented equitably across provinces and municipalities. This would help to avoid interjurisdictional spillovers arising from uneven and inequitable implementation.
- **Predictability.** Any funding mechanism that includes intergovernmental transfers should ensure predictability by making allocations from national to provincial and local organs of state over the term of the Medium-term Expenditure Framework (MTEF). Any allocations to municipalities should be disclosed timeously so that municipalities are able to take cognisance of these allocations in their annual budgets.
- **Administrative efficiency.** The cost of administering the funding mechanisms should be kept to a minimum. Ideally, the funding mechanisms should not impose new reporting obligations on provincial or local organs of state. Rather, the reporting process should be integrated into the existing reporting cycle.
- **Incentive effects.** Funding mechanisms should be designed in such a way that they provide incentives for sound fiscal management and reduce the likelihood of inefficient fiscal practices. In this way, perverse incentives in the system may be minimised and the risk of moral hazard behaviour by recipients of the funds discouraged.
- **Autonomy.** The assignment of functions or the transfer of funds between spheres of government should not undermine the constitutionally mandated autonomy of provincial and municipal organs of state. The autonomy criterion should be viewed within the context of co-operative governance.
- **Risk pooling.** The cost of a disaster can become so substantial that no single provincial and municipal organ of state is able to fund recovery efforts on its own. In such cases, funding mechanisms should make provision for post-disaster recovery costs to

be shared across the widest possible population rather than being a burden on the affected population.

In addition, it should be borne in mind that disaster risk management has certain unique characteristics which differ markedly from other public services such as education and street lighting. Disasters are by their very nature unpredictable and require an immediate and decisive response. It is vital, therefore, that a balance is struck in the financing framework between the need for financial controls and oversight and the need to ensure that rapid response and recovery are not compromised. Section 214(2)(j) of the Constitution explicitly mentions 'the need for flexibility in responding to emergencies or other temporary needs' as one of the criteria for the equitable division of nationally collected revenue among the three spheres of government.

7.3 Overview of funding arrangements

s 7(2)(k) Funding arrangements for disaster risk management must be based on the legislative framework outlined in section 7.1 above and take into account the various criteria for an optimal funding mechanism.

7.3.1 Funding options for disaster risk management

s 56(2)(a), s 57 The responsibilities imposed by the Act on provincial and municipal organs of state require substantial start-up costs, including both investment in infrastructure for provincial and municipal disaster management centres as well as funding for capacity building. Given the substantial start-up costs involved, it is unlikely that all the provinces and municipalities will be able to fund these amounts from their own budgets.

National government has two options:

- It can fund disaster risk management through a centralised mechanism.
- It can decide not to fund any disaster risk management activities, thereby placing the onus on provincial and local government to finance expenditures for disaster risk management activities from their existing equitable share transfers or own revenues.

Under the first option, national government would have to fund certain costs associated with particular disaster risk management activities. It can either use conditional grants or the equitable share, or a combination thereof, to fund disaster risk management at provincial and local government level. The advantage of this option is that it ensures that disaster risk management is implemented evenly within provincial and local spheres, especially since fiscal capacity varies markedly across provinces and municipalities.

National government funding of start-up costs could also act as a catalyst for the institutionalisation of disaster risk management in provincial and municipal organs of state. Once the institutional structures are set up, provinces and municipalities can then plan and budget for the costs as part of their operational activities.

The primary disadvantage of this approach is that it might require national government either to redirect resources from other priorities to disaster risk management or to increase total expenditure through additional taxation or borrowing. The latter could compromise fiscal discipline. A further limitation of this approach is that the ability to access national funds might create a perverse incentive for provinces and municipalities to budget for disaster risk management activities from their own resources. Perverse

incentives can, however, be reduced through the design of the funding mechanism by requesting that provincial and municipal organs of state provide matching funding.

The second option, of providing no funding for disaster risk management, is also a legitimate choice for national government. However, it has far-reaching consequences. Firstly, it may prohibit provincial governments and municipalities from complying with the Act and its focus on disaster risk reduction. It may also result in a lack of capacity to respond effectively to disasters. In the long run, the absence of comprehensive and pervasive disaster risk reduction measures in the provincial and municipal spheres may place additional pressures on the national budget when disasters actually occur. Furthermore, the lack of adequate preventive measures and expenditures in one jurisdiction could well heighten the probability of disasters in neighbouring jurisdictions, thus creating negative externalities. It is a constitutional imperative to ensure that lives are safeguarded. Non-funding of disaster risk management may be regarded as the relinquishing of that constitutional responsibility.

The Act assigns responsibility for the management of local disasters to municipalities. If municipalities are unable to perform this function because of a lack of institutional capacity, then responsibility for managing the disaster is escalated to provincial level. However, the relevant municipality is generally the organ of state closest to the disaster, and can often therefore respond the fastest. The option of providing no funding will thus create inefficiencies in the intergovernmental system by limiting the ability of provincial and municipal organs of state to respond effectively to disasters.

7.3.2 Design and structure considerations

It is important to contextualise the design and structure of the funding arrangements for the national disaster management framework. Distinguishing between two time frames – the short term and the long term – is an important consideration in the design of funding arrangements. Any funding mechanism should be structured in such a manner that it is flexible enough to adapt to changes. In relation to disaster risk management, the start-up costs and initial capital outlays required to implement the Act are incurred in the short term. In many instances, provincial and municipal organs of state responsible for disaster risk management activities may be unable to fund these costs.

Long-term costs include the operational costs involved in disaster risk reduction activities. These costs must be included in the budget once disaster risk management is integrated into routine planning and budgeting activities. In the case of provinces, most departments will have to prepare disaster risk management plans, which can be linked to normal strategic planning processes. In the case of municipalities, the Municipal Systems Act, 2000 (Act No. 32 of 2000) consolidates disaster risk management planning as part of integrated development planning. Accordingly, funds allocated to disaster risk management planning are part of the funds allocated to IDP processes.

Phase-in provisions are included in the funding arrangements to bridge the gap between the short term and the long term. These provisions are targeted at low-capacity, resource-poor municipalities, helping to guarantee sustainable implementation of the Act.

The Act requires a paradigm shift from recovery and rehabilitation to disaster risk reduction. This has a profound influence on funding arrangements. In general, budgeting for disaster risk reduction activities imposes new expenditure pressures on the budgets of

organs of state. However, international experience has shown that having risk reduction measures in place substantially reduces the cost of a disaster when it does occur. One of the main problems in South Africa is the lack of information on the costs associated with past disasters. Although the Act and the national disaster management framework emphasise disaster risk reduction, the reality is that it is difficult to convince stakeholders of the importance of disaster risk reduction measures in the absence of reliable cost estimates. If both the direct and indirect costs of disasters are not quantified, the benefits of risk reduction measures cannot be evaluated against the cost of a disaster. Funding arrangements have to create positive incentives for stakeholders to undertake proactive steps towards disaster risk reduction.

Until minimum guidelines prescribed by the national disaster management framework are issued and costed, it will be difficult to design specific mechanisms detailing how funds should flow from one organ of state to another. It is recommended that organs of state or entities – particularly those regularly affected by disasters – analyse data on the severity and magnitude of past disasters, and use this information as the basis for projecting the potential costs of such disasters. These projections will be the most reliable estimates of the likely costs of future disasters, and should thus form the basis for disaster risk management budgeting.

7.3.3 Recommended funding arrangements

This section provides a general overview of the recommendations on funding arrangements for disaster risk management to cover the costs associated with the following activities:

- start-up activities
- disaster risk management ongoing operations
- disaster risk reduction
- response, recovery and rehabilitation activities
- training and capacity-building programmes.

Table 7.1 provides an overview of the recommended funding mechanisms for each of the five disaster risk management activities mentioned above. These are discussed in greater detail for the KPAs and enablers in the following section.

In general, the funding arrangements attempt to enable organs of state to budget effectively for disaster risk reduction costs. The risk of perverse incentives must be minimised by requirements for matching funds from organs of state, as far as this is practicable. Apart from the use of the centralised contingency fund, the only other central funding mechanism is a conditional grant to cover the start-up costs of establishing disaster management centres in the provincial and local spheres. The conditional grant should be a one-off transfer from national government. However, in the case of low-capacity, resource-poor district municipalities, the conditional grant must include an amount to cover operational costs in the district for a maximum period of two years. Criteria for determining whether a particular municipality is low-capacity and resource-poor must be defined by the Department of Provincial and Local Government (DPLG).

Table 7.1: Funding arrangements for disaster risk management

Activity	Funding source	Funding mechanism
Start-up activities (KPA 1, Enabler 1)	National government	Conditional grant for local government – district and metropolitan municipalities, where necessary
		Conditional grant for provinces with counter-funding component ¹
		Budget of national departments
Disaster risk management ongoing operations (KPA 2 and 3)	National and provincial government	Own departmental budgets
	New assignment to local government	Increase in the I (Institutional) component of the equitable share of local government
Disaster risk reduction (KPA 2 and 3)	National departments	Own budgets
	Provincial departments	Own budgets but can be augmented by application for funding to the NDMC for special national priority risk reduction projects
	District municipalities	Own budgets but can be augmented by application for funding to the NDMC for special national priority risk reduction projects
	In the case of low-capacity, resource-poor municipalities ²	Additional funding released from the NDMC targeted at these categories of municipalities
Response, recovery and rehabilitation and reconstruction efforts (KPA 4)	National government	Own budget for those departments frequently affected by disasters
		Access to central contingency funds
		Reprioritise within capital budgets for infrastructure reconstruction
	Provincial government	Own budget, particularly for those departments frequently affected by disasters
		Conditional infrastructure grants
		Access to central contingency fund once threshold is exceeded on a matching basis
		Reprioritise within capital budget for infrastructure reconstruction
	Local government	Access to central contingency fund once threshold is exceeded
Conditional infrastructure grant, i.e. Municipal Infrastructure Grant (MIG)		
Education, training and capacity-building programmes (Enabler 2)	All spheres of government	Own budgets and reimbursement through SETAs
		Public awareness programmes and research activities can also be funded through the private sector, research foundations, NGOs and donor funding
<p>Notes:</p> <p>1. The suggested ratio for counter-funding is 85:15, i.e. 15 per cent of all start-up costs being funded by provincial government.</p> <p>2. Low-capacity, resource-poor municipalities should be identified through the creation of a composite index that takes into account the operating income of municipalities and their capacity classification as determined by National Treasury.</p>		
<p>Source: Partially adapted from FFC, <i>Submission on the Division of Revenue 2003/04</i>, Midrand, p. 96.</p>		

7.4 Key performance area 1: Institutional capacity for disaster risk management and Enabler 1: Information management and communication

KPA 1 focuses on creating the institutional capacity within all spheres of government to give effect to the principle of intergovernmental co-operation for the purpose of disaster risk management. It describes the various intergovernmental structures that facilitate consultation on issues relating to disaster risk management; key responsibilities of the NDMC, PDMCs and MDMCs; and the minimum infrastructural requirements for the establishment of the NDMC. The infrastructural requirements of provincial and municipal disaster management centres are described in national guidelines developed by the NDMC.

Enabler 1 focuses on the establishment of a comprehensive information management and communication system to ensure that all role players have access to reliable hazard and disaster risk information for the purposes of effective disaster risk management and risk reduction planning. The national disaster management framework requires that the cost of developing an information management and communication system is included in the start-up costs for disaster management centres (see subsections 1.2.2, 1.2.4 and 1.2.5 above).

