



# DISASTER MANAGEMENT PLAN



## **VISION**

Our vision is that Mangaung Metropolitan Municipality understands embraces and practice the disaster risk management principles to ensure a safe and resilient environment for its residents.

## **MISSION**

It is our mission to establish and maintain an all inclusive integrated and effective disaster risk management programme for the Mangaung Metropolitan Municipal area that will ensure effective and speedily response in case of disasters and emergencies to the benefit of all communities.

## TABLE OF CONTENTS

## PAGE NO

<b>1. INTRODUCTION .....</b>	<b>5</b>
1.1 Socio-Demographics: Mangaung Metropolitan Municipality.....	5
1.2 An Historical Review on Disaster Management .....	6
1.3 The Fundamental Philosophy of South Africa's Disaster Management Arrangements .....	7
<b>2. LEGISLATIVE COMPETENCE .....</b>	<b>8</b>
<b>3. DEFINITIONS .....</b>	<b>9</b>
3.1 Disaster Management .....	9
3.2 Disaster .....	9
3.3 Vulnerability .....	9
3.4 Disaster Prevention .....	9
3.5 Disaster Mitigation .....	10
3.6 Emergency Preparedness .....	10
3.7 Disaster Response .....	10
3.8 Post Disaster Recovery and Rehabilitation .....	10
<b>4. THE MANGAUNG METROPOLITAN MUNICIPAL DISASTER MANAGEMENT PLAN .....</b>	<b>10</b>
<b>5. THE DISASTER MANAGEMENT PLAN AS A CORE COMPONENT OF COUNCIL'S INTEGRATED DEVELOPMENT PLAN .....</b>	<b>10</b>
<b>6. THE CUSTODIAN OF THE DISASTER MANAGEMENT PLAN .....</b>	<b>11</b>
<b>7. THE PLANNING FRAMEWORK .....</b>	<b>11</b>
7.1 The Mangaung Metropolitan Municipality Disaster Management Plan .....	11
7.2 Annexes to the Plan .....	12
7.3 Directorate Disaster Management Plans .....	12
7.4 Disaster Plans for Thaba Nchu and Botshabelo Regions .....	12
7.5 Contingency Plans .....	12
<b>8. THE MUNICIPAL DISASTER MANAGEMENT FRAMEWORK [MMDMF] .....</b>	<b>13</b>
<b>8.1 KPA 1: Integrated institutional capacity for Disaster Risk Management in the MMM .....</b>	<b>13</b>
8.1.1 Arrangements for Integrated Disaster Risk Management Policy .....	14
8.1.2 The Council .....	14
8.1.3 Municipal Manager .....	15
8.1.4 The Policy Making Process .....	15
8.1.5 Disaster Risk arrangements for direction and execution of Policy .....	15
8.1.5.1 Establishment of Municipal Disaster Management Centre .....	15
8.1.5.2 Key Responsibilities of the MMMDRMC with regard to KPA1 .....	15
8.1.5.3 Location of DRM function .....	16
8.1.5.4 The Internal Departments [municipal organs of state] and other municipal entities within the administration of the MMM with regard to DRM .....	16

8.1.6	Assignment of Responsibilities .....	16
8.1.6.1	Head of the Disaster Management Centre .....	16
8.1.6.2	The MMM Internal Disaster Risk Management Committee [IDRMC] .....	17
8.1.6.3	Responsibilities of the IDRMC .....	17
8.1.6.4	Contingency planning, disaster response and recovery .....	18
8.1.6.5	Project teams and planning clusters .....	18
8.1.7	Arrangements for stakeholders participation and technical advice .....	18
8.1.7.1	Communication with the National Disaster management Centre [NDMC] and the Disaster Management Centre of the Province [PDMC] of the Free State.....	18
8.1.7.2	Municipal Disaster Management Advisory Forum .....	19
<b>8.2</b>	<b>KPA 2: Disaster Risk Assessment .....</b>	<b>20</b>
8.2.1	Objective .....	20
8.2.2	Hazard and Risk Analysis .....	20
8.2.2.1	Purpose .....	20
8.2.2.2	The Key Steps .....	20
8.2.2.3	Hazard identification .....	20
8.2.2.4	Risk Analysis .....	21
8.2.2.5	Hazard mapping for the MMM area .....	21
8.2.2.6	Risk Evaluation .....	21
8.2.2.7	Levels of Risks .....	23
8.2.2.8	Monitoring Disaster Risks .....	29
8.2.2.9	Key Performance Indicators .....	29
<b>8.3</b>	<b>KPA 3: Disaster Risk Reduction .....</b>	<b>29</b>
8.3.1	Objectives .....	29
8.3.2	Core Disaster Risk Reduction Principles .....	29
8.3.3	Disaster Prevention .....	29
8.3.4	Disaster Mitigation .....	29
8.3.5	Hazard and Risk Reduction Strategies .....	31
8.3.6	Integration of Disaster Reduction into Development Planning .....	37
8.3.6.1	Integration of Disaster Risk Reduction with Spatial Development Planning .....	37
8.3.6.2	Incorporation of Disaster Risk Reduction Planning into Integrated Development Planning .....	37
8.3.6.3	Key Performance Indicators .....	37
<b>8.4</b>	<b>KPA 4: Response and Recovery .....</b>	<b>37</b>
8.4.1	Objective .....	37
8.4.2	Disaster Response and Recovery .....	38
8.4.3	Process for the Classification and Declaration of State of Disaster .....	39
8.4.4	Early Warnings .....	39
8.4.5	Major Role Players in Integrated Early Warning .....	40
8.4.6	Disaster Assessment .....	40
8.4.7	Response and Recovery .....	40
8.4.8	Relieve Measures .....	40
8.4.9	Rehabilitation and Reconstruction .....	40
8.4.10	Key Performance Indicators .....	40
<b>8.5</b>	<b>Enabler 1: Information Management and Communication .....</b>	<b>40</b>
8.5.1	Objective .....	40
8.5.2	Establishing an Information Management and Communication System .....	40
8.5.3	Integrated Information Management and Communication Model .....	41
8.5.4	Data Acquisition [Data collection and capturing] .....	41
8.5.5	Key Performance Indicators .....	41
<b>8.6</b>	<b>Enabler 2: Education, Training, Public Awareness &amp; Research .....</b>	<b>41</b>
8.6.1	Objective .....	41
8.6.2	Education and Training .....	41
8.6.2.1	School Programmes .....	41
8.6.2.2	Dissemination and use of Indigenous Knowledge .....	41
8.6.2.3	Training Programmes for Government Officials and Policy Makers .....	42

8.6.2.4	Community Training Programmes .....	42
8.6.3	Public Awareness .....	42
8.6.3.1	Public Awareness Strategy .....	42
8.6.3.2	Communication through the Media [Communication Unit] .....	42
8.6.3.3	Research .....	42
8.6.3.4	Key Performance Indicators .....	43
<b>8.7</b>	<b>Enabler 3: Funding Arrangements for Disaster Risk Management .....</b>	<b>43</b>
8.7.1	Objective .....	43
8.7.2	Recommended Funding Arrangements .....	43
<b>9.</b>	<b>REVIEWING AND TESTING THE DISASTER PLAN .....</b>	<b>43</b>
<b>10.</b>	<b>ABBREVIATIONS AND ACRONYMS .....</b>	<b>50</b>

## 1. INTRODUCTION

### 1.1 Socio-Demographics: Mangaung Metropolitan Municipality

The Mangaung Metro Municipality is a huge area covering a radius of 6863 km<sup>2</sup>. It comprises three prominent urban centres, which are surrounded by an extensive rural area.

- [i] **Bloemfontein** which is the sixth largest city in South Africa. It is the capital of the Free State Province and therefore, serves as the administrative headquarters of the provincial government. It is the Judicial Capital of South Africa. Bloemfontein is de facto the economic hub of the local and regional economy. Attached to Bloemfontein is a large township; Mangaung. Unlike other townships in the Municipality, Mangaung Township is relatively well serviced. This is obviously due to its proximity to the economic hub. However, its relative development has become a magnetic force that attracts people from other townships in search of improved livelihoods – thereby placing undue pressure on existing infrastructure.
- [ii] **Botshabelo** is located 55km to the east of Bloemfontein. It is the single largest township development in the Free State. However, it is highly under-developed and lacks most basic services. As a result, the majority of its residents rely on the City of Bloemfontein [the City] for employment and other economic activities. It is estimated that more than 17 000 people commute between Botshabelo and Bloemfontein and Thaba Nchu and Bloemfontein daily. This has prompted Mangaung to subsidise transport to the tune of R80m annually.
- [iii] **Thaba Nchu** is situated 12km further to the east of Botshabelo. It used to be part of the Bophuthatswana 'Bantustan'. As a result it exhibits large areas of rural settlements on former trusts lands. In addition Thaba Nchu has a scattered settlement pattern with 37 villages surrounding the urban centre – some as far as 35km from the centre.

#### Population

In the first decade of the 21<sup>st</sup> Century Mangaung has experienced exponential growth in population size. For example, the population figure for Mangaung has increased from 645 440 in 2001 to 752 906 in 2007 [stats SA, 2007] which indicates a combined growth rate of 16.6%.

#### Mangaung population distribution, 2007

Bloemfontein	-	52%
Botshabelo	-	28%
Thaba Nchu	-	14%
Rural Area	-	6%

#### The Economy of Mangaung

Mangaung has a relatively well developed economy and is the largest contributor to the GDP of the province at 31.35% [Stats SA, 2007]. Its economic growth has remained consistent at 3% per annum [Ibid]. However, the economy of Mangaung is characterised by [i] reliance on service industries and [ii] unequal distribution of economic activities. This growth trajectory is largely responsible for the triple crises of high levels of **unemployment, poverty and inequality**.

- [i] **Bloemfontein** has a well developed Central Business District [CBD] which forms a strong business and services node, supported by a variety of mixed activities and community facilities. There are also two very large regional shopping centres in the city in addition. Bloemfontein has three industrial areas. Moreover, the city has high class educational institutions, recreational and welfare facilities.
- [ii] **Botshabelo** has a very low base of CBD. Limited commercial activities are spread all over the area. It is characterized by an oversupply of school sites and public open space. Commercial activities include an industrial park with factories and infrastructure worth R500m. There are presently 138 factory buildings in Botshabelo with a total floor area of

200 000m<sup>2</sup>. Fully serviced stands are available for further development, backed up by adequate

### **Development Challenges Facing Ahead**

Like most municipalities in South Africa, MMM is facing daunting challenges regarding service provision and eradicating the legacy of high levels of unemployment, poverty and inequality. Research indicates that poverty levels in Mangaung are very high with more than 50% of the residents earning less than R1 000 per month [Stats SA, 2007]. Township dwellers [Botshabelo, Thaba Nchu and Mangaung township residents] are disproportionately affected.

Due to its relatively high state of development, Bloemfontein inevitably attracts more migrants, especially in the township of Mangaung. This state of affairs results in incessant services backlog. For example, backlogs for water stood at 8.7%; 6.9% for sanitation; 15% for roads and 26% for storm water in 2009 [MLM, 2010]. Due to shortage of housing for new incomers, informal settlements are mushrooming on a daily basis. It is estimated that there are approximately 45 informal settlements in Mangaung [MMM, 2011:18].

Service backlogs and levels of disparities have the potential to create political pressure to extend services to un-serviced and under-serviced areas. Diversion of resources to new problems makes it extremely difficult to maintain existing infrastructure; with serious repercussions. There is now a desperate need to address the problems of ageing infrastructure networks with countless water leaks and sewage spillages. At the same time, roads and storm water, parks, water and sanitation services are all deteriorating gradually.

MMM is also facing the daunting challenge of the HIV/AIDS epidemic with the devastating socio-economic impacts. In 2007, 31% of expectant mothers tested HIV-positive. The pandemic does not only affect patients, it's a national crisis with severe economic repercussions. For municipalities, it implies that resources would have to be diverted to HIV/AIDS programme rather than addressing developmental challenges facing the residents.

### **Services Delivery**

Despite the challenges of a stagnant and one-sided economic growth Mangaung is ranked among the best municipalities when it comes to good record of service delivery. This claim is backed up by a national survey conducted by AKSA Afrika Orange Index in 2010. The Survey ranked Mangaung fourth place in the category of municipalities that provide excellent service in the country. This survey was conducted among approximately 9000 customers nation-wide to evaluate the level of services across close to 100 companies in 17 different industries [MLM, 2011]. In addition, the findings of Stats SA's Community Survey of 2007 corroborate these results. Table 2.3.1 provides a summary of levels of services in Mangaung by type of service and by region in the last four years. It is evident that Mangaung has made reasonable strides in addressing the backlog of services even though some regions are still lacking behind especially Botshabelo. In Botshabelo sanitation services are still lacking. The township has the highest number of bucket toilets, pit latrines and ventilated improved pit [VIP] toilets.

## **1.2 An Historical Review of Disaster Management**

Traditionally disasters were seen worldwide to be rare, inevitable events that could not be avoided and therefore the approach to dealing with disasters focused solely on reactive post disaster measures that were designed only to deal with consequences or effects.

After the German air raids on London in the Second World War, the concept of Civil Defence Organisations was introduced. The purpose of these organisations was to develop contingency plans to respond to the impact of similar human-made disasters, and to introduce measures to provide for the safety of people and property. In the years to follow even though the traditional perceptions remained, the focus was expanded to include major catastrophes resulting from natural causes, with an increasing emphasis on community disaster preparedness programmes. In many countries, including South Africa, this led to the term 'Civil Defence' being substituted with 'Civil Protection'.

Internationally, over the last two decades there was increasing recognition that the risk of disaster could be reduced - or even prevented through better planning; placing a greater focus on developmental issues; and by introducing prevention and mitigation strategies. This led to a major paradigm shift away from the inordinate focus on purely reactive measures, to a proactive approach.

Accordingly in most countries the 'Civil Defence' and 'Civil Protection' approaches were dropped in favour of an integrated 'management' approach, resulting in the adoption of the term 'Disaster Management.'

### **1.3 The Fundamental Philosophy of South Africa's Disaster Management arrangements**

Up until the time of the devastating floods that occurred in the Cape Flats in June 1994, South Africa had never had a national policy for dealing with disasters.

The 1994 floods in the Cape heralded the paradigm shift in South Africa and resulted in a review of the structures and the manner in which disasters were being handled. In line with international trends, Cabinet resolved to take a new look at the whole concept of Civil Protection. This led to a process of wide consultation and culminated in the publishing of a Green Paper on Disaster Management in February 1998. The Green Paper highlighted the need for a holistic mechanism for the management of disasters.

The development of a national policy on disaster management continued and resulted in the White Paper on Disaster Management being gazetted in January 1999. The White Paper called for new legislation that would "address the current legislative gaps" and clearly defined the aims of the government policy, by setting out the following seven key policy proposals:

- The urgent integration of risk reduction strategies into development initiatives
- The development of a strategy to reduce the vulnerability of South Africans – especially poor and disadvantaged communities – to disasters
- The establishment of a National Disaster Management Centre to:
  - ensure that an effective disaster management strategy is established and implemented
  - co-ordinate disaster management at various levels of government
  - promote and assist the implementation of disaster management activities in all sectors of society
- The introduction of a new disaster management funding system which:
  - ensures that risk reduction measures are taken
  - builds sufficient capacity to deal with disasters
  - provides for adequate post-disaster recovery
- The introduction and implementation of a new Disaster Management Act which:
  - brings about a uniform approach to disaster management
  - seeks to eliminate the confusion created by current legislation regarding declarations of disasters
  - addresses legislative shortcomings by implementing the policy objectives outlined in the White Paper
- The establishment of a framework to enable communities to be informed, alert and self-reliant and capable of supporting and co-operating with government in disaster prevention and mitigation
- The establishment of a framework for co-ordinating and strengthening the current fragmented training and community awareness initiatives



These seven policy proposals form the fundamental philosophy on which the Disaster Management Bill, which was gazetted on 14 December 2001, and the DISASTER MANAGEMENT Act, 2002 (Act 57 of 2002) published in Government Gazette 26228 dated 31 March 2004, is based.

## **2. LEGISLATIVE COMPETENCE**

### ***The Constitution of the Republic of South Africa 1996***

The Constitution redefined local government as a sphere of government that is distinctive from, yet interdependent and inter-related with provincial and national government. Importantly, the Constitution conferred developmental duties to local government.

### ***Public Finance Management Act No. 1 of 1999 (as amended by the Public Finance Management Amendment Act No. 29 of 1999)***

To regulate financial management in the national and provincial governments; to ensure that all revenue, expenditure, assets and liabilities of those governments are managed efficiently and effectively; to provide for the responsibility of persons entrusted with financial management in those governments; and provide for matters connected therewith.

### ***Municipal Systems Act of 2000***

The Act introduces changes towards the manner in which municipalities are organized internally, the way they plan and utilize resources, monitor and measure their performance, delegate authority, deliver services and manage their finances and revenue. Critically, the MSA formalises a range of alternative service delivery mechanisms that could be used to complement traditional service delivery mechanisms / arrangements used by municipalities.

### ***Municipal Demarcation Act of 1998***

The Municipal Demarcation Act of 1998 provided for the re-demarcation of municipal boundaries and this resulted in the rationalization of 843 municipal entities into 284 larger and possible economically viable entities.

### ***Municipal Structures Act No. 117 of 1998 as amended in 1999 and 2000***

The Act defined new institutional arrangements and systems for local government. Importantly, the Act laid a foundation for local government performance management and ward committee systems.