7.4.1 Funding options

To establish integrated institutional capacity to enable the effective implementation of disaster risk management policy and legislation, funding will be required for the following programmes, projects and activities:

- start-up costs for the NDMC and provincial and national disaster management centres
- ongoing operations of the NDMC
- regional and international co-operation and humanitarian assistance.

7.4.1.1 Start-up costs of disaster management centres

Start-up costs for disaster management centres can be funded through two mechanisms: a conditional grant from national government or through provincial and municipal budgets. Compelling arguments can be made for both options. However, alternative options should not only withstand legislative scrutiny but also meet the criteria set out in section 7.2 above.

Conditional grants

s 7(2)(k), s 29(1),
s 43(1)

The Act has a built-in deadline of two years from its commencement for organs of state to comply with its provisions. The date of commencement set for national and provincial governments was 1 April 2004 and for municipalities 1 July 2004, mirroring the financial years of each of these spheres of government. The Act requires that provinces and metropolitan and district municipalities establish disaster management centres in their jurisdictions. Given the urgency and that disaster risk management is a national priority, it is appropriate to fund the start-up costs from a conditional grant.

The use of conditional grants as a funding mechanism is supported by the theory of inter-governmental fiscal relations. Conditional grants must provide provincial and municipal organs of state with adequate resources to cover the start-up costs of disaster management centres. Guidelines produced by the NDMC for the minimum infrastructural requirements for disaster management centres should form the basis for the conditions

attached to the grant. In this regard, it is important that these minimum guidelines are costed in order to establish a reliable estimate of the total cost of the conditional grant to the national fiscus (see subsection 1.2.2.2 above).

A conditional grant will also ensure that regional disparities in infrastructure and response capabilities are standardised. A minimum level of uniformity in the institutional capacity and response capability across provinces and districts is likely to lessen the incidence of interjurisdictional spillover in the case of a disaster. If disaster management centres have the minimum capacity required to respond rapidly during the early stages of a disaster, the impact of the disaster can be contained, hence minimising the economic impact on neighbouring areas and the total cost of the disaster.

The conditional grant will allow municipalities to streamline existing fragmented response and recovery activities.

Provincial government conditional grants

To reduce the likelihood of perverse incentives in the system, conditional grants transferred to provinces must be on a matching basis or, in more common terms, require counter-funding. In this way, provinces will have an incentive to optimise existing infrastructure and reduce the costs of setting up their disaster management centres. A rough guideline for a matching grant is a ratio of 85:15, with provinces contributing 15 per cent of the amount required for start-up costs. This percentage must be high enough to provide provinces with an incentive to optimise within their existing institutional capacities.

Local government conditional grants

In the past, conditional grants to local government have been used to:

- incorporate national priorities into the municipal budget
- promote national norms and standards
- address backlogs and regional disparities in municipal infrastructure
- effect transition by supporting capacity building and restructuring of municipalities.

A conditional grant for disaster risk management effectively meets these criteria. It ensures that disaster risk management as a national priority is institutionalised within the local sphere.

Local government conditional grants must be disbursed to district municipalities to cover the start-up costs involved in establishing municipal disaster management centres. Given the existence of infrastructure for disaster risk management, metropolitan municipalities should receive funding to cover only the additional costs required to establish their centres.

Conditions for access to the grant must be linked to the minimum infrastructural requirements for the setting up of municipal disaster management centres. Given the heterogeneity of the local government sphere with regard to fiscal capacity, it is not practical to apply the principle of matching funding. Rather, the implementation of the conditional grant must be monitored through the reporting cycle described in sections 71 and 72 of the MFMA, and through the statutory reporting requirements in the Division of Revenue Act, which is enacted annually.

The differentials in fiscal capacity across municipalities may pose problems for the implementation of the Act as a whole. In certain instances, district municipalities –

particularly those in poor areas with little economic activity – may be unable to fund the ongoing operations of their disaster management centres. Therefore, it is recommended that the local government conditional grant for disaster risk management includes a component for funding the ongoing costs in low-capacity and resource-poor district municipalities for a maximum of two years. The development of a plan for covering the ongoing costs beyond the two-year period must be a condition of this component.

The NDMC must construct a composite index based on trading income and the existing capacity classification by National Treasury in order to categorise these municipalities. Own revenue collected is a good indicator of fiscal capacity. District municipalities can be categorised according to their levels of own revenue, for example:

- ‘Class One’ category municipalities would be resource-poor district municipalities, with own revenue of less than R50 million.
- ‘Class Two’ category municipalities would cover those district municipalities with own revenue of R50 million to R150 million.
- ‘Class Three’ category municipalities would include resource-rich district municipalities, with own revenue of over R150 million.

It is hoped that at the end of this phase-in period, municipalities would be able to cover the operating costs of their disaster management centres. The major advantage of a conditional grant is that it would enable ‘Class One’ category district municipalities to support their local municipalities in disaster risk management planning. The relevant PDMC must provide technical assistance to ‘Class One’ category municipalities and monitor their progress in implementing the Act.

The main drawback of introducing a conditional grant is that it might not be administratively efficient to create a new conditional grant to fund a one-off cost. However, given the tight deadlines by which provincial and municipal disaster management centres have to become operational, it is impractical to have a conditional grant transferred over a specified period of time.

Provincial and local government budgets

Another option for funding start-up costs would be to leave it to provinces and municipalities to budget for these costs from their own resources. At provincial level funds for existing disaster risk management activities are already allocated through the provincial equitable share. Provinces may be able to allocate some resources to start-up costs from these funds. It is, however, highly unlikely that they will be able to dedicate enough resources to establish their respective disaster management centres within the time frames required by the legislation. Provinces with large disaster-prone areas may be unwilling to fund the additional costs associated with starting up a centre, if it requires them to divert a part of their budgets away from existing disaster risk management activities, including response and recovery.

At the local level, metropolitan municipalities may be able to accommodate their disaster management centres within existing institutional structures. However, it is difficult to ascertain whether metropolitan municipalities would be able to meet all the minimum requirements for setting up disaster management centres through their own budgets. It is important to note that the start-up costs for a metropolitan municipality may be affected by its specific geographical location. For example, a district municipality may require substantial investment in communication technology in order to allow its MDMC to fulfil the responsibilities set out in the Act.

Depending on their financial positions, district municipalities may be able to fund some of the start-up costs of MDMCs. However, this solution has several drawbacks and is therefore not recommended. Firstly, because district municipalities may not be able to fund all of the start-up costs of MDMCs, they may not meet the minimum requirements for MDMCs set out in guidelines issued by the NDMC. Secondly, there are disincentives for districts to fund all of the start-up costs because of the problem of free-riding: the presence of well-equipped MDMCs is a positive externality for local municipalities, which benefit from the activities of the district municipality without contributing to any of the costs involved. Finally, the identification of competing local priorities and development initiatives may result in a smaller portion of the budget being allocated to disaster risk management.

7.4.1.2 Ongoing operations of the NDMC

Disaster risk management currently falls under the DPLG vote. The costs associated with establishing and running the NDMC must be funded from the DPLG vote.

s 15 The responsibilities of the NDMC set out in section 15 of the Act, including developing an integrated information management and communication system, must be costed. These cost estimates will form the basis of the budget for disaster risk management in the DPLG vote.

The gap between the current operational capability and that required by the Act should also be estimated, and the NDMC must develop an action plan for complying with the requirements of the legislation. Funding for the action plan can be included in the MTEF.

The budget of the NDMC must include an allocation for national priority risk reduction projects which should be used when provincial or a municipal organs of state request funds for such projects. This national priority risk allocation creates flexibility in the funding arrangements and encourages provinces and municipalities to focus on priority risks. The NDMC must develop a set of criteria for the evaluation of requests from provinces or municipalities and must make these known to provinces and municipalities.

7.4.1.3 Funding for regional and international co-operation and humanitarian assistance

As a key player in southern Africa, South Africa is well-placed to provide technical advice on disaster risk management as well as humanitarian assistance in the event of a regional disaster. The costs associated with the establishment of structures for regional co-operation and the provision of ongoing technical assistance must be funded from the NDMC's budget. The budgets of PDMCs in provinces that border neighbouring countries must also have allocations for establishing and maintaining structures for interregional co-operation.

With regard to humanitarian assistance, the NDMC must have access to emergency funds in the case of regional disasters (see subsection 7.7.1.2 below).

National departments that deal with regional and international relief efforts must budget for humanitarian relief. The national Department of Social Development already budgets for disaster relief. The department's National Disaster Relief Board is in charge of administering the Disaster Relief Fund. These funds should also be used to provide assistance to organisations or persons in neighbouring countries affected by severe disasters.

The budgets of the NDMC and relevant organs of state must include allocations for membership or subscription fees aimed at fostering international co-operation and forging links with international organisations involved in disaster risk management.

7.4.2 Imperatives

National government is required to fund the start-up costs for provincial and municipal disaster management centres through a one-off conditional grant. The conditions and sizes of the grants must be based on the guidelines for the minimum infrastructural requirements for disaster management centres. Monitoring must occur through the mandatory reporting process prescribed by the Division of Revenue Act.

The NDMC's ongoing costs must be funded from the DPLG's budget, and must be included as indicative allocations over the full period of the next MTEF for the DPLG's vote.

s 7(2)(m), s 21

7.4.3 Key performance indicators

- The minimum requirements for provincial and disaster management centres have been costed.
- Conditional grants to fund the start-up costs of disaster management centres in provinces and municipalities have been established and allocated.
- Conditions for access to grant funding are based on guidelines issued by the NDMC on minimum infrastructural requirements for disaster management centres.
- The responsibilities of the NDMC as set out in the Act have been costed and these cost estimates inform the budget for disaster risk management in the DPLG vote.
- The NDMC budget makes provision for national priority risk reduction projects.
- The NDMC has rapid access to emergency funds for assistance in regional disasters.
- Monitoring processes are integrated with routine reporting cycles of organs of state.

7.5 Key performance area 2: Disaster risk assessment

The Act requires all organs of state to determine levels of risk and assess their vulnerability to these risks in order to implement disaster risk reduction strategies. Initial expenditure on disaster risk assessments can be offset by long-term benefits accruing from well-designed risk reduction measures.

7.5.1 Funding options

s 20, s 33

Since disaster risk management is a concurrent national and provincial competence, national and provincial disaster risk assessments should be funded through the budgets of the relevant organs of state. Section 20 of the Act requires the NDMC to provide guidance to organs of state on ways of determining levels of risk and vulnerability. Similarly, section 33 enjoins the PDMC to provide guidance to organs of state on disaster risk assessments. The use of a standard format for disaster risk assessments will contribute towards reducing the variability of costs across the various organs of state. Costs involved in updating disaster risk assessments must be budgeted for on a regular basis.

Expenditure incurred in monitoring disaster risk must be part of the routine operation of the relevant organs of state and disaster management centres, and must be budgeted for accordingly.

At municipal level, there are two options with regard to funding disaster risk assessments. The first option allows for the initial disaster risk assessments to be included in the start-up costs of MDMCs. Thereafter disaster risk assessments can be funded through the local government conditional grant. The conditions of access to grant funding should be linked to national guidelines setting out the norms and standards for disaster risk assessments.