### ***White Paper on Local Government of 1998***

The White Paper on Local Government is a broad policy framework that proposes wholesale changes in the areas of political, administrative structures of local government, electoral systems, demarcations, finances, services, infrastructure development, planning and so forth. The White Paper maps out a vision of developmental local government that is committed to working actively with citizens to identify sustainable ways of meeting their social, economic and material needs and thereby improve their quality of life. Developmental local government envisages the transformation of municipal administrations into rationalized, representative, less bureaucratic, people-centered, efficient, transparent, accountable and responsive entities.

### ***The Fund Raising Act No. 107 of 1978***

It provides for the declaration of a disaster by the President in order to provide relief to the Victims of disasters such as drought disaster.

### ***Disaster Management Act 57 of 2002***

Streamlines and unifies disaster management and promotes a risk reduction approach particularly at provincial and local levels. It eliminates the confusion around disaster declaration and addresses current legislative gaps.

### ***National Disaster Management Framework (Notice 654 of 2005)***

The framework provides guidelines for the development of the provincial and municipal disaster management frameworks.

### ***Fire Brigade Act No. 99 of 1987***

Forms an element of disaster management in terms of norms and standards in the prevention of fires or any hazards leading to risks and or disasters.

### ***National Veld and Forest Fires Act No. 101 of 1998***

**It emphasizes the formation of Fire Protection Associations for the purpose** of predicting, preventing, managing and extinguishing veld fires.

### ***The National Environmental Management Act of 1999***

Provides for environmental management strategies so as to prevent and mitigate environmental disasters

## **3. DEFINITIONS**

### **3.1 Disaster Management**

Disaster Management encompasses a continuous, integrated, multi-sectoral and multi-disciplinary process of planning and implementation measures incorporating strategies for pre disaster risk reduction as well as post disaster recovery, aimed at:

- preventing or reducing the risk of disasters
- mitigating the severity or consequences of disaster
- emergency preparedness
- rapid and effective response to disasters
- post disaster recovery and rehabilitation

*It is important to note that these measures should not be regarded as a sequence of separate phases or stages but as a continuous and integrated process with the emphasis shifting according to the relationship between hazards and vulnerabilities, and with development as the continuous thread woven into the fabric of this management concept.*

### **3.2 Disaster**

A disaster is a progressive or sudden, widespread or localised, natural or human caused occurrence which causes or threatens to cause

- death, injury or disease
- damage to property, infrastructure or the environment; or
- disruption of the life of a community; and

is of a magnitude that exceeds those affected by the disaster to cope with its effects using only their own resources.

### **3.3 Vulnerability**

Vulnerability implies the degree to which an individual, a household, a community or an area may be adversely affected by the impact of a particular hazard or a disaster.

### **3.4 Disaster Prevention**

Disaster prevention involves the implementation of measures - particularly developmental initiatives - aimed at stopping a disaster from occurring, or preventing an occurrence from becoming a disaster.

### **3.5 Disaster Mitigation**

Disaster mitigation involves the implementation of measures aimed at reducing the impact or effects of a disaster that cannot be prevented. Disaster mitigation includes developmental programmes.

### **3.6 Emergency Preparedness**

Disaster preparedness involves establishing a state of readiness prior to the occurrence of a disaster or impending disaster, to enable organs of state and other institutions involved in disaster management, the private sector, communities and individuals to mobilise, organise and provide relief measures to deal with an impending or current disaster, or the effects of a disaster.

### **3.7 Disaster Response**

Disaster response encompasses measures taken during or immediately after a disaster in order to bring relief to people and communities affected by the disaster.

### **3.8 Post Disaster Recovery and Rehabilitation**

Post disaster recovery and rehabilitation incorporates efforts, including developmental initiatives, aimed at creating a situation whereby:

- normality in conditions caused by a disaster is restored
- the effects of a disaster are mitigated or,
- circumstances are created that will reduce the risk of a similar disaster occurring again in the future

## **4. THE MANGAUNG METROPOLITAN MUNICIPAL DISASTER MANAGEMENT PLAN**

In terms of Section 53 of the Disaster Management Act, 2002 each Municipality must prepare a Disaster Management Plan for its area, according to circumstances prevailing in the area. Council must co-ordinate and align the implementation of this plan with other organs of state and institutional role-players and must regularly review and update the plan. In terms of the Municipal Systems Act, 2000 (Act No. 32 of 2000), the preparation and any amendments to this plan must be done in consultation with the local community.

## **5. THE DISASTER MANAGEMENT PLAN AS A CORE COMPONENT OF COUNCIL'S INTEGRATED DEVELOPMENT PLAN**

The Disaster Management Plan forms a core component of the municipality's Integrated Development Plan in terms of the requirements of Section 26(g) of the Municipal Systems Act (Act No.32 of 2000), as well as Section 53(2)(a) of the Disaster Management Act, 2002.

In view of the fact that Disaster Management is a cross-sectoral task which, in a similar way to environmental issues, relates to a wide range of sectors and aspects like avoiding settlements or investments in high risk locations, construction technologies, water management, health services etc., it is not an issue that can be dealt with by a special project, but it requires that any developmental measures are compliant with basic principles of disaster prevention and mitigation. Rather than taking any possible disaster into consideration, one has to focus on risks which are very likely and which justify the efforts of preparedness.

Therefore in the context of the IDP process, a Disaster Management Plan, in contrast to the various cross-cutting issues related to 'integrated plans', is not a compilation of aspects and components from various project plans, but a distinct plan on it's own which indicates the preparedness of a municipality to cope with possible disaster scenarios.

Accordingly the Disaster Management Plan has to be prepared parallel to the IDP process. The plan must therefore be available for checking the compliance of IDP projects with disaster management guidelines.

## **6. THE CUSTODIAN OF THE DISASTER MANAGEMENT PLAN**

The Head of the Disaster Management Centre (The Centre) is the custodian of the Disaster Management Plan for the Mangaung Metropolitan Municipality and is responsible to ensure the regular review and updating of the plan.

The Head of the Centre is also responsible to ensure that a copy of the plan as well as any amendments to the plan is submitted to:

- the National Disaster Management Centre (NDMC), and
- the Disaster Management Centre of the Province of the Free State (PDMC)

## **7. THE PLANNING FRAMEWORK**

Given the fact that the disaster management function is an extremely complex multi-sectoral and multi-disciplinary process, and taking international benchmarks into consideration, the presentation of a combined, comprehensive plan would result in a bulky and cumbersome volume, which would not be user-friendly in any way. The concept therefore of producing a Disaster Management Plan which provides a strategic blueprint of the Municipality's Disaster Management arrangements, and then expanding the plan by the addition of various annexes detailing the multi-sectoral and multi-disciplinary measures, is considered the most practical and workable approach.

### **7.1 The Mangaung Metropolitan Municipality Disaster Management Plan**

The Mangaung Metropolitan Municipality's Disaster Management Plan serves to:

- establish a disaster management framework for the Municipality which is consistent with the provisions of the Disaster Management Act 2002
- define priority objectives which the municipality intends to achieve and is designed to:
  - anticipate the types of disasters that are likely to occur in Council's area and their possible effects, taking into account indigenous knowledge
  - identify individuals, households and communities in Council's area who are at risk to disasters
  - place emphasis on measures that will reduce the vulnerability of disaster prone areas, communities and households which includes:
    - ◆ preventing disasters from occurring or reducing the risk of disaster
    - ◆ mitigating the severity or consequences of those disasters which cannot be prevented
    - ◆ facilitating and implementing maximum emergency preparedness measures
    - ◆ ensuring a rapid and effective response to disasters and post disaster recovery and rehabilitation
    - ◆ ensuring that developments which are subject to high risk are avoided
- identify and address weaknesses in capacity to deal with disasters
- seek to develop a system of incentives that will promote disaster management in the Municipality
- set out the Municipality's corporate structure and institutional arrangements for disaster management purposes, including the establishment of the Disaster Management Centre (DMC)
- define roles and responsibilities of key personnel in the disaster management process
- contain contingency plans and emergency procedures in the event of a disaster and/or major incident.
- set out the arrangements for stakeholder participation and external liaison
- establish communication mechanisms, both internally and externally
- set out the strategy for administrative and financial arrangements

The fundamental process that will ultimately inform and underpin both the Integrated Development Planning and the Disaster Management Planning processes of Council is a thorough risk and vulnerability analysis. The result of the analysis leads to the development of risk profiles, which in turn, enable the identification of priorities for key output goals aimed at risk elimination and risk reduction. The implementation plans are prepared on an annual basis for each key output goal identified. The implementation plans must be structured in such a way as to include key performance areas, specific objectives, and time frames (scheduling), as well as to allow for continuous monitoring of progress and regular review.

## **7.2 Annexes to the Corporate Plan**

Included in the annexures to the plan are:

- A Risk and Vulnerability Analysis for the area of jurisdiction of the Mangaung Metropolitan Municipality which includes:
  - Area description
  - Maps
  - History of disasters (taking into account indigenous knowledge)
  - Hazard analysis
  - Vulnerability assessment
  - Risk profile
- Departmental Disaster management plans
- Regional Disaster management plans (Botshabelo & Thaba N`chu)
- Contingency plans and emergency procedures
- The Communication Pan including contact directory
- The Volunteer Resource Register
- The Disaster Response Plan
- The Disaster Operations Centre Manual for the Mangaung Metropolitan Municipal Disaster Management Centre (MMMDMC)
- The Disaster Management Information System and Resource Database

In all respects every effort will be made to ensure that the contents of the annexes are consistent with the intentions of the Municipality's Disaster Management Framework, the Disaster Management Plan and the Integrated Development Plan.

## **7.3 Directorate Disaster Management Plans**

These plans will form separate annexures to the corporate plan.

## **7.4 Disaster Plans for Thaba Nchu and Botshabelo Regions**

Plans for both areas, including their satellite units, do form separate annexures to the plan.

## **7.5 Contingency Plans**

The compilation of contingency plans for high risk and vulnerable areas do form an integral part of the preparedness plan for the MMM area. These areas include amongst others old age homes, schools, hospitals, shopping centres, sport facilities etc. Copies of all contingency plans are kept in a safe area for activation should it be necessary.

## **8. THE MANGAUNG METROPOLITAN MUNICIPAL DISASTER MANAGEMENT FRAMEWORK (MMDMF)**

The disaster management framework of Mangaung Metropolitan Municipality must be consistent with:

- the provisions of the Disaster Management Act, 2002
- the national disaster management framework
- the disaster management framework of the Province of the Free State

The framework provides a clear, logical, transparent and inclusive policy on disaster management for the municipal area as a whole, which ensures a focus commensurate with the types, severity and magnitude of disasters that occur or may occur in the municipal area.

The framework establishes vulnerability, reduction, mitigation and prevention in areas, communities and households, which are at risk to disasters, as fundamental principles of disaster management. It must provide for active participation of all relevant role-players, stakeholders, the community and volunteers, and promotes the concept of co-operative governance.

The establishment of joint standards of practice to ensure an integrated and co-ordinated response to disasters which occur or may occur in the municipal area is a key principle. The facilitation of disaster management capacity building, training and education opportunities and programmes to ensure an alert self-reliant and aware community enjoy high priority.

The key performance indicators to assess the status of disaster management in the municipal area are;

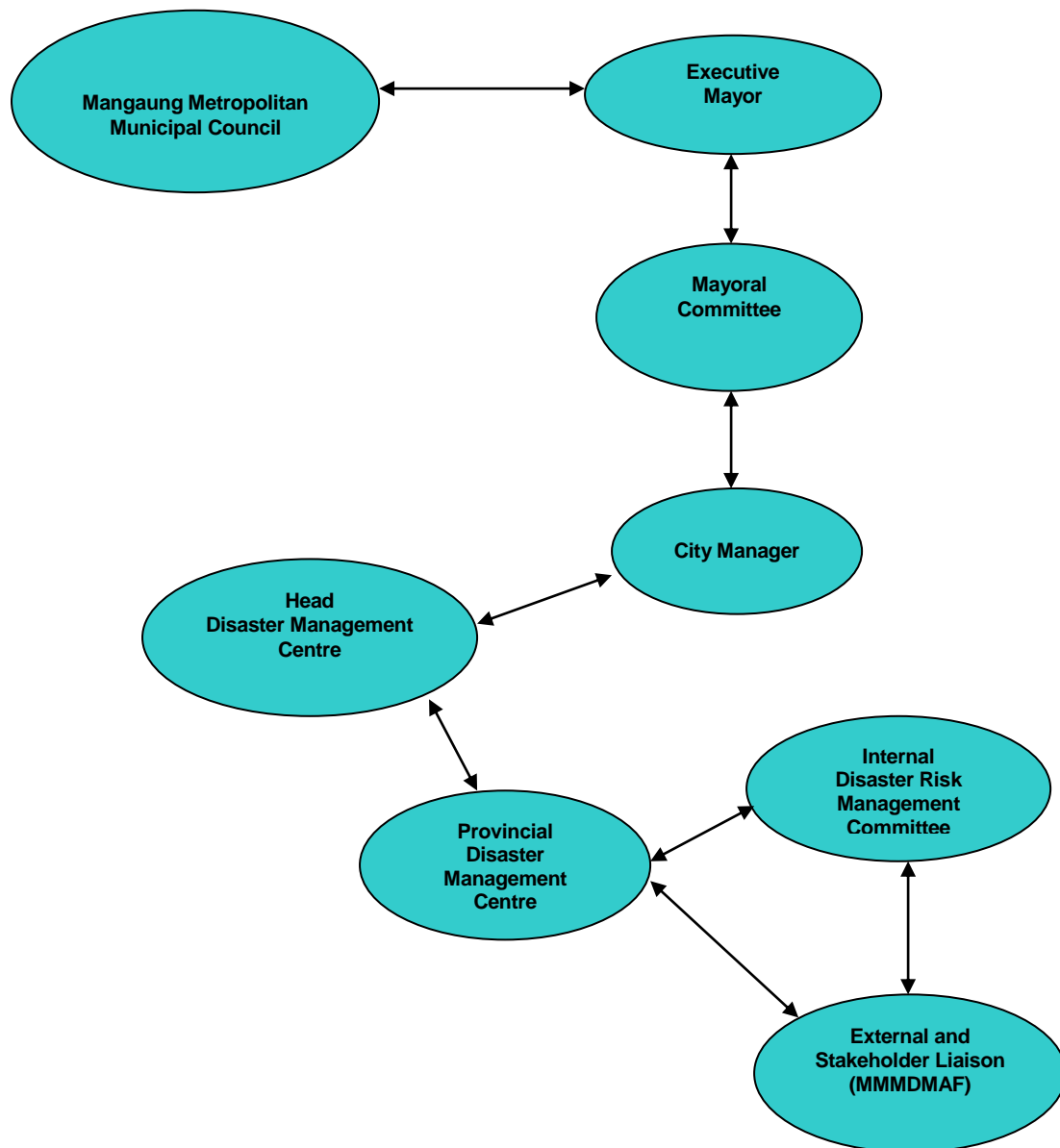
### **8.1 Key Performance Area 1: Integrated Institutional Capacity for Disaster Risk Management in the Mangaung Metropolitan Municipality**

#### **Institutional Arrangements for Integrated Policy Making, Direction and the Execution of Policy and Legislation Objectives**

- To establish procedures for the development, approval and implementation of integrated disaster risk management policy, including the making of by-laws, issuing directions and authorizations for the issuing of directives;
- To establish mechanisms which will provide clear direction and allocate responsibilities for the implementation of the Disaster Management Act 57 of 2002 (hereinafter referred to as “the Act”);
- To develop a strategic plan for phasing in and maintaining the requirements of the Act and the national disaster management framework;
- To establish and maintain effective institutional arrangements to ensure adequate operational capacity for the implementation of the requirements of the Act and to enable stakeholder participation;
- Provides for environmental management strategies so as to prevent and mitigate environmental disasters; and
- To establish and maintain effective institutional arrangements to ensure adequate operational capacity for the implementation of the requirements of the Act and to enable stakeholder participation

### 8.1.1 Arrangements for Integrated Disaster Risk Management Policy

The following schematic representation denotes the internal institutional arrangements for disaster management.



### 8.1.2 The Council

Council is responsible to ensure the implementation of the Disaster Management Act, 2002 for the area of the Mangaung Metropolitan Municipality as a whole; and to make all policy decisions in relation to disaster management.

In the event of a local disaster, Council may by notice in the provincial gazette, declare a local state of disaster, make by-laws, issue directions or authorise the issue of directions if the circumstances warrant such declaration.

In the event that a municipal entity fails to submit information requested by the disaster management centre, or to submit a copy of its disaster management plan or of any amendment to the plan, to the Disaster Management Centre, the centre must in accordance with Section 52(2)(b)

of the Act, report the failure to the Executive Mayor who must take such steps as may be necessary to secure compliance, including reporting the failure to Council.

The disaster management centre must submit a report on its activities annually to Council.

### **8.1.3 Municipal Manager**

The Municipal Manager is responsible for the effective implementation of the Disaster Management Act, 2002 within the departments and other municipal entities within the MMM and for the integration of disaster risk management plans with the IDP Process.

The Municipal Manager shall ensure that Disaster Management is a standing agenda item in all Management meetings.

### **8.1.4 The Policy Making Process**

The purpose is to stimulate a consultative process, in order to establish and sustain a holistic Disaster Management structure and practice that will support and enhance development in the municipality through disaster risk management.

### **8.1.5 Disaster risk Arrangements for Direction and Execution of Policy**

#### **8.1.5.1 Establishment of Municipal Disaster Management Centre**

Section 43(1) of the Disaster Management Act stipulates that each metropolitan municipality must establish in its administration a disaster management centre.