The benefits of this option are that disaster risk assessments are standardised across municipalities and the data produced at local government level are aligned with current and future information needs of the NDMC and PDMCs. In addition, with sufficient resources, district municipalities could provide their local municipalities with the technical support needed to integrate risk assessments in sectoral plans, thus facilitating disaster risk management planning. The costs associated with updating relevant hazard and vulnerability information should be budgeted for by the respective district municipalities.

The second option is to allow districts to fund the initial disaster risk assessments and any subsequent assessments and updates themselves. However, this can compromise disaster risk management planning. Without a comprehensive disaster risk assessment, disaster risk reduction planning becomes an ineffective tool. An unreliable risk assessment can result in resources being redirected from high-priority risks to low-priority risks. In addition, variations in the content, methodologies and quality of the initial disaster risk assessments could compromise the effectiveness of provincial and national level functions.

7.5.2 Imperatives

Disaster risk assessments must be funded through the recurrent budgets of national and provincial organs of state. The costs of initial disaster risk assessments undertaken by municipal organs of state must be included in the start-up costs and funded through the local government conditional grant.

s 7(2)(m), s 21

7.5.3 Key performance indicators

- The costs of disaster risk assessments are included in the budgets of national and provincial organs of state.
- The costs of initial disaster risk assessments are included in the local government conditional grant.
- The costs of disaster risk assessments have been estimated and are included in the budgets of MDMCs.

7.6 Key performance area 3: Disaster risk reduction

In terms of funding arrangements, this KPA can be separated into disaster risk management planning and disaster risk management implementation. The Act requires all spheres of government to develop disaster management frameworks that guide disaster risk management activities, including planning and implementing disaster risk reduction projects and programmes.

7.6.1 Funding options

Disaster risk management planning must be included in the strategic plans of national and provincial departments and the IDPs of municipalities. Sectoral plans must also include specific disaster risk management plans for the relevant departments within all

municipalities. These planning processes must be funded through the budgets of the relevant organs of state. If disaster risk management planning is integrated into general IDP processes, then little or no additional budgetary allocation for disaster risk management will be required.

s 39(2)(j)

Organs of state must include risk reduction as part of a broader strategy to reduce the overall risk and fiscal exposure of their organisations. In addition, risk reduction activities, including preparedness, must be part of the operational activities of the various organs of state and must be reflected in their plans and budgets. In the case of national organs of state, risk reduction activities must be funded from the own budgets of the respective organs of state. Any new infrastructure developments should include the costs of structural mitigation measures. The same principles apply to provincial and municipal organs of state.

When additional expenditure is required to develop structural mitigation infrastructure, provincial and municipal organs of state must establish whether they could fund such projects from their own resources. If they lack funds to implement these projects, they must include the costs of structural mitigation infrastructure in their three-year capital plans. Municipalities must prioritise these projects in their IDPs.

Provincial organs of state must be able to access funding for projects involving structural mitigation infrastructure from the Provincial Infrastructure Grant. National Treasury, in conjunction with the NDMC, must develop criteria for evaluating whether a project can be classified as mitigation infrastructure. Provinces must follow existing procedures for accessing the grant, including submitting business plans for each project. National Treasury may choose to attach a counter-funding condition to applications for structural mitigation infrastructure.

Section 19 of the MFMA requires that a municipality conduct a feasibility study before it can budget for a capital project. The feasibility study must include disaster risk assessment findings and recommendations for disaster risk reduction. If the project goes ahead, the cost estimate of mitigation infrastructure or measures should be included in the total cost of the project. Funds can be accessed either through the B component grant for basic services infrastructure, or through the P component grant for any additional funds required to reduce risks associated with existing infrastructure. The benefit of this option is that the conditionality of the grant can help to ensure that disaster risk reduction is integrated into infrastructure development, thus reducing the risk of disasters in the long term.

In the case of activities or projects aimed at preventing or reducing a national priority disaster risk, provincial and municipal organs of state may apply for additional funding from the NDMC. The NDMC may choose to place a limit on the funding available per project. The NDMC must develop clear and unambiguous criteria for evaluating applications for funding and distribute these to provinces and municipalities.

The NDMC and PDMCs are required to provide technical assistance in disaster risk management planning to municipalities. Technical assistance forms part of the routine activities of the NDMC and PDMCs and should therefore be funded through their budgets.

7.6.1.1 Preparedness

s 53(2)(j), s 58(1)

In terms of the Act, section 53(j) states that municipal disaster management plans ‘must facilitate maximum emergency preparedness’. The Act prescribes one of the means through which this can be done in section 58(1), which provides metropolitan or district

municipalities with the option of establishing units of volunteers to participate in disaster management. The FFC has noted that there are costs involved in emergency preparedness, such as the costs of recruiting, training and mobilising volunteers. Since disaster management is deemed to be a new constitutional function for local government, strong arguments can be made for funding the costs associated with preparedness, including the recruitment and training of volunteers, through an increase in the equitable share. Alternatively, the costs may be funded through the budgets of municipal organs of state. However, a drawback of this option is that preparedness activities may be underfunded. In addition, municipalities may not have sufficient resources to fund the extra costs associated with preparedness.

7.6.2 Imperatives

Cost expenditure on routine disaster risk management activities must be funded through the budgets of the relevant organs of state.

Preparedness must be funded through the budgets of national, provincial and local organs of state as part of their routine disaster risk management activities.

National departments must fund structural mitigation infrastructure from their own budgets. At provincial and local level, additional structural mitigation infrastructure must be funded through provincial and local government conditional infrastructure grants.

To increase the incentive to plan for risk reduction, the NDMC must have some discretion over the allocation of funds for projects aimed at reducing national priority risks.

s 7(2)(m), s 21

7.6.3 Key performance indicators

- Budgets in all spheres of government include the costs of routine disaster risk reduction measures and activities.
- Preparedness actions are funded through the recurrent budgets of all relevant organs of state.
- Feasibility studies for capital projects include information drawn from disaster risk assessments and appropriate disaster risk reduction measures.
- Capital budgets clearly reflect the costs of disaster risk reduction.

7.7 Key performance area 4: Response and recovery

s 56, s 57

Chapter 6 of the Act governs the funding arrangements for disaster response and recovery and rehabilitation and reconstruction. Section 56(3) requires that organs of state set aside a percentage of their budgets for post-disaster recovery efforts. Access to national funding is dependent on whether the organ of state affected by the disaster had taken sufficient risk reduction measures to reduce the severity and magnitude of the disaster.

7.7.1 Funding options

The main activities within the broad scope of disaster response and recovery include:

- early warnings
- disaster response and recovery operations
- relief measures
- rehabilitation and reconstruction.

7.7.1.1 Early warnings

The development, implementation and dissemination of early warnings form part of routine planning processes undertaken by organs of state and must therefore be funded through their existing budgets. The NDMC plays a significant role in identifying and monitoring potential hazards and disseminating early warnings. These activities must be funded through the NDMC budget.

7.7.1.2 Disaster response and recovery operations

The importance of rapid response in the event of a disaster cannot be underestimated. Funds need to flow quickly to support response and recovery efforts. Rescue efforts, provision of immediate basic services, emergency health services and critical infrastructure repair all form part of response and recovery.

Currently there are no dedicated funding mechanisms for disaster response and recovery operations, and resources are not released quickly enough to maximise the effectiveness of response activities. The use of section 16 of the PFMA as a mechanism to release emergency funds from the central contingency fund is problematic as it requires ministerial authorisation, which increases the lead time between the declaration of a disaster and access to emergency funds.

Funding response and recovery

s 56(4)(a–d)

The fundamental principle underpinning provisions relating to funding in the Act is that all organs of state must budget for costs involved in disaster response and recovery. This principle places the onus for funding the initial costs associated with a disaster on the organs of state involved in response and recovery operations. Once budgets for response and recovery activities have been exhausted, the relevant organ of state may request financial assistance from national government. Financial assistance will only be provided after taking into account the disaster risk reduction measures taken prior to the onset of the disaster. National guidelines for the classification and declaration of states of disaster issued by the NDMC will help reduce the incentive for provincial and local governments to declare disasters with the intention of getting financial assistance from other spheres of government.

s 56(3)

The Act entrenches this principle of self-funding by allowing the Minister designated to administer the Act to prescribe a percentage of the budget of a provincial organ of state or a municipal organ of state that will act as a threshold for accessing future funds from the central contingency fund. When prescribing thresholds for provincial and municipal organs of state, the correct base for calculating the budgetary allocations needs to be identified. The correct base and reasonable threshold percentage will help organs of state to sustain these budget allocations over time. Therefore, it is recommended that different threshold percentages be prescribed for different organs of state.

In the case of provincial organs of state, it is proposed that a percentage be developed for provinces based on their budgeted expenditure. Since provinces do not raise much of their revenue, they should fund disaster response and recovery operations from part of the equitable share.

Municipalities, on the other hand, raise a substantial part of their own revenue. The operating revenue is a good indicator of a municipality's relative fiscal capacity. Given the significant differences in revenue-raising capacity across municipalities, the threshold percentages should vary accordingly. It is therefore proposed that municipalities be

Table 7.2: Proposed threshold percentages for provincial and local government budgets

Organ of state	Basis for calculating provision	Threshold percentage
Provincial departments	Budgeted expenditure	1.2
Metropolitan municipalities	Own revenue	0.5
Municipality with own revenue of over R150 million (excluding metros)	Own revenue	0.6
Municipality with own revenue of R50 million – R150 million	Own revenue	0.8
Municipality with own revenue of R1 million – R50 million	Own revenue	1.0

categorised according to their own revenue. Information on own revenue per municipality can be accessed from National Treasury's annual *Intergovernmental Fiscal Review*. The proposed percentages are shown in Table 7.2.

These thresholds must be viewed within the context of the magnitude and extent of a disaster. The thresholds must be reviewed at least two years after the publication of the framework, once information on the costs of different disasters is available (see subsection 4.2 above).

In the case of a provincial disaster or accumulated disasters in a province over the year, the relevant provincial organs of state should be able to access funds from the provincial contingency fund once the threshold has been reached. Should additional resources be needed, then provinces should request financial assistance from national government. Section 16 of the PFMA can be used to release funds from the central contingency fund. In this situation, provinces should provide matching funding in the suggested ratio of 89:11. In other words, provinces will be required to fund 11 cents for every 89 cents released by national government. Some provinces have not set contingency reserves aside. In light of the new funding arrangements required by the Act, National Treasury must encourage provincial treasuries to allocate a minimum amount to contingency reserves.

Municipalities can be categorised in terms of their own revenue collected. Table 7.2 shows four categories of municipality, each category having a different threshold percentage. In order to ensure that municipalities make meaningful provision for disaster response and recovery operations, municipalities with a lower amount of revenue collected have been assigned higher percentages. Metropolitan municipalities with large operating revenues should allocate at least 0.5 per cent of own revenues to disaster response and recovery activities.

Once municipalities have exhausted their thresholds, they should then be able to request financial assistance from their provincial governments. If the equitable share increases, then the basis for determination of the threshold percentages can be changed to the total

revenue received by a municipality, in which case the suggested threshold percentages shown in Table 7.2 should change.

These thresholds are the minimum amounts budgeted for disaster response and recovery. National and provincial departments affected repeatedly by disasters may need to budget additional amounts for response and recovery. The DPLG should implement mechanisms within the existing reporting cycle prescribed by the Division of Revenue Act to monitor whether municipalities are adhering to the thresholds.