#### **8.1.5.2 Key Responsibilities of the MMM DRMC with regard to KPA 1**

**Section 44** determines the powers and functions of the disaster management centre, which includes:

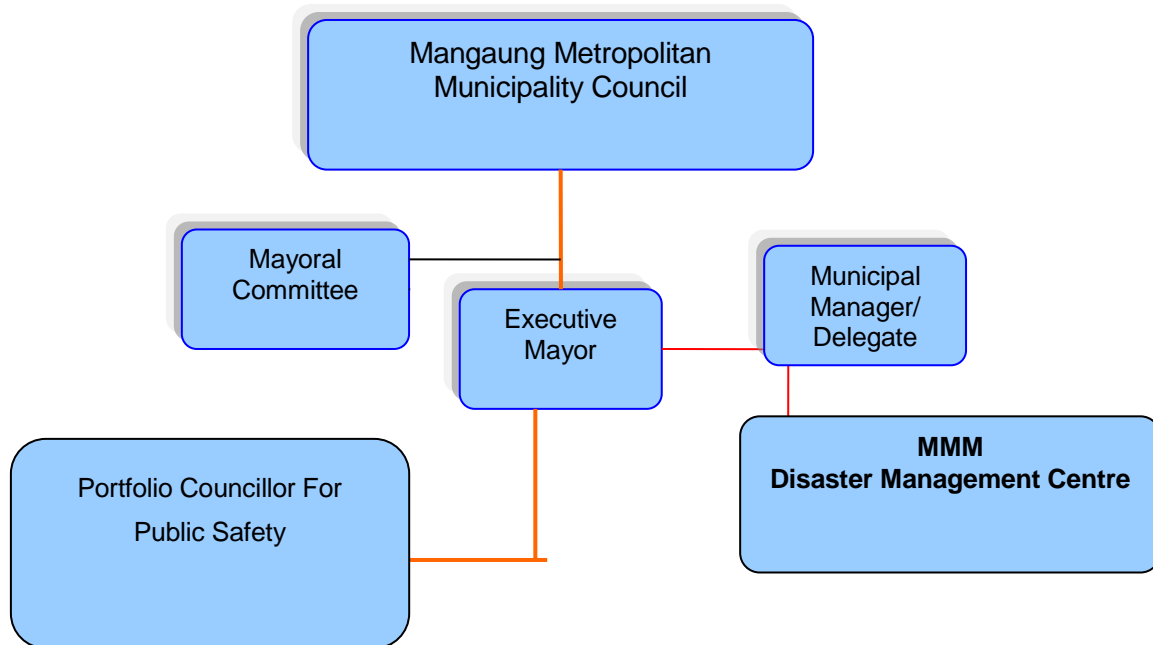
- Specializing in issues concerning disasters and disaster management;
- Promoting integrating and coordinated approaches within the municipality;
- Acting as a repository and conduit for information;
- Acting as an advisory and consultative body;
- Making recommendations regarding funding for disaster management;
- Making recommendations related to relevant legislation on whether or not a local disaster should be declared;
- Promoting the recruitment, training and participation of volunteers;
- Promoting capacity, building, training and education in schools;
- Promoting research in the field of disaster management;
- Providing advice to vulnerable communities;
- Exercising powers and delegations by the national disaster management centre;
- Assisting with implementation of legislation requirements of other sectors in relation to disaster management.



### 8.1.5.3 Location of DRM function

The proposed location of the Centre within MMM administration and reporting lines for direction and administrative purposes are illustrated in the chart below:

Proposed placement of the disaster risk management function within the structure of the MMM



### 8.1.5.4 The Internal departments (municipal organs of state) and other municipal entities within the administration of the MMM with regard to DRM

Each department under the administration of the municipality, including other municipal entities within Council's administration must, in terms of section 2 of the Act, assess any national legislation applicable to its function and must advise the MMM DRMC on the provisions of such legislation.

Disaster risk management activities must be incorporated into the routine activities of each municipal department and of any other municipal entities and their substructures.

### 8.1.6 Assignment of Responsibilities

#### 8.1.6.1 Head of the Disaster Management Centre

The Head of the Disaster Management Centre together with the heads of each department in Council's organizational structure, as well as key personnel with specific technical expertise who have disaster risk management responsibilities, must serve as the assigned disaster risk management focal points for the department and shall constitute the MMM Internal Disaster risk Management Committee (IDRMC). The IDRMC will be responsible for all aspects of planning and operations relevant to the functional area in that department or entity. The responsibilities of heads of department in this regard include:

- facilitating and coordinating the relevant department or entity's disaster risk management planning and operational activities for risk reduction and for response and recovery;
- ensuring that the planning and operations are consistent with the requirements of the Act, national and provincial disaster risk management framework;
- ensuring the integration and alignment of the entity's planning and operations with that of the provincial and national organs of state and other institutional role players;

- ensuring the integration of the risk reduction and response and recovery planning and operations with Councils Integrated Development Planning process, the Spatial Development Framework and Environmental Management Framework;
- ensuring the regular review of plans and that planning remains dynamic and relevant in accordance with developmental changes taking place within, or which may impact on Council's area; and
- submitting a copy of the entity's disaster risk management plan and any amendments thereof to the disaster risk management centre for forwarding to the disaster risk management centre of Free State Province and to the National Disaster Management Centre.
- Sections 47 and 52 of the Act stipulate that each municipal entity must establish its role and responsibilities and must assess its capacity to fulfil the requirements. Effective coordination should be implemented where there is lack of capacity to ensure optimal use of resources between departments, organs of state in other spheres of government and by entering into partnerships with the private sector, non-governmental organizations and community-based organizations.
- Mutual assistance agreements and memoranda of understanding must be entered into, detailing the extent and ramifications of such support.

#### **8.1.6.2 The MMM Internal Disaster Risk Management Committee (IDRMC)**

##### ***Purpose of the IDRMC***

The Head of the Centre is responsible to establish and sustain an Internal Disaster Risk Management Committee (IDRMC) to:

- promote interdepartmental relations;
- achieve a coordinated, integrated and common approach to disaster risk management by the departments and other internal units in the administration of the municipality (Section 44(1)(b)(i) of the Act);
- ensure development and implementation of appropriate disaster risk reduction methodologies; and
- ensure emergency preparedness and rapid and effective disaster response and recovery capabilities.
- The committee is chaired by the Head of the MMM DRMC and shall meet at least once a quarter, but is not precluded from meeting more frequently should circumstances so dictate.

##### **8.1.6.3 Responsibilities of the IDRMC**

Sections 47 and 48 of the Disaster Management Act prescribe responsibilities to the MMM IDRMC which include:

Disaster Risk Reduction Planning and Operations:

- monitoring, assessing, and coordinating council's disaster risk management planning and implementation, with particular emphasis on risk reduction policies, practices and strategies;
- collaborating, coordinating and monitoring progress on joint projects and programmes and their integration as part of the IDP process;
- annually reviewing the Council's disaster risk management framework;
- annually reviewing disaster risk management plans to ensure that the plans are integrated, current, and consistent with the disaster risk management framework;
- promoting joint standard operational procedures within and among the departments and other entities within council;
- monitoring progress on the implementation of priority projects aimed at risk reduction; and
- participating in simulation exercises annually to remain current on roles and responsibilities in the activation and operation of the Disaster Operations Centre to ensure rapid and efficient response and recovery in the event of a disaster occurring or threatening to occur in council's area.

#### **8.1.6.4 Contingency Planning, Disaster Response and Recovery:**

- when a disastrous event occurs or is threatening to occur in the area of a municipality, on receipt of an activation alert from the Head of the DRMC (or designate), reporting immediately to the Disaster risk management Centre -Disaster Operations Centre (DOC);
- conducting initial and specialist post disaster assessments for the department's or entities' functional area;
- ensuring that departments respond rapidly to disasters;
- ensuring efficient and coordinated disaster response and recovery operations;
- monitoring progress with, and ensuring that, post disaster reconstruction and rehabilitation projects include measures to reduce risk to similar events in the future;
- ensuring that regular reports on progress with disaster recovery are continuously submitted to council as well as to the DRMC of the Province and NDMC ; and
- ensuring that all documentation and records relating to the disaster are retained and placed in safe-keeping for the purposes of post disaster investigation, inquiry or review.

#### **8.1.6.5 Project Teams and Planning Clusters**

The IDRMC may convene project teams to address specific joint risk reduction priorities including post disaster projects. Teams so convened will act as sub-committees of the IDRMC for the duration of their task and will determine their terms of reference and outcomes in consultation with the Head of the Centre and the IDRMC; will plan and manage such multi-disciplinary projects; and will report back to the IDRMC.

In the context of emergency preparedness and planning clusters, will also be convened to address contingency plans for specific priority risks posed by hazards such as storms, floods, drought, fires, epidemics, transportation accidents, oil spills, hazardous material spills, Xenophobic attacks crowd related events. These contingency plans will include strategies and procedures to ensure the implementation of an incident management system, which will establish joint standards of practice and inter-disciplinary co-operation for rapid and effective disaster response capabilities. Such plans will also be subject to consultation within the MMM IDRMC.

#### **8.1.7 Arrangements for stakeholder participation and technical advice**

##### **8.1.7.1 Communication with the National Disaster Management Centre (NDMC) and the Disaster Management Centre of the Province (PDMC) of the Free State.**

In terms of the legislation communication must be maintained at all times among Municipal Disaster Management Centre, the National Disaster Management Centre and the Provincial Disaster Management Centre in order to:

- assist the National and Provincial Centre to identify and establish communication links with disaster management role players in the municipal area and develop and maintain an electronic database;
- develop guidelines for the preparation and regular review of disaster management plans and strategies including contingency plans and emergency procedures and the integration of the concepts and principles of disaster management with integrated development plans and programmes;
- Submit a copy of the Disaster Plan and any amendment thereto and reports to the Provincial Disaster Management Centre (PDMC) for submission to National Disaster Management Centre (NDMC) as prescribed in Section 50 of the Act;
- Immediately inform the PDMC of any disaster which occurs or threatens to occur in Council's area; provide information regarding the assessment of the disaster and make recommendations regarding the classification of the disaster as may be appropriate

### **8.1.7.2 Municipal Disaster Management Advisory Forum**

#### **Objectives**

To ensure coordination and cooperation of role players, including stakeholders, technical experts from the community and private sector to promote their participation in disaster risk management planning and operations in the municipality.

#### **Composition of the MMM DMAF**

The forum is convened and chaired by the Head of the Disaster Management Centre and comprises the following members:

- All the members of the IDRMC
- Disaster Management functionaries of the Mangaung Metropolitan Municipality Disaster Management Centre (MMMDMC)
- Head of Disaster Management Centre of the Province of the Free State
- Experts in disaster management designated by the Executive Mayor
- Representatives of emergency and essential services, government departments and organized business:

#### **Medical:**

- Ambulance Services – Public and Private
- Hospitals Public and Private

#### **SA Police Services:**

- Emergency Services component
- Air wing
- Border Patrol Unit
- Dog Unit
- Mortuaries Unit
- Psychological Services

#### **SA National Defense Force:**

- SA Air Force
- SA Military Health Services
- Logistics and Supply services
- Engineering Services

#### **SA Weather Service**

#### **Department Water Affairs**

#### **Department of Health and Welfare**

#### **Department of Environmental Affairs and Tourism:**

#### **Regional Tourism Board**

#### **Relevant Parastatals:**

ESKOM  
TELKOM  
SAFCOL

#### **NGOs, CBOs and other relevant role players such as:**

- SA Red Cross Society
- St John Ambulance
- Noodhulpliga
- Salvation Army
- South African Council of Churches
- Agricultural and Farm Workers Associations
- ADRA

**The Media:**

- SABC
- Local and Regional Radio Stations
- Print Media
- Community Representation
- Community Volunteers (HAMRAD)
- The Volunteer Reserve
- General Volunteers

**8.2 KPA 2: DISASTER RISK ASSESSMENT****8.2.1 Objective**

To establish a uniform approach to assessing and monitoring disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by directorates and other role players.

**8.2.2 Hazard and Risk Analysis****8.2.2.1 Purpose**

- To identify what risks present the greatest threat to municipal development planning.
- To develop an understanding of how best to manage existing, residual and future risks.
- To assign levels of risk

**8.2.2.2 The Key Steps**

- Identify and assess significant hazards
- Analyze the disaster risk(s)
- Evaluate the disaster risk(s)
- Monitor disaster risk reduction initiatives and update and disseminate disaster risk assessment information.

**8.2.2.3 Hazard identification**

The following hazards have been identified:

- Drought
- Extreme cold
- Heat wave
- Hail
- Windstorm
- Tornado
- Floods
- Structural fires
- Veldfires
- Earthquake
- Human epidemic
- Animal epidemic
- Hazmat transportation
- Hazmat fixed facility
- Hazmat biological (Anthrax)
- Hazmat radioactive
- Fire and explosion
- Transport motor vehicles
- Transport rail
- Transport aircraft
- Dam failure
- Hostage/ hijack incidents

- Reservoir break
- Snow
- Water contamination

#### 8.2.2.4 Risk Analysis

**Table 7.1– List of Major Hazards**

<b>Hazard</b>	<b>Potential Consequences</b>
<b>Animal Disease</b>	Most animal disease emergencies present little direct threat to human health, however the cost in purely economic terms may be particularly significant. Many rural residents rely on their animals for subsistence, and there are a number of larger animal-based industries in the Province.
<b>Fire (Veld/ Structural)</b>	Loss of life, (loss of breadwinner), severe injury, loss of homes, loss of crops, stock losses, of grazing land, loss of income, disruption of economy. Stretching of the emergency response capability.
<b>Flood/Severe Storm, Rainfall and Landslides</b>	Loss of life, (loss of breadwinner), severe injury, loss of homes, loss of stock loss of income, increased risk of disease.
<b>Hazardous Material</b>	Loss of life, (loss of breadwinner), severe injury, evacuation of large areas, fires, explosions, ground and air pollution. Road and rail transport travelling through the province carrying dangerous chemicals and corrosive substances poses the threat of a significantly dangerous accident.
<b>Human Epidemic</b>	Loss of life, (loss of breadwinner), extended illness, loss of employment because of absenteeism, over-taxing of the medical response capability.
<b>Major Infrastructure Failure</b>	Loss of electrical power, causing: lack of heating; lack of refrigeration; limited fuel supplies; loss of employment through closures of industry. Loss of communications, leading to severe impact on the municipal and provincial disaster co-ordination ability. Loss of telephone, fax, computer (internet), automated teller machines, electronic sales.
<b>Major Transportation</b>	Loss of life, (loss of breadwinner), severe injury, loss of income, stretching of response and medical capability. Transport could involve aircraft, trains, tour coaches, school buses, taxis or heavy transport vehicles.
<b>Terrorist Activity</b>	Loss of life, (loss of breadwinner), severe injury, loss of income. Combination of the consequences from all other hazards, dependent upon the type of terrorist activity employed.
<b>Water Contamination</b>	Increased disease, loss of life, loss of stock, pressure on health facilities.
<b>Heat wave</b>	Excessive drought, loss of crops, diseases, loss of life
<b>Extreme cold</b>	Loss of livestock, loss of crops, diseases,
<b>Hostage/ hijack incidents</b>	Loss of human life, economic loss
<b>Snow</b>	Economic loss, loss of human life, livestock and infrastructure.

#### 8.2.2.5 Hazard mapping for the MMM area

GIS-based mapping of possible flood levels	Identification of areas susceptible to landslides
Satellite and aerial photography	Identification of areas susceptible to erosion
Identification of areas most susceptible to fire	Updated information (current information is from the 2009 census)
Identification of flood plane areas susceptible to flooding.	

#### **8.2.2.6 Risk Evaluation**

- **Purpose**

To rank the risks from highest to lowest so that a priority for treatment can be assigned

- **Key Steps**

- Decide on risk acceptability utilizing the risk rating and risk evaluation criteria
- Rank the risks in order of priority for treatment
- Document all unacceptable risk

8.2.2.7 Levels of risks

Table 7.2 Level of Risk – Qualitative Analysis Matrix

<b>Qualitative Analysis Matrix – Level of Risk</b>					
<u>Consequence</u> <u>Likelihood</u>	Insignificant 1	Minor 2	Moderate 3	Major 4	Catastrophic 5
A (almost certain) 1:1	H	H	E	E	E
B (likely) 1:10	M	H	H	E	E
C (possible) 1:50	L	M	H	E	E
D (unlikely) 1:100	L	L	M	H	E
E (rare) 1:500	L	L	M	H	H

E: extreme risk; immediate action required                      H: high risk; senior management attention needed  
M: moderate risk; management responsibility must be specified    L: Low risk; manage by routine procedures



Table - 3: Level of Risk -

Hazard	Vulnerable Sector	1 Potential Risk	Likelihood	Consequence	Level of risk	Risk evaluation
All Hazards	All Sectors	<ul style="list-style-type: none"> <li>▪ Inadequate (or unidentified) disaster management experience or expertise within the Municipality.</li> <li>▪ Inadequate response capability within the Emergency Services agencies in the Municipality.</li> <li>▪ Inadequate response times to rural areas of the Municipality.</li> <li>▪ Lack of communication facilities in rural areas.</li> <li>▪ Lack of effective roads infrastructure in the more remote rural areas.</li> <li>▪ Misunderstanding by most agencies relative to the meaning of the term 'disaster management'.</li> <li>▪ Traditional practices. (Traditional leaders allocating land for homes in areas devoid of infrastructure; non-use of sanitation facilities, leading to water pollution and disease; acceptance of the requirement to walk long distances to source water.)</li> </ul>				<p><b>These risks are generic, and have not been analyzed.</b></p>