Access to the National Revenue Fund

Funding arrangements must include a mechanism for allowing the rapid release of funds when a national disaster is declared, while still ensuring that adequate controls are in place. Only the Minister responsible for administering the Act can authorise the release of emergency funds from the central contingency fund, and this responsibility cannot be delegated. A new mechanism needs to be developed to ensure that the Head of the NDMC can quickly and easily access funds from the National Revenue Fund for response and recovery operations.

Section 76(j) of the PFMA allows National Treasury to make regulations governing payments from the National Revenue Fund. Accordingly, National Treasury must release new regulations permitting the withdrawal of a predetermined percentage from the National Revenue Fund for immediate response efforts in the case of a national disaster, and/or to fund rapid emergency interventions in neighbouring countries. This percentage must be determined by Parliament as a percentage of the central contingency fund and included in National Treasury regulations. This mechanism would allow the Director-General of National Treasury, on request from the Head of the NDMC, to withdraw funds from the National Revenue Fund. The withdrawal request may not exceed the predetermined percentage. The instances when this mechanism can be used must be clearly defined and specified in National Treasury regulations.

Such a withdrawal would need to be ratified through a money Bill (as stipulated by section 77 of the Constitution) and attributed to the vote of the DPLG. It is proposed that the threshold percentage be set at 0.25 per cent of the central contingency fund. The advantage of this approach is that it would allow for the immediate release of funds for response operations. The Head of the NDMC would be accountable for the use of these funds to the Minister responsible for administering the Act, who in turn is accountable to Parliament. The funds authorised in terms of these regulations must be included in the adjustments budget to ensure budgetary integrity and fiscal transparency. In this way, the expenditure will be subject to Parliamentary scrutiny through the relevant portfolio committee.

Provinces may develop a similar mechanism to allow the Head of the PDMC to withdraw resources from the Provincial Revenue Fund for immediate response to a disaster. The Head of the PDMC would be accountable to the MEC responsible for administering the Act and any withdrawal should be passed through the provincial legislature. It is crucial that National Treasury separates the contingency reserve from the policy reserve in order for this mechanism to work.

7.7.1.3 Relief measures

The aim of relief measures is to provide immediate access to basic necessities for those severely affected by disasters. The National Disaster Fund, currently administered by the National Disaster Relief Board, disburses funds for emergency relief to communities.

These funds are budgeted for in the Department of Social Development's vote. Provincial departments of social services and poverty alleviation also provide relief to affected communities. Most municipalities have a mayoral discretionary fund aimed at providing relief to local communities. The current mechanisms seem adequate to fund the cost of relief. The challenge is to co-ordinate the inputs of these different spheres of government to ensure that relief measures flow rapidly to communities.

7.7.1.4 Rehabilitation and reconstruction

s 56(2)(b) The Act places the onus for rehabilitation and reconstruction of infrastructure on the organ of state responsible for maintaining such infrastructure. However, rehabilitation is not only limited to infrastructure repair, it also includes rehabilitation of the environment and communities. Rehabilitation and reconstruction projects can be funded through:

- own budgets
- conditional grants
- reprioritisation within existing capital budgets
- access to the central contingency fund.

The methods of funding rehabilitation and reconstruction are complementary rather than competing. Ideally, organs of state should fund their expenditure on rehabilitation and reconstruction from their budgets up to the threshold. The next alternative should be to reprioritise within their capital budgets. The use of funds from the contingency reserve should be considered only as a last resort.

Own budgets

s 56(3) Thresholds are applicable not only to response and recovery operations but also to rehabilitation and reconstruction. Depending on the extent of infrastructural damage, organs of state may be able to fund rehabilitation and reconstruction costs from their own budgets up to the threshold. Rehabilitation and reconstruction costs are generally high, so organs of state may need to fund these costs from a combination of sources, including own budgets, reprioritisation and the central contingency fund.

s 56(2)(a–b) National organs of state frequently affected by disasters must fund most of their rehabilitation and reconstruction costs from their own budgets. National organs of state involved in rehabilitation must also set aside funds in their budgets to help with community rehabilitation projects.

s 56(2)(a–b) Provincial organs of state frequently affected by disasters must also fund rehabilitation and reconstruction costs from their own budgets. The Minister may choose to increase the threshold for specific provincial organs of state. These organs of state need to calculate the cumulative costs of disasters and submit the estimates to the NDMC. The NDMC must compile a list of organs of state to which special thresholds apply.

Conditional grants

Rehabilitation and reconstruction costs can be funded at provincial level through the Provincial Infrastructure Grant. A condition of access to the grant must be evidence that risk reduction measures have been included in reconstruction projects in order to reduce future potential losses from disasters.

Municipalities can access funding through the Municipal Infrastructure Grant (MIG). The MIG formula differentiates between new and rehabilitated infrastructure in a ratio of 80:20. Since the MIG augments the capital budget as a whole and is not a project-by-

project grant, it is possible for municipalities to use part of the allocation for post-disaster rehabilitation purposes.

Reprioritisation within existing capital budgets

Provincial and municipal organs of state are required to develop three-year capital plans setting out their capital expenditure over the medium term. Provinces, with the input of their MECs, can reprioritise their capital budgets in order to carry out the necessary rehabilitation and reconstruction projects. In effect, they can move existing commitments to the outer years of the MTEF, and use the subsequently released resources to fund rehabilitation and reconstruction. The shifting of funds between years and programmes must comply with the legislative provisions governing such transactions in the PFMA.

At municipal level, the same process can be followed as long as the municipal council approves the reprioritised budget. The council must consider whether reprioritisation of the budget will have substantial negative implications for service delivery in the long term. Any multi-year appropriations or shifting of funds must comply with the MFMA.

This option is likely to be the quickest way to release funds for rehabilitation and reconstruction.

Access to the central contingency fund

Access to the central contingency fund for rehabilitation and reconstruction should only be given for priority infrastructure (in accordance with criteria set by the NDMC) and used as a source of funding if other alternatives fail.

Organs of state must be able to access funds from the central contingency fund for rehabilitation and reconstruction. The reconstruction projects must be motivated on a case-by-case basis to ensure that requests are made solely for rehabilitation and reconstruction purposes. National organs of state will need to motivate their requests for funding to the NDMC. The NDMC may attach counter-funding requirements to certain projects.

Provincial departments, once their own funds are exhausted, may access funding from the central contingency fund for rehabilitation and reconstruction on a matching basis. It is proposed that the ratio for accessing such funds is set at 75:15. This ratio demands substantial counter-funding from provinces in order to reduce the perverse incentives associated with access to national funds. It also forces provinces to find alternative sources of funding.

Municipalities may gain access to the central contingency fund for the rehabilitation and reconstruction of assets required to provide the minimum level of basic services. Motivations for such projects must be done on a case-by-case basis and requests for funding submitted to the NDMC.

Upon receipt of requests for funding, the NDMC must analyse the requests, compile a list of projects and associated costs, and motivate a Section 16 release of funds under the PFMA to National Treasury.

7.7.2 Imperatives

The dissemination of early warnings must be funded through the budgets of national, provincial and municipal organs of state as part of their routine disaster risk management activities.

Measures need to be implemented to ensure that disaster response and recovery operations are funded through the budgets of provincial and municipal organs of state up to the prescribed threshold. Once the threshold is reached, additional funding would need to be accessed through the central contingency fund, on a matching basis for provinces and unconditionally for municipalities. Regulations must be promulgated by National Treasury to allow immediate access to funds for response operations in the event of a national disaster. Provision must be made for the Head of the NDMC to have access to a predetermined percentage of the central contingency fund in such a case.

Funding mechanisms for relief measures need to be reviewed in order to reduce the time it takes for victims of disasters to gain access to relief assistance.

As far as possible, organs of state must fund rehabilitation and reconstruction projects from their own budgets and conditional grants.

Mechanisms for the rapid release of funds from the central contingency fund for the reconstruction of basic service infrastructure where such infrastructure is needed to safeguard lives and livelihoods must be developed.

s 7(2)(m), s 21

7.7.3 Key performance indicators

- The development, implementation and dissemination of early warnings are funded through the recurrent budgets of the relevant organs of state.
- The percentage of the budget of a provincial or municipal organ of state as a threshold for accessing additional funding from national government for response and recovery efforts has been established and implemented.
- Response and recovery efforts are funded through budgeted threshold allocations.
- A mechanism has been developed to ensure rapid access to national funds for disaster response.
- Organs of state across all spheres of government have budgeted for threshold allocations.
- People, households and communities affected by a disaster have immediate access to relief measures.
- Financial thresholds for rehabilitation and reconstruction funding in the different spheres of government have been set.
- Rehabilitation and reconstruction efforts are funded through a combination of own budgets, reprioritisation, budgeted threshold allocations and conditional grants.

7.8 Enabler 2: Education, training, public awareness and research

Education, training, public awareness and research are crucial to the success of disaster risk management and disaster risk reduction strategies. It is envisaged that education, training and research initiatives as well as broad-based public awareness programmes will be undertaken by a range of organs of state and institutions.

7.8.1 Funding options

The various initiatives within the scope of this enabler are broadly grouped as follows:

- education and training
- integrated public awareness
- research programme and information and advisory services.

7.8.1.1 Education and training

The NDMC must make budgetary provision for the implementation of a national needs and resources analysis to determine the disaster risk management education, training and research needs of those involved in disaster risk management across sectors, levels and disciplines. It must also make provision for the development of a national disaster risk management education and training framework.

National and provincial organs of state already have substantial budgets for the education and training of officials and policy makers. Where possible, the relevant organs of state should ensure that courses are accredited. In the case of programmes that are not accredited, organs of state must budget for this form of training.

Accreditation is a way of ensuring the quality of education and training interventions. In compliance with SAQA legislation and the NQF, service providers have to develop outcomes-based courses and materials. Expenditure on accredited education and training initiatives can be reimbursed from SETAs. This type of funding mechanism is well suited to recovering expenditure on accredited disaster risk management education and training initiatives.

Municipalities, particularly the resource-poor ones, are unlikely to participate in programmes that are not accredited, because they lack the necessary funds to budget for these types of programmes. In general, most of the education and training costs in municipalities have been funded through the Financial Management Grant (FMG).

The MIG, along with capacity-building grants, will soon be consolidated into the Municipal Systems Improvement Grant (MSIG). The DPLG must ensure that the new MSIG caters for accredited disaster management education and training. It is envisaged that once this grant is consolidated, municipalities should be able to access funds for education and training in accordance with disaster risk management unit standards.

The NDMC must investigate the viability of including issues relating to disaster risk management in existing and new education and training programmes established by the DPLG for municipalities and councillors.

7.8.1.2 Integrated public awareness strategy

The NDMC is responsible for developing an integrated public awareness strategy to encourage a culture of risk avoidance in all organs of state and in communities. In addition, organs of state are required to formulate appropriate public awareness campaigns within the framework of the integrated public awareness strategy. The NDMC must budget for the development and implementation of such a strategy.

Line departments involved in public awareness programmes must budget for the development and implementation of programmes relevant to their functional areas. In addition, they must be able to access funds for specific programmes aimed at creating awareness around national priority disaster risks from the NDMC.