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>STRUCTURAL/VELD FIRES</b>	People	<ul style="list-style-type: none"> <li>▪ Informal settlements have an increased vulnerability to fire because of the close quarters and lack of access.</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>▪ Pregnant women, young children the elderly and the disabled unable to evacuate in time</li> </ul>	B	3	H	
		<ul style="list-style-type: none"> <li>▪ Loss of roofing, rendering housing uninhabitable</li> </ul>	B	3	H	
		<ul style="list-style-type: none"> <li>▪ Air pollution causing extra people to seek medical care</li> </ul>	B	3	H	
		<ul style="list-style-type: none"> <li>▪ Death / severe injury</li> </ul>	B	3	H	
		<ul style="list-style-type: none"> <li>▪ Psychological well being of the community will be affected as a result of the losses suffered.</li> </ul>	B	3	H	
	Economy	<ul style="list-style-type: none"> <li>▪ Loss of stock</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>▪ Loss of crops</li> </ul>	B	3	H	
		<ul style="list-style-type: none"> <li>▪ Loss of grazing land</li> </ul>	B	2	H	
	Infrastructure	<ul style="list-style-type: none"> <li>▪ Power transmission lines/poles may be damaged or destroyed.</li> </ul>	C	3	H	
		<ul style="list-style-type: none"> <li>▪ Power sub-stations may be damaged or destroyed</li> </ul>	C	3	H	
		<ul style="list-style-type: none"> <li>▪ Smoke will block transport routes</li> </ul>	C	1	L	
	Management	<ul style="list-style-type: none"> <li>▪ Loss of communication lines/poles, affecting disaster information and co-ordination</li> </ul>	B	3	H	
	Natural Environment	<ul style="list-style-type: none"> <li>▪ Ground erosion due to loss of grass/vegetation cover</li> </ul>	C	3	H	
Crime	<ul style="list-style-type: none"> <li>▪ Loss of power will see an increase in criminal activity</li> </ul>	C	2	M		
Education	<ul style="list-style-type: none"> <li>▪ Destruction of schools affecting continuing education</li> </ul>	C	2	M		
<b>FLOOD, SEVERE RAINFALL, LANDSLIDE</b>	People	<ul style="list-style-type: none"> <li>▪ People will not be able to evacuate the area</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>▪ Informal settlement will be destroyed, leaving large numbers of people homeless.</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>▪ Sanitation and health problems.</li> </ul>	A	3	E	
		<ul style="list-style-type: none"> <li>▪ Women left to care for extended families with no means of transport out of the area.</li> </ul>	A	4	E	
		<ul style="list-style-type: none"> <li>▪ Death of breadwinner, causing long-term financial problems for the family.</li> </ul>	C	4	E	

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		▪ Loss of crops, affecting sustainability of subsistence food supply production	C	4	E	
		▪ Psychological well being of the community will be affected as a result of the losses suffered.	A	3	E	
		▪ Overcrowding of medical facilities will increase disease	B	2	H	
		▪ Overcrowding of people in evacuation centres may lead to further disease outbreaks	B	2	H	
		▪ Loss of income and assets.	C	3	H	
		▪ Death or serious injury will occur from drowning, lightning strike, flying debris or structural collapse.	C	2	M	
	Economy	▪ Significant stock losses.	C	4	E	
		▪ Significant crop losses.	C	4	E	
	Infrastructure	▪ Loss of power	B	2	H	
		▪ Transport facility damage including road and rail bridges, roads, airfields and railways.	C	2	M	
		▪ Loss of communications.	C	3	H	
	Management	▪ Areas will be cut off by washed out roads, preventing access by response agencies.	A	3	E	
	Natural Environment	▪ Environmental damage, including due to inappropriate agricultural practices.	C	3	H	
	Built Environment	▪ Buildings and facilities destroyed or damaged.	B	3	H	
<b>SNOW</b>	People	▪ People will not be able to evacuate the area	B	4	E	
		▪ Loss of crops, affecting sustainability of subsistence food supply production	C	4	E	
		▪ Psychological well being of the community will be affected as a result of the losses suffered	A	3	E	
	Economy	▪ Significant crop losses.	C	4	E	
		▪ Significant livestock/game losses	C	4	E	
	Infrastructure	▪ Loss of communications ▪ Power failure	C	3	H	
	Management	▪ Areas will be cut off snow, preventing access by response agencies.	A	3	E	

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>DROUGHT</b>	People	<ul style="list-style-type: none"> <li>▪ Sanitation and health problems</li> </ul>	<b>A</b>	<b>3</b>	<b>E</b>	
		<ul style="list-style-type: none"> <li>▪ Loss of crops, affecting sustainability of subsistence food supply production</li> </ul>	<b>C</b>	<b>4</b>	<b>E</b>	
		<ul style="list-style-type: none"> <li>▪ Psychological well being of the community will be affected as a result of the losses suffered</li> </ul>	<b>A</b>	<b>3</b>	<b>E</b>	
		<ul style="list-style-type: none"> <li>▪ Loss of income and assets</li> </ul>	<b>C</b>	<b>3</b>	<b>H</b>	
	Economy	<ul style="list-style-type: none"> <li>▪ Significant stock losses</li> </ul>	<b>C</b>	<b>4</b>	<b>E</b>	
		<ul style="list-style-type: none"> <li>▪ Significant crop losses</li> </ul>	<b>C</b>	<b>4</b>	<b>E</b>	
	Natural Environment	<ul style="list-style-type: none"> <li>▪ Environmental damage, including due to inappropriate agricultural practices</li> </ul>	<b>C</b>	<b>3</b>	<b>H</b>	
<b>MAJOR INFRASTRUCTURE FAILURE</b>	People	<ul style="list-style-type: none"> <li>▪ Fuel supply facilities will be rendered inoperable</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
		<ul style="list-style-type: none"> <li>▪ Household refrigeration and cooling facilities will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
		<ul style="list-style-type: none"> <li>▪ Loss of power and communications facility will see an increase in crime.</li> </ul>	<b>C</b>	<b>2</b>	<b>M</b>	
	Economy	<ul style="list-style-type: none"> <li>▪ Electronic banking facilities will be rendered inoperable</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
		<ul style="list-style-type: none"> <li>▪ Computer network facilities will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
	Infrastructure	<ul style="list-style-type: none"> <li>▪ Business and industry refrigeration and cooling facilities will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
	Management	<ul style="list-style-type: none"> <li>▪ Disaster communications facilities will be rendered inoperable</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
		<ul style="list-style-type: none"> <li>▪ Telephone Landline and cell communications will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
		<ul style="list-style-type: none"> <li>▪ Base radio transmitter stations relying on power will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
	Water Supply	<ul style="list-style-type: none"> <li>▪ Water supply pumping facilities will be rendered inoperable</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
	Sewerage	<ul style="list-style-type: none"> <li>▪ Sewerage pumping facilities will be rendered inoperable.</li> </ul>	<b>A</b>	<b>2</b>	<b>H</b>	
<b>HUMAN EPIDEMIC</b>	People	<ul style="list-style-type: none"> <li>▪ Substantial loss of life.</li> </ul>	<b>A</b>	<b>4</b>	<b>E</b>	
		<ul style="list-style-type: none"> <li>▪ Low immunization rates in the province will increase the likelihood of an epidemic occurring.</li> </ul>	<b>A</b>	<b>4</b>	<b>E</b>	

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		<ul style="list-style-type: none"> <li>Psychological effects on the community.</li> </ul>	A	4	E	
		<ul style="list-style-type: none"> <li>Vector/vermin contact will spread the epidemic throughout the Municipality and beyond.</li> </ul>	B	3	H	
	Economy	<ul style="list-style-type: none"> <li>Loss of income within the province</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>Stigma being attached to the municipality and accompanied by a tourist and visitor downturn.</li> </ul>	C	2	M	
<b>WATER CONTAMINATION</b>	People	<ul style="list-style-type: none"> <li>Contaminated water supplies will cause disease such as cholera and dysentery</li> </ul>	A	4	E	
		<ul style="list-style-type: none"> <li>Shortages of potable water supplies will aggravate the situation</li> </ul>	A	3	E	
	Management	<ul style="list-style-type: none"> <li>Resultant epidemics will place a great strain on the District's health facilities</li> </ul>	A	3	E	
<b>HAZARDOUS MATERIAL</b>	People	<ul style="list-style-type: none"> <li>Human exposure to toxic chemicals resulting in serious harm or death.</li> </ul>	B	2	H	
	Natural Environment	<ul style="list-style-type: none"> <li>Pollution of the water table.</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>Pollution of the soil.</li> </ul>	B	4	E	
		<ul style="list-style-type: none"> <li>Pollution of the atmosphere will occur from the release of hazardous material.</li> </ul>	A	2	H	
<b>MAJOR TRANSPORTATION EVENT</b>	People	<ul style="list-style-type: none"> <li>Accidents involving aircraft, trains, coaches or taxi vehicles will result in death or serious injury to a large number of people.</li> </ul>	A	3	E	
		<ul style="list-style-type: none"> <li>The bad mechanical condition of vehicles traversing Municipality roads will cause road accidents.</li> </ul>	B	2	H	
		<ul style="list-style-type: none"> <li>Inappropriate driver behaviour will cause road accidents</li> </ul>	A	2	H	
		<ul style="list-style-type: none"> <li>Deteriorating road conditions will cause road accidents.</li> </ul>	B	2	H	
<b>ANIMAL DISEASES</b>	People	<ul style="list-style-type: none"> <li>Loss of production (income) will have a severe impact on the economic viability of the rural population.</li> </ul>	C	3	H	
		<ul style="list-style-type: none"> <li>Loss of production (income) will have a severe impact on the food supply of the rural population.</li> </ul>	C	2	M	