Municipalities must include public awareness campaigns in community participation processes. In this way, they will not require additional funds for these programmes. Municipalities should also forge links with CBOs, NGOs and the private sector in order to share costs for dedicated public awareness programmes that focus on priority risks.

7.8.1.3 Research programme and information and advisory services

Once the NDMC has developed its research agenda, it should approach various other government departments, international donor organisations, private companies, research foundations and NGOs to fund disaster risk management research. The NDMC must also allocate a portion of its budget to research activities and routine post-disaster reviews. Technical line departments that are regularly affected by disasters must budget for research on priority risks and disaster risk reduction.

s 17(3) The content of the information management database must be electronically accessible to any person free of charge. The cost of information provision and advisory services should be kept to a minimum and funded through the budget of the NDMC.

7.8.2 Imperatives

The costs associated with accredited education and training must be recovered through SETAs. This should be seen as the funding mechanism of choice. The costs associated with education and training programmes that are not accredited must be funded through the budgets of the relevant organs of state.

The cost of research must be funded through the budgets of disaster management centres and by the private sector, research foundations, NGOs and donors.

s 7(2)(m), s 21

7.8.3 Key performance indicators

- There is documented evidence of an increase in expenditure on accredited education and training programmes.
- Organs of state recover their expenditure on accredited education and training from the relevant SETAs.
- The conditions of the MSIG have been extended to cater for disaster risk management education and training programmes.
- All organs of state involved in public awareness budget for integrated public awareness programmes.
- Partnerships between municipal organs of state and the private sector, NGOs and CBOs exist for the purpose of funding public awareness programmes and projects.
- Funds are available from government departments, international donor organisations, private companies, research foundations and NGOs for research programmes.

7.9 Guidelines and regulations to be disseminated

- National guidelines and a composite index containing criteria for identifying low-capacity, resource-poor municipalities for the purpose of conditional grant allocations.
- National guidelines for evaluating applications for additional funding for projects and activities aimed at reducing priority disaster risks.
- National guidelines setting out the thresholds applicable to provincial and municipal organs of state for accessing additional funding from national government for response efforts.
- National guidelines containing criteria for classifying different types of infrastructure for the purposes of funding structural infrastructure mitigation projects.
- National guidelines containing criteria for identifying priority infrastructure for the purposes of rehabilitation and reconstruction.

- National guidelines for mechanisms to roll out funding for the implementation of the national disaster management framework.
- Regulations by National Treasury to allow immediate access to funds for response operations in the event of a national disaster.

Appendix 1: Glossary of terms

Accreditation	The certification, usually for a particular period of time, of a person, a body or an institution, as having met specific requirements to fulfil a particular function in the quality assurance system set up by the South African Qualifications Authority (SAQA).
Audit	A way of measuring the quality of products, services or processes that have already been delivered or undertaken.
Capacity	A combination of all the strengths and resources available within a community, society or organisation that can reduce the level of risk or the effects of a disaster. Capacity may include physical, institutional, social or economic means as well as skilled personnel or collective attributes such as leadership and management.
Capacity building	Efforts aimed to develop human skills or infrastructures within a community or organisation needed to reduce the level of risk. It may also include the development of institutional, financial, political and other resources, such as technology, at different levels and sectors of the society.
Contingency planning	The forward planning process for an event that may or may not occur, in which scenarios and objectives are agreed, managerial and technical actions defined, and potential response systems put in place to prevent or respond effectively to an emergency situation.
Criteria	Standards, rules, guides or tests against which a judgement or decision is based.
Development	A process for improving human well-being through reallocation of resources that may involve some modification to the environment. It addresses basic needs, equity and the redistribution of wealth.
Disaster	A natural or human-caused event, occurring with or without warning, causing widespread human, material, economic or environmental losses which exceed the ability of the affected community or society to cope with its effects using only their own resources. A disaster is a function of the risk process. It results from the combination of hazards, conditions of vulnerability and insufficient capacity or measures to reduce the potential negative consequences of the disaster risk.
Disaster Operations Centre	A fully equipped dedicated facility within the disaster management centre of a particular sphere. Such a facility must be capable of accommodating any combination of emergency and essential services representatives, including all relevant role players and stakeholders identified in response and recovery plans for the purpose of multidisciplinary strategic management of response and recovery operations, when a local, provincial or national disaster occurs or is threatening to occur.
Disaster risk management	The systematic process of using administrative decisions, organisation, operational skills and capacities to implement policies, strategies and coping capacities of the society and communities to lessen the impacts of natural hazards and related environmental and technological disasters. This comprises all forms of activities, including structural and

	non-structural measures to prevent or to limit (mitigation and preparedness) adverse effects of hazards.
Disaster risk reduction	The conceptual framework of elements considered with the possibilities to minimise vulnerabilities and disaster risks throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazards, within the broad context of sustainable development.
Early warning	Timely and effective information, through identified institutions, that allows individuals, households, areas and communities exposed to a hazard to take action to avoid or reduce the risk and prepare for effective response.
Early warning system	A system that allows for detecting and forecasting impending extreme events to formulate warnings on the basis of scientific knowledge, monitoring and consideration of the factors that affect disaster severity and frequency. Early warning systems include a chain of concerns, namely: understanding and mapping the hazard; monitoring and forecasting impending events; processing and disseminating understandable warnings to political authorities and the population; and undertaking appropriate and timely actions in response to warnings.
Education and training quality assurer	The body responsible for monitoring the quality of education and training and ensuring that learners are assessed to an agreed standard. Service providers of education and training have to be approved by an education and training quality assurer.
Elements-at-risk	Environmental, human, infrastructural, agricultural, economic and other elements that are exposed to a hazard, and are at risk of loss.
Entity	A governmental agency or jurisdiction, private or public company, partnership, non-profit organisation, or other organisation that has disaster risk management responsibilities.
Focal/nodal point for disaster risk management	An individual responsible for co-ordinating the disaster risk management responsibilities and arrangements of a national, provincial or municipal organ of state or a municipal entity. The term is also used to refer to an individual with similar responsibilities in an NGO or the private sector.
Geographic information system (GIS)	Analyses that combine relational databases with spatial interpretation and outputs, often in the form of maps. A more elaborate definition is that of computer programmes for capturing, storing, checking, integrating, manipulating, analysing and displaying data related to positions on the earth's surface. Typically, GIS is used for handling maps. These might be represented as several different layers where each layer holds data about a particular kind of feature. Each feature is linked to a position on the graphical image of a map. Geographic information systems are increasingly being utilised for hazard and vulnerability mapping and analysis, as well as for the application of disaster risk management measures.
Global positioning system (GPS)	A system that provides specially coded satellite signals that can be processed in a GPS receiver, enabling the receiver to calculate position, velocity and time.
Hazard	A potentially damaging physical event, phenomenon and/or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation. Hazards can include latent conditions that may represent future

	threats and can have different origins: natural (geological, hydrometeorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterised by its location, intensity, frequency and probability.
Hazard analysis	Identification, studies and monitoring of any hazard to determine its potential, origin, characteristics and behaviour.
Human-made hazards	Disasters or emergency situations that are caused directly or indirectly by identifiable human actions, deliberate or otherwise.
Imperative	An obligation or a duty.
Joint Operations Centre	The sphere within a response management system where the combined or joint tactical co-ordination and management of a significant event or disaster involving multi-agency operations takes place.
Learnership	A work-based learning programme, with the learner doing both practical work and theory. Learnerships relate to an occupation. A learnership leads to a qualification registered on the NQF.
Line function	The departments that implement government policy.
Mitigation	Structural and non-structural measures undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards on vulnerable areas, communities and households.
Monitoring	A system of checking and observing to ensure that the correct procedures and practices are being followed.
Moral hazard	A form of perverse incentive that may arise under conditions of asymmetric information between national government and provincial and local governments. This could create a situation where provincial governments and municipalities deliberately under-budget on certain activities (such as disaster risk reduction), relying on national government to bail them out in the form of disaster recovery assistance once a disaster has occurred.
Municipal entity	A company, co-operative, trust, fund or any other corporate entity established in terms of any applicable national or provincial legislation and which operates under the ownership control of one or more municipalities, and includes, in the case of a company under such ownership control, any subsidiary of that company. The term can also refer to a service utility.
Municipal Infrastructure Grant (MIG)	The Municipal Infrastructure Grant is a conditional grant mechanism to fund infrastructure programmes. The MIG is managed by DPLG.
Municipal organ of state	A municipality, a department or other administrative unit within a municipality or a municipal entity.
National organ of state	A national department or a national public entity functioning within the national sphere of government (defined in section 1 of the PFMA).

National Qualifications Framework (NQF)	An integrated national approach to education and training in South Africa. It specifies how different education and training standards and/or qualifications must be set and how courses will be accredited. It emphasises lifelong learning and facilitates access to, as well as mobility and progression within, education and training through the accumulation of credits in the learning process and, where appropriate, for work experience. It was established in accordance with the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995).
National Revenue Fund	A centralised fund into which all money (including taxes) received by the national government is paid, except money reasonably excluded by an Act of Parliament.
Natural hazards	Natural processes or phenomena, such as extreme climatological, hydrological or geological processes, that may constitute a damaging event. Hazardous events can vary in magnitude or intensity, frequency, duration, area of extent, speed of onset, spatial dispersion and temporal spacing.
Organ of state	Any state department or administration in the national, provincial or local sphere of government. It includes any functionary or institution exercising a power or performing a function in terms of the Constitution or a provincial constitution, or any functionary or institution exercising a public power or performing a public function in terms of any legislation.
Own revenue	Income raised by a municipality from tariffs and taxes.
Perverse incentive	A reward that brings about the opposite effect from what the incentive was intended to produce.
Preparedness	Activities and measures taken in advance to ensure effective response to the impact of hazards, including the issuance of timely and effective early warnings and the temporary evacuation of people and property from threatened locations.
Prevention	Actions to provide outright avoidance of the adverse impact of hazards and means to minimise related environmental, technological and biological disasters.
Primary agency/entity	The agency/entity tasked with primary responsibility for a particular disaster risk management activity.
Priority disaster risk	A risk identified as a priority through a scientific evaluative process in which different disaster risks are evaluated and ranked according to criteria determined by the broader socio-economic and environmental context in which the risk is located. The process of determining these criteria should be consultative, and involve scientific, civil society and government stakeholders.
Private sector	Refers to everything which is privately owned and controlled, such as business, banks and insurance companies, the stock exchange and private schools.
Provincial organ of state	A provincial department or a provincial public entity functioning within the provincial sphere of government (defined in section 1 of the PFMA).
Public awareness	The processes of informing the general population, increasing levels of consciousness about risks and how people can act to reduce their exposure to hazards. Public awareness

	activities foster changes in behaviour, leading towards a culture of risk reduction.
Rapid-onset disasters	A disaster caused by natural events, such as earthquakes, floods, storms, fires and volcanic eruptions. Although such events are more sudden, the impact can also be heightened by underlying problems associated with poverty.
Recovery	Decisions and actions taken immediately after a disaster with a view to restoring or improving the pre-disaster living conditions of the stricken community, while encouraging and facilitating necessary adjustments to reduce disaster risk. Recovery (rehabilitation and reconstruction) affords an opportunity to develop and apply disaster risk reduction measures.
Relief	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. It can include the provision of shelter, food, medicine, clothing, water, etc.
Resilience	The capacity of a system, community or society potentially exposed to hazards to adapt by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organising itself to increase this capacity for learning from past disasters for better future protection and to improve disaster risk reduction measures.
Response	Measures taken during or immediately after a disaster in order to provide assistance and meet the life preservation and basic subsistence needs of those people and communities affected by the disaster. These measures can be of immediate, short-term or protracted duration.
Response management system	A system designed to provide a systematic approach to ensure the effective co-ordination and management of operational, tactical and strategic response efforts. It involves the combination of resources and procedures in a common organisational structure for the purpose of achieving rapid and effective response.
Risk assessment (disaster risk assessment)	A process to determine the nature and extent of risk by analysing potential hazards and evaluating existing conditions of vulnerability that could pose a potential threat or harm to people, property, livelihoods and the environment on which they depend.
Risk (disaster risk)	The probability of harmful consequences or expected losses (deaths, injuries, property, livelihoods, disrupted economic activity or environmental damage) resulting from interactions between natural or human-induced hazards and vulnerable conditions. Conventionally risk is expressed as follows: Risk = Hazards x Vulnerability. Some disciplines also include the concept of exposure to refer particularly to the physical aspects of vulnerability
Sector Education and Training Authority (SETA)	A body responsible for organising education and training programmes in a particular economic sector. SETAs must devise and implement skills development plans within their sectors.
Significant event	An event which does not necessarily justify the classification of a disaster but is of such a magnitude or importance that extraordinary measures are required to deal with it effectively. The term can also be applied to a situation where multiple single emergencies are occurring simultaneously within a given jurisdiction, placing undue demands on scarce

	resources. Together, these events may constitute a disaster. A significant event can also represent a new or unexpected shift in hazard, vulnerability or risk patterns, calling for closer investigation in order to better anticipate future changes in disaster risk.
Slow-onset disasters	Disasters which result when the ability of people to support themselves and sustain their livelihoods slowly diminishes over time. Slow-onset disasters usually take several months or years to reach a critical phase.
South African Qualifications Authority (SAQA)	The body that oversees the development and implementation of the NQF. The South African Qualifications Authority establishes national standards bodies, standards generating bodies, and education and training quality assurers.
Statutory functionary	A person performing a function assigned to that person by national, provincial or municipal legislation.
Support agency/entity	The agency/entity tasked with secondary responsibility for a particular disaster risk management activity.
Technological hazards	Danger originating from technological or industrial accidents, dangerous procedures, infrastructure failures or certain human activities, which may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation.
Threat	A physical event or process that contains the possibility of being damaging or causing harmful consequences or loss. A threat is less specific than a particular hazard or risk, but may be reclassified as a 'risk' if it shifts from presenting merely the possibility of loss to a more certain probability of harm or damage. (See Risk.)
Unit standard	A nationally recognised and registered set of education and training outcomes and their associated assessment criteria, as well as other information, including technical information, required by SAQA. Unit standards have credits attached to them. One credit is accepted as being equal to 10 hours of learning.
Vulnerability	The degree to which an individual, a household, a community, an area or a development may be adversely affected by the impact of a hazard. Conditions of vulnerability and susceptibility to the impact of hazards are determined by physical, social, economic and environmental factors or processes.

Glossary sources include:

- Ministry for Provincial Affairs and Constitutional Development. 1999. *White Paper on Disaster Management Act*. Pretoria.
- Republic of South Africa. 2003. *Disaster Management Act, 2002* (Act No. 57 of 2002). Pretoria: Government Printer.
- Republic of South Africa. 1996. *The Constitution of the Republic of South Africa, 1999* (Act No. 108 of 1996). Pretoria: Government Printer.
- United Nations – International Strategy for Disaster Risk Reduction. 2004 *Terminology on Disaster Risk Reduction* (Working document). Geneva: United Nations.
<http://www.unisdr.org/eng/library/lib-terminology-eng%20home.htm>

Appendix 2: Summary of national disaster management framework

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

SUMMARY

Key performance area 1 of the national disaster management framework (NDMF) establishes the requirements for effective institutional arrangements in the national sphere to ensure the integrated and co-ordinated implementation of disaster risk management policy and legislation and the application of the principle of co-operative governance. Key performance area 1 also places appropriate emphasis on arrangements that will ensure the involvement of all stakeholders in disaster risk management in order to strengthen the capabilities of national, provincial and municipal organs of state. Arrangements that will facilitate co-operation with countries in the region and the international community for the purpose of disaster risk management are also discussed.

OBJECTIVE

Establish integrated institutional capacity within the national sphere to enable the effective implementation of disaster risk management policy and legislation.

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
1.1 Establish arrangements for the development and adoption of an integrated disaster risk management policy.	• The Intergovernmental Committee on Disaster Management has been established and is operating effectively.	1.1.1
	• Mechanisms for developing and adopting disaster risk management policy have been established and put into operation.	1.1.2
1.2 Establish arrangements for integrated direction and implementation of disaster risk management policy.	• The job description and key performance indicators for the position of the Head of the National Disaster Management Centre have been developed.	1.2.2
	• The Head of the National Disaster Management Centre has been appointed.	1.2.2
	• The National Disaster Management Centre has been established and is fully operational.	1.2.2
	• Disaster risk management focal/nodal points have been identified by each national organ of state and responsibilities for disaster risk management have been assigned.	1.2.3
	• Roles and responsibilities of national organs of state involved in disaster risk management have been identified, assigned and included in the job descriptions of key personnel and are being applied effectively.	1.2.3
1.3 Establish arrangements for stakeholder participation and the engagement of technical advice in disaster risk management planning and operations.	• Provincial and municipal disaster risk management centres have been established and are operating optimally.	1.2.4, 1.2.5
	• The National Disaster Management Advisory Forum has been formally constituted and operates effectively.	1.3.1
	• Provincial and municipal disaster management forums or similar representative consultative forums have been established and are operating effectively.	1.3.1.2, 1.3.1.3
	• Mechanisms for stakeholder participation in disaster risk management planning and operations have been established and are operating effectively.	1.3.2

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
1.3 (cont.)	<ul style="list-style-type: none"> • Primary responsibility for the facilitation and co-ordination of disaster risk management planning and implementation has been assigned. • Entities playing a supportive role in facilitating and co-ordinating disaster risk management planning and implementation have been identified and assigned secondary responsibilities. • Heads of disaster management centres have full participation in integrated development planning processes and structures. • Ward structures have been identified and tasked with responsibility for disaster risk management. • A current register of disaster risk management stakeholders and volunteers has been established and is maintained. 	<p>1.3.2</p> <p>1.3.2</p> <p>1.3.2</p> <p>1.3.2.2</p> <p>1.3.3</p>
1.4 Establish arrangements for national, regional and international co-operation for disaster risk management.	<ul style="list-style-type: none"> • Mechanisms have been identified and implemented to ensure the application of the principle of co-operative governance. • Guidelines have been developed and disseminated for entering into partnerships and concluding mutual assistance agreements and memoranda of understanding. • A disaster risk management forum established for the purpose of co-operation with countries in the SADC region is operating effectively. • Mechanisms have been identified and established to enable South Africa to participate internationally in disaster risk management activities. 	<p>1.4.1, 1.4.2</p> <p>1.4.3</p> <p>1.4.4</p> <p>1.4.5</p>
<p>Ensure that funding and funding mechanisms, information management and communication systems, and education and training strategies are in place for each of the imperatives in KPA 1.</p>		

KEY PERFORMANCE AREA 2: DISASTER RISK ASSESSMENT

SUMMARY

South Africa faces many different types of risk. Of these, disaster risk specifically refers to the likelihood of harm or loss due to the action of hazards or other external threats on vulnerable structures, services, areas, communities and households. Key performance area 2 addresses the need for conducting ongoing disaster risk assessments and monitoring to inform disaster risk management planning and priority setting, guide disaster risk reduction efforts and monitor the effectiveness of such efforts. It also outlines the requirements for implementing disaster risk assessment and monitoring by organs of state within all spheres of government.

OBJECTIVE

Establish a uniform approach to assessing and monitoring disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by organs of state and other role players.

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
2.1 Conduct disaster risk assessments to inform disaster risk management and risk reduction policies, planning and programming.	<ul style="list-style-type: none"> A national standard for conducting comprehensive disaster risk assessments has been generated by the NDMC. 	2.1.1 – 2.1.6
	<ul style="list-style-type: none"> National guidelines for the application of a uniform disaster risk assessment methodology have been developed by the NDMC. 	2.1.4, 2.1.7
	<ul style="list-style-type: none"> A national standard for assessing priority disaster risks has been generated by the NDMC. 	2.1.7
	<ul style="list-style-type: none"> National guidelines for assessing priority disaster risks in national, provincial and municipal spheres have been generated by the NDMC. 	2.1.7
	<ul style="list-style-type: none"> Disaster risk assessment legislation, policies, standards and implementation guidelines by national organs of state and their provincial counterparts have been developed and applied. 	2.1.1
	<ul style="list-style-type: none"> Disaster risk assessments have been conducted and progressively integrated into the development plans of organs of state and other role players. 	2.1.1
2.2 Generate a National Indicative Disaster Risk Profile.	<ul style="list-style-type: none"> Mechanisms to consolidate, document, map and make accessible information on South Africa's priority disaster risks have been established by the NDMC. 	2.2.1
	<ul style="list-style-type: none"> Priority disaster risks of national significance have been identified and mapped by the NDMC. 	2.2.1
	<ul style="list-style-type: none"> Procedures to consolidate, map, update and make accessible information on South Africa's priority disaster risks have been established and documented by the NDMC. 	2.2.1
2.3 Monitor, update and disseminate disaster risk information.	<ul style="list-style-type: none"> National and provincial departments with responsibilities for reducing and managing disaster risks specific to their functional areas have established clear and documented mechanisms for rapid accessing and updating of relevant hazard and vulnerability information and for rapidly making this information available to the NDMC. 	2.3.1 – 2.3.3
	<ul style="list-style-type: none"> National, provincial and municipal disaster management centres as well as all organs of state in all spheres of government have established and documented clear mechanisms for accessing, consolidating and updating relevant information on hazards, vulnerability and disaster occurrence from partners responsible for monitoring specific risks. 	2.3.3
	<ul style="list-style-type: none"> National, provincial and municipal disaster management centres as well as all organs of state in all spheres of government have established and documented clear mechanisms for disseminating disaster risk assessment and monitoring information for ongoing planning, as well as for managing conditions of heightened risk. 	2.3.1, 2.3.3

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
2.3 (cont.)	<ul style="list-style-type: none"> • National, provincial and municipal disaster management centres have established and documented clear procedures for accessing, interpreting and disseminating early warnings of both rapid- and slow-onset hazards. 	2.3.3
2.4 Conduct quality control.	<ul style="list-style-type: none"> • Disaster risk assessments undertaken show documented evidence of: <ul style="list-style-type: none"> ◆ capacity building and skills transfer ◆ ground-truthing (that is, based on the actual situation 'on the ground' or verified by those being assessed), through field consultations in the areas and with communities most at risk from the threat(s) being assessed ◆ consultation with appropriate governmental and other stakeholders about the design and/or implementation of the disaster risk assessment and the interpretation of the findings. 	2.4.1
	<ul style="list-style-type: none"> • The methodology and results of the disaster risk assessment have been subjected to an independent technical review process and external validation prior to: <ul style="list-style-type: none"> ◆ the publication or dissemination of hazard, vulnerability or risk maps and/or reports for planning purposes ◆ the implementation of disaster risk reduction or other initiatives based on the disaster risk assessment results. 	2.4.2
	<ul style="list-style-type: none"> • Disaster risk assessments undertaken show documented evidence of technical consultation with the appropriate disaster management centre(s) prior to implementation. 	2.4.2
<p>Ensure that funding and funding mechanisms, information management and communication systems, and education and training strategies are in place for each of the imperatives in KPA 2.</p>		

KEY PERFORMANCE AREA 3: DISASTER RISK REDUCTION

SUMMARY

The successful implementation of the Disaster Management Act critically depends on the preparation and alignment of disaster management frameworks and plans for all spheres of government. The legal requirements for the preparation of disaster management frameworks and plans by national, provincial and municipal organs of state are specified in sections 25, 38 and 52 of the Act. This key performance area addresses the requirements for disaster management planning within all spheres of government. It gives particular attention to the planning for and integration of the core risk reduction principles of prevention and mitigation into ongoing programmes and initiatives.

OBJECTIVE

Ensure all disaster risk management stakeholders develop and implement integrated disaster risk management plans and risk reduction programmes in accordance with approved frameworks.

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
3.1 Ensure all stakeholders compile integrated and relevant disaster risk management plans.	<ul style="list-style-type: none"> A national disaster management framework has been developed and provincial and municipal disaster management frameworks that are consistent with the national disaster management framework have been submitted to the NDMC. 	3.1.1.1
	<ul style="list-style-type: none"> Disaster risk management planning guidelines have been developed and disseminated by the NDMC. 	3.1.1.2, 3.1.2
	<ul style="list-style-type: none"> Disaster risk management plans have been submitted to the NDMC by all relevant national, provincial and municipal organs of state and municipal entities. 	3.1.1.2
	<ul style="list-style-type: none"> National, provincial and municipal disaster management frameworks and plans are revised at least two-yearly, as evidenced in annual reports submitted to the NDMC. 	3.1.1
3.2 Determine priority disaster risks and priority areas, communities and households.	<ul style="list-style-type: none"> National priority disaster risks have been identified and mapped by the NDMC. 	3.2.1
	<ul style="list-style-type: none"> Specific provincial priority disaster risks have been identified and mapped by provincial disaster management centres. 	3.2.2
	<ul style="list-style-type: none"> Specific municipal priority disaster risks have been identified and mapped by municipal disaster management centres. 	3.2.3
	<ul style="list-style-type: none"> Specific priority areas, communities and households within provincial and municipal spheres have been identified and mapped. 	3.2.4
	<ul style="list-style-type: none"> Focused initiatives to reduce priority disaster risks have been identified by national and provincial organs of state. 	3.2.5
3.3 Scope and develop disaster risk reduction plans, projects and programmes.	<ul style="list-style-type: none"> Case studies and lessons learned in integrating disaster risk reduction measures with initiatives in the national, provincial and municipal spheres have been documented and disseminated by the NDMC. 	3.3.1.8
	<ul style="list-style-type: none"> Documentation, which is accessible to key stakeholders, demonstrates the effectiveness of disaster risk reduction measures for different risk scenarios. 	3.3.1 – 3.3.3
	<ul style="list-style-type: none"> The effectiveness of disaster risk reduction initiatives is monitored by the NDMC. 	3.3.3
3.4 Include disaster risk reduction efforts into strategic integrating structures and processes.	<ul style="list-style-type: none"> Mechanisms to disseminate experience from pilot and research projects that explore the vulnerability reduction potential, appropriateness, cost-effectiveness and sustainability of specific disaster risk reduction initiatives have been established. 	3.4.1, 3.4.2
	<ul style="list-style-type: none"> Risk-related information has been incorporated into spatial development frameworks. 	3.4.1
	<ul style="list-style-type: none"> Projects and initiatives that include a focus on disaster risk reduction have been included in IDPs. 	3.4.2

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
3.4 (cont.)	<ul style="list-style-type: none"> • Guidelines for incorporating disaster risk management programmes and initiatives into the activities of other national organs of state and key institutional role players have been consultatively developed and implemented. • Regulations, standards, by-laws and other legal instruments that encourage risk-avoidance behaviour have been enforced by national, provincial and municipal organs of state and documented in annual reports to the NDMC. 	3.4.2 3.4.3
3.5 Implement and monitor disaster risk reduction programmes and initiatives.	<ul style="list-style-type: none"> • Disaster risk reduction programmes, projects and initiatives have been implemented by national, provincial and municipal organs of state and other key role players. • Measurable reductions in small-, medium- and large-scale disaster losses have been recorded. • A measurable reduction in social relief in disaster-prone economically vulnerable communities has been recorded. • Case studies and best-practice guides in disaster risk reduction, facilitated by the NDMC, have been generated and disseminated. • There is evidence of the progressive application of disaster risk reduction techniques and measures by national, provincial and municipal organs of state, as reported in annual reports submitted to the NDMC. 	3.5.1 3.5.2 3.5.3 3.5.4 3.5.5
<p style="text-align: center;">Ensure that funding and funding mechanisms, information management and communication systems, and education and training strategies are in place for each of the imperatives in KPA 3.</p>		

KEY PERFORMANCE AREA 4: RESPONSE AND RECOVERY

SUMMARY

The Disaster Management Act requires an integrated and co-ordinated policy that focuses on preparedness for disasters, rapid and effective response to disasters and post-disaster recovery and rehabilitation. When a significant event or disaster occurs or is threatening to occur, it is imperative that there should be no confusion as to roles, responsibilities, funding arrangements and the procedures to be followed. This section addresses key requirements that will ensure that planning for disaster response and recovery as well as rehabilitation and reconstruction achieves these objectives.

OBJECTIVE

Ensure effective and appropriate disaster response and recovery by:

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

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
4.1 Identify and implement mechanisms for the dissemination of early warnings.	<ul style="list-style-type: none"> • Effective and appropriate early warning strategies have been developed and implemented and the information communicated to stakeholders to enable appropriate responses. 	4.1
4.2 Create guidelines and mechanisms for the assessment, classification, declaration and review of a disaster.	<ul style="list-style-type: none"> • Guidelines and uniform methods, including templates, for the assessment and costing of significant events or disasters have been developed. • Mechanisms for the rapid and effective classification of a disaster and the declaration of a state of disaster have been established. • Mechanisms for conducting disaster reviews and reporting, including mechanisms to enable assessments that will comply with and give effect to the provisions of sections 56 and 57 of the Act, have been developed and implemented. • Review and research reports on significant events and trends are routinely submitted to the NDMC and disseminated to stakeholders. • Review reports on actual disasters are routinely submitted. 	4.2.1 4.2.2 4.2.3 4.2.3 4.2.3
4.3 Integrate response and recovery efforts.	<ul style="list-style-type: none"> • The organs of state which must bear primary responsibility for contingency planning and the co-ordination of known hazards have been identified and allocated such responsibility. • Stakeholders which must bear secondary responsibility for contingency planning and the co-ordination of known hazards have been identified and allocated such responsibility. • Contingency plans for known hazards by national organs of state have been developed. • Response and recovery plans are reviewed and updated annually. • Field operations guides for the various activities associated with disaster response and recovery have been developed and are reviewed and updated annually. • A national standard response management system has been developed and is reviewed and updated annually. • Standard operating protocols or procedures and checklists have been developed and are understood by all stakeholders. 	4.3.1 4.3.1 4.3.1 4.3.1 4.3.1, 4.3.2 4.3.2 4.3.2, 4.3.4

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
4.3 (cont.)	<ul style="list-style-type: none"> Regulations and directives for the management of disaster response and recovery operations have been developed and gazetted or published. 	4.3.5
4.4 Establish standardised and regulated relief measures.	<ul style="list-style-type: none"> Regulations for the management of relief operations have been developed and gazetted. 	4.4
	<ul style="list-style-type: none"> Progressive monitoring and annual reviews of regulations for the management of relief operations, based on lessons learned, are conducted. 	4.4
4.5 Ensure integrated rehabilitation and reconstruction activities are conducted in a developmental manner.	<ul style="list-style-type: none"> Post-disaster project teams for rehabilitation and reconstruction have been established and operate effectively. 	4.5
	<ul style="list-style-type: none"> Mechanisms for the monitoring of rehabilitation and reconstruction projects have been established and regular progress reports are submitted to the NDMC. 	4.5
<p>Ensure that funding and funding mechanisms, information management and communication systems, and education and training strategies are in place for each of the imperatives in KPA 4.</p>		

ENABLER 1: INFORMATION MANAGEMENT AND COMMUNICATION

SUMMARY

Disaster risk management is a collaborative process that involves all spheres of government, non-governmental organisations, the private sector, a wide range of capacity-building partners and communities. Integrated disaster risk management depends on access to reliable hazard and disaster risk information as well as effective communication systems to enable the receipt, dissemination and exchange of information. It therefore requires capabilities to manage risks on an ongoing basis, and to effectively anticipate, prepare for, respond to and monitor a range of natural and other hazards. It further requires systems and processes that will enable all role players to make timely and appropriate decisions during emergencies. These systems and processes must also inform disaster risk management and development planning processes by all stakeholders.

OBJECTIVE

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

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
5.3 Identify data needs and data sources.	• Data needs have been defined by the NDMC.	5.3
	• Data sources have been identified by the NDMC.	5.3
	• Data collection and capturing methodologies have been developed and implemented.	5.3
	• The responsibilities of the respective data custodians have been defined and assigned.	5.3
	• Agreements with identified data custodians have been negotiated to ensure availability, quality and reliability of data.	5.3
5.4 Ensure that the information management and communication system supports the objectives of the key performance areas and enablers identified in the national disaster management framework.	• An integrated information management and communication system has been designed and implemented to support:	
	• integrated institutional capacity	5.4.1
	• disaster risk assessment	5.4.2
	• disaster risk reduction programmes and plans	5.4.3
	• response and recovery operations	5.4.4
	• education, training, public awareness and research	5.4.5
• funding mechanisms and financial controls.	5.4.6	
5.5 Identify and incorporate additional specialised functionalities in the design of the information management and communication system for disaster risk management.	• A uniform document management system has been developed and implemented and is used by all role players.	5.5.1
	• A comprehensive, uniform and easily updateable resource and capacity database has been developed and implemented and is used by all role players.	5.5.2
	• A modelling and simulation application has been developed and is used by all role players.	5.5.3
	• An integrated monitoring and evaluation system has been developed and implemented and is used by all role players.	5.5.4
	• A uniform programme and project management tool has been developed and is used by all role players involved in disaster risk management programmes and projects.	5.5.5
	• A quality management system has been developed and implemented, and designated individuals in relevant national, provincial and municipal organs of state have been assigned responsibility to administer the system.	5.5.6

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
<p>5.6 Develop an integrated information management and communication system for disaster risk management.</p>	<ul style="list-style-type: none"> • A disaster risk management information and communication system for all spheres of government has been established and implemented. • The disaster risk management information and communication system supports the key performance areas and enablers in all spheres of government. • Provincial and municipal information management and communication systems are fully compatible with the national system and are part of a single integrated network. 	<p>5.6, 5.6.1</p> <p>5.6, 5.6.1</p> <p>5.6, 5.6.1</p>
<p>5.7 Create awareness, promoting a culture of risk avoidance and establishing good media relations.</p>	<ul style="list-style-type: none"> • Information dissemination programmes and channels of communication between all spheres of government, organs of state, communities and the media have been established. • Disaster risk management information is easily accessible for all at no additional charge. 	<p>5.7</p> <p>5.7</p>
<p>Ensure that funding and funding mechanisms and, where relevant, education and training initiatives are in place for each of the imperatives in Enabler 1.</p>		

ENABLER 2: EDUCATION, TRAINING, PUBLIC AWARENESS AND RESEARCH

SUMMARY

Sections 15 and 20(2) of the Disaster Management Act specify the promotion of education and training, the encouragement of a broad-based culture of risk avoidance, and the promotion of research into all aspects of disaster risk management. This key performance area addresses the development of education and training for disaster risk management and associated professions as well as the inclusion of disaster risk management and risk-avoidance programmes in school curricula. It also outlines mechanisms for awareness creation and the development of a national disaster risk research agenda.

OBJECTIVE

Promote a culture of risk avoidance among stakeholders by capacitating all role players through integrated education, training and public awareness supported by scientific research.

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
6.1 Conduct a national education, training and research needs and resources analysis.	<ul style="list-style-type: none"> A scientific national education, training and research needs and resources analysis has been completed within two years of the implementation of the national disaster management framework. 	6.1.1
	<ul style="list-style-type: none"> The national education, training and research needs and resources analysis serves as the foundation for the development of a national disaster risk management education and training framework. 	6.1
	<ul style="list-style-type: none"> The national education, training and research needs and resources analysis informs the development of appropriate disaster risk management education and training programmes that not only build on existing strengths but are responsive to southern Africa's changing disaster risk management needs. 	6.1
6.2 Develop a national disaster risk management education and training framework based on the national education, training and research needs and resources analysis.	<ul style="list-style-type: none"> A national disaster risk management education and training framework has been developed and directs the implementation of all disaster risk management education and training in South Africa. 	6.2, 6.2.1
	<ul style="list-style-type: none"> All disaster risk management education and training standards and qualifications comply with the requirements of the South African Qualifications Authority Act, 1995 (Act No. 58 of 1995) and the guidelines prescribed in the National Qualifications Framework. 	6.2
	<ul style="list-style-type: none"> A technical advisory body has been established. 	6.2.2
	<ul style="list-style-type: none"> An accreditation and registration system has been established to ensure that all education and training providers and facilitators are registered and accredited. 	6.2.2
6.3 Design disaster risk management education programmes that form part of the formal education system and are in line with the national education, training and research needs and resources analysis, the national education and training framework and the requirements of the South African Qualifications Authority and the National Qualifications Framework.	<ul style="list-style-type: none"> Curricula for various National Qualifications Framework levels within different disciplines have been developed and applied in line with the national education, training and research and resources needs analysis. 	6.3.1, 6.3.2
	<ul style="list-style-type: none"> Aspects of disaster risk management are included in the curricula of all relevant tertiary disciplines as well as relevant primary and secondary school programmes. 	6.3.1 – 6.3.3
	<ul style="list-style-type: none"> Various quality professional courses, workshops, seminars and conferences, focusing on issues of disaster risk through a multidisciplinary approach, are held. 	6.3.4
	<ul style="list-style-type: none"> Approved service providers have been registered and are offering education and training services and products. 	6.3.5
	<ul style="list-style-type: none"> There is widespread use of education and training materials. 	6.3.5
	<ul style="list-style-type: none"> Qualified facilitators, instructors and presenters have been accredited. 	6.3.5
	<ul style="list-style-type: none"> An education and training quality assurer has been appointed. 	6.3.5

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
<p>6.4 Ensure that new and existing disaster risk management training programmes are in line with the national education, training and research and resources needs analysis, the national education and training framework and the requirements of the South African Qualifications Authority and the National Qualifications Framework.</p>	<ul style="list-style-type: none"> • Ongoing training interventions, including short courses, workshops, seminars and conferences, are available to stakeholders. • Training programmes have been developed and implemented. • Facilitators, instructors and presenters have become qualified and have been accredited. • Approved service providers have been registered and are offering training services and products. • Widespread community-based disaster risk management training (in line with national training standards) is taking place. • Disaster risk management learnerships have been developed and are operational. • An education and training quality assurer has been appointed. 	<p>6.4.1, 6.4.4, 6.4.7, 6.4.8</p> <p>6.4.1, 6.4.2, 6.4.7</p> <p>6.4.5, 6.4.8</p> <p>6.4.8</p> <p>6.4.4</p> <p>6.4.6</p> <p>6.4.8</p>
<p>6.5 Create awareness, promote a culture of risk avoidance and establish good media relations.</p>	<ul style="list-style-type: none"> • An integrated national public awareness strategy based on the National Indicative Disaster Risk Profile and the national education, training and research needs and resources analysis has been developed and implemented. • Disaster risk reduction is the focus of all disaster risk management awareness programmes. • Awareness of disaster risk management is promoted at schools and in communities known to be at risk. • Awareness of disaster risk management is widespread, and risk-avoidance behaviour is integrated into the day-to-day activities of all stakeholders. • There is widespread evidence of balanced media reports and coverage on hazards, disasters and disaster risk management issues. • Articles on disaster risk management are regularly published in the media. • Good relationships with media representatives have been established and are maintained. • Disaster risk reduction is included as a standard agenda item for consideration at executive meetings of all role players and stakeholders. 	<p>6.5.1</p> <p>6.5.1</p> <p>6.5.2</p> <p>6.5.1 – 6.5.3</p> <p>6.5.3</p> <p>6.5.3</p> <p>6.5.3</p> <p>6.5.4</p>
<p>6.6 Establish research programmes and information and advisory services.</p>	<ul style="list-style-type: none"> • A strategic disaster risk research agenda has been established. • Research institutions participate in the national research programme on an organised basis. • A link between scientific research and policy exists (evidence-based policy and policy-oriented research). • Regional and international exchange, co-operation and networking occur on a regular basis. • Disaster risk management research contributes to technology development. • All stakeholders have access to a comprehensive research database. • All stakeholders have access to a comprehensive advisory service. 	<p>6.6.1</p> <p>6.6.1</p> <p>6.6.1</p> <p>6.6.1</p> <p>6.6.1</p> <p>6.6.2</p> <p>6.6.3</p>
<p>Ensure that funding and funding mechanisms and information management and communication systems are in place for each of the imperatives in Enabler 2.</p>		

ENABLER 3: FUNDING ARRANGEMENTS FOR DISASTER RISK MANAGEMENT

SUMMARY

The provision of funding for disaster risk management is likely to constitute the single most important factor contributing to the successful implementation of the Act by national, provincial and municipal spheres of government.

The Act, with the exception of Chapter 6 on funding of post-disaster recovery and rehabilitation, does not provide clear guidelines for the provision of funding for disaster risk management. In order to give effect to the requirements of the Act, four key performance areas and three enablers have been identified in the disaster risk management framework to guide the implementation of the Act. Accordingly, funding from a range of sources for the different aspects of disaster risk management outlined in the key performance areas and enablers will be required.

Enabler 3 builds on the recommendations made by the Financial and Fiscal Commission on funding arrangements in its *Submission on the Division of Revenue 2003/04*, and describes the disaster risk management funding arrangements for organs of state in the national, provincial and local spheres of government.

OBJECTIVE

Establish mechanisms for the funding of disaster risk management in South Africa.

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
7.4 Determine funding arrangements for the establishment of institutional arrangements, including an information management and communication system for disaster risk management, for the effective implementation of the Act.	• The minimum requirements for provincial and disaster management centres have been costed.	7.4.1.1
	• Conditional grants to fund the start-up costs of disaster management centres in provinces and municipalities have been established and allocated.	7.4.1.1, 7.4.2
	• Conditions for access to grant funding are based on guidelines issued by the NDMC on minimum infrastructural requirements for disaster management centres.	7.4.1.1, 7.4.2, 1.2.2.2
	• The responsibilities of the NDMC as set out in the Act have been costed and these cost estimates inform the budget for disaster risk management in the DPLG vote.	7.4.1.2
	• The NDMC budget makes provision for national priority risk reduction projects.	7.4.1.2
	• The NDMC has rapid access to emergency funds for assistance in regional disasters.	7.4.1.3
	• Monitoring processes are integrated with routine reporting cycles of organs of state.	7.4.2
7.5 Establish funding arrangements for disaster risk assessment.	• The costs of disaster risk assessments are included in the budgets of national and provincial organs of state.	7.5.1, 7.5.2
	• The costs of initial disaster risk assessments are included in the local government conditional grant.	7.5.1, 7.5.2
	• The costs of disaster risk assessments have been estimated and are included in the budgets of municipal disaster management centres.	7.5.1, 7.5.2
7.6 Establish funding arrangements for disaster risk reduction.	• Budgets in all spheres of government include the costs of routine disaster risk reduction measures and activities.	7.6.1
	• Feasibility studies for capital projects include information drawn from disaster risk assessments and appropriate risk reduction measures.	7.6.1, 7.6.2
	• Capital budgets clearly reflect the costs of disaster risk reduction.	7.6.1
	• Preparedness actions are funded through the recurrent budgets of all relevant organs of state.	7.6.1.1

IMPERATIVES	KEY PERFORMANCE INDICATORS	SECTION IN NDMF
<p>7.7 Establish funding arrangements for disaster response and recovery.</p>	<ul style="list-style-type: none"> • The percentage of the budget of a provincial or municipal organ of state as a threshold for accessing additional funding from national government for response and recovery efforts has been established and implemented. • Response and recovery efforts are funded through budgeted threshold allocations. • A mechanism has been developed to ensure rapid access to national funds for disaster response. • Organs of state across all spheres of government have budgeted for threshold allocations. • People, households and communities affected by a significant event or disaster have immediate access to relief measures. • Financial thresholds for rehabilitation and reconstruction funding in the different spheres of government have been set. • Rehabilitation and reconstruction efforts are funded through a combination of own budgets, reprioritisation, budgeted threshold allocations and conditional grants. 	<p>7.7.1.2</p> <p>7.7.1.2, 7.7.2</p> <p>7.7.1.2, 7.7.2</p> <p>7.7.1.2, 7.7.2</p> <p>7.7.1.3, 7.7.2</p> <p>7.7.1.4</p> <p>7.7.1.4, 7.7.2</p>
<p>7.8 Establish funding arrangements for disaster risk management education, training, public awareness and research.</p>	<ul style="list-style-type: none"> • There is documented evidence of an increase in expenditure on accredited education and training programmes. • Organs of state recover their expenditure on accredited education and training from the relevant Sector Education and Training Authorities. • The conditions of the Municipal Systems Improvement Grant have been extended to cater for disaster risk management education and training programmes. • All organs of state involved in public awareness budget for integrated public awareness programmes. • Partnerships between municipal organs of state and the private sector, non-governmental organisations and community-based organisations exist for the purpose of funding public awareness programmes and projects. • Funds are available from government departments, international donor organisations, private companies, research foundations and non-governmental organisations for research programmes. 	<p>7.8.1.1</p> <p>7.8.1.1, 7.8.2</p> <p>7.8.1.1</p> <p>7.8.1.2</p> <p>7.8.1.2</p> <p>7.8.1.3, 7.8.2</p>