	Economy	▪ Loss of export capability.	C	4	E	
		▪ Impact on the reputation of the area.	C	3	H	
	Natural Fauna	▪ Cross contamination with indigenous wildlife will spread disease.	C	3	H	

**8.2.2.8 Monitoring Disaster Risks**

Disasters/ risks are not static; they change seasonally and over time. Risk monitoring system involves: -

- 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.
- Vulnerability monitoring: this system tracks the ability of areas, communities, households, critical services and natural environments to resist and withstand external threats.
- Disaster event tracking: this system monitors changing patterns in disaster risk.

**8.2.2.9 Key Performance Indicators**

- Guidelines for the application of a uniform disaster risk assessment methodology must be adhered to.
- Disaster risk assessments conducted must be integrated into the development plans of the municipality and other role players.
- Mechanisms to consolidate, document, map and make accessible information to all role players must be in place.
- Priority disaster risks of significance for MMM have been identified and mapped by the DMC.
- Directorates 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 DMC.

**8.3 KPA 3: DISASTER RISK REDUCTION**

**8.3.1 Objective**

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

**8.3.2 Core Disaster Risk Reduction Principles**

All disaster risk management plans must give explicit priority to the core principles of disaster prevention and mitigation.

**8.3.3 Disaster Prevention**

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

**8.3.4 Disaster Mitigation**

It refers to structural and non-structural measures that are undertaken to the limit the adverse impact of natural hazards, environmental degradation and technological hazards on vulnerable areas, communities and households.

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

8.3.5 Hazard and Risk Reduction Strategies

<b>HAZARD</b>	<b>POTENTIAL RISK</b>	<b>RISK REDUCTION STRATEGIES</b>
<b>Human epidemic</b>	Substantial loss of life.	<ul style="list-style-type: none"> <li>• Awareness programmes: types of diseases e.g. malaria, cholera, HIV/AIDS, Disease surveillance, health programmes, mobile clinics, Social Welfare programmes</li> <li>• Ensure that service providers have contingency plans in place</li> </ul>
	Low immunization rates in the province/municipality will increase the likelihood of an epidemic occurring	<ul style="list-style-type: none"> <li>• Health awareness, medical effects of non immunization e.g. polio, measles</li> <li>• Ensure that department of health has contingency plans in place.</li> </ul>
	Psychological effects on the community	<ul style="list-style-type: none"> <li>• Awareness programme: Sensitize communities on the effects of epidemics, counseling and rehabilitation.</li> <li>• Department of health to ensure contingency plans are in place.</li> </ul>
	Loss of income within the province/municipality	<ul style="list-style-type: none"> <li>• Identify potential industry /commercial risk</li> <li>• Awareness programmes: address economic impact, train replacement employees. Promote good health practices Effects and treatment of epidemic outbreaks.</li> <li>• Contingency planning e.g. Streamlining services to meet budgetary constraints.</li> </ul>
	Vector/vermin contact will spread the epidemic throughout the municipal area and beyond.	<ul style="list-style-type: none"> <li>• Awareness programmes: identification of diseases, Monitoring and surveillance. Preventing measures in respect of vermin, pest control and good housekeeping: clear breeding sites etc</li> </ul>
	Stigma being attached to the municipality accompanied by a tourist and visitor downturn.	<ul style="list-style-type: none"> <li>• Awareness: People need to know the affects and facts. Good public relations and marketing programmes to be promoted.</li> </ul>
<b>Major infrastructure failure</b>	Water supply pumping facilities will be rendered inoperable.	<ul style="list-style-type: none"> <li>• Awareness: Maximum use of available recourses, water sanitation, personal hygiene and health awareness</li> <li>• Identify alternative safe water supplies e.g. bore holes, Farms dams, rivers and springs and ensure service providers have contingency plans in place.</li> <li>• Encourage installation of backup power.</li> </ul>
	Disaster communication facilities will be rendered inoperable.	<ul style="list-style-type: none"> <li>• Awareness programmes: Identify alternative means of communication</li> <li>• Disaster Management and service providers to ensure that contingency plans are in place.(TELKOM, ESKOM,CENTLEC,MTN,VODACOM, AND CELL C)</li> <li>• Encourage installation of backup power</li> <li>• Identify vulnerable sectors high risk</li> </ul>



**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		flood plain
	Fuel supply facilities will be rendered inoperable	<ul style="list-style-type: none"> <li>• Awareness programme: Maximize use of available fuel resources e.g. rationing, Encourage the use of public transport, rail etc</li> <li>• Identify alternative suppliers</li> <li>• Encourage strategic suppliers to provide emergency backup systems</li> </ul>
	Telephone land-line and cell communication will be rendered inoperable.	<ul style="list-style-type: none"> <li>• Service providers to have contingency plans in place for e.g. radio, satellite phones.</li> </ul>
	Base radio transmitter stations relying on power will be rendered inoperable	<ul style="list-style-type: none"> <li>• Awareness programmes: Identify alternative means of communication e.g. telephone and cell communication</li> <li>• Service provider to have contingency plans.</li> </ul>
	Electronic banking facilities will be rendered inoperable	<ul style="list-style-type: none"> <li>• Service provider to have contingency plans in place</li> </ul>
	Business and industry refrigeration and cooling facilities will be rendered inoperable	<ul style="list-style-type: none"> <li>• Awareness programmes: contamination of foodstuffs</li> <li>• Identify high risk areas e.g. meat storage, mortuary's</li> <li>• Identify alternative refrigeration facilities e.g. mobile refrigeration</li> <li>• Maintain and upgrading of infrastructure</li> </ul>
<b>Major Transportation Incident</b>	Accidents involving aircraft, trains, coaches or taxi vehicles will result in death or serious injury to a large number of people.	<ul style="list-style-type: none"> <li>• Awareness/law enforcement e.g. regular safe inspections. Road and vehicle safety principles to be adopted by drivers and passengers.</li> <li>• MMM and service providers to have contingency plans in place.</li> <li>• Regular interaction between role players to identify risks.</li> <li>• Identify hospitals with the capacity and expertise to cope with such major incidents.</li> </ul>
	The bad mechanical condition of vehicles traversing Municipality roads will cause road accidents.	<ul style="list-style-type: none"> <li>• Awareness programmes: Road and vehicle safety principles to be adopted by drivers and passengers.</li> <li>• Co-ordination /Implementation of law enforcement.</li> <li>• Road and vehicle safety principles to be adopted by drivers and passengers.</li> </ul>
	Inappropriate driver behavior will cause road accidents	<ul style="list-style-type: none"> <li>• Awareness programmes: Road and vehicle safety principles to be adopted by drivers and passengers.</li> <li>• Co-ordination /Implementation of law enforcement.</li> </ul>
	Deteriorating road conditions will cause road accidents	<ul style="list-style-type: none"> <li>• Awareness e.g. Signage</li> <li>• Law enforcement to combat e.g. overloading</li> <li>• Planned Maintenance</li> </ul>
<b>Water Contamination</b>	Contaminated water supplies will cause disease such as cholera and dysentery	<ul style="list-style-type: none"> <li>• Awareness programmes: Proper industrial and commercial water management procedures, good hygiene and sanitation practices, household</li> </ul>

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		<p>water treatment options e.g. bleach</p> <ul style="list-style-type: none"> <li>• Responsible agencies Bloemwater, DWAF department of environmental affairs, Health and water affairs to have contingency plans in place.</li> <li>• Regular monitoring and surveillance</li> <li>• Identify alternative of water.</li> </ul>
	Shortage of potable water supplies will aggravate the situation	<ul style="list-style-type: none"> <li>• Awareness e.g. purification of alternatives water resources. Encourage rain water harvesting.</li> <li>• Department of water affair/water authority to have contingency plans in place.</li> <li>• Identify alternative potential water resources e.g. boreholes, dams (database) spring protection.</li> </ul>
	Resultant epidemics will place a great strain on the District's health facilities	<ul style="list-style-type: none"> <li>• Department of Health to have contingency plans in place e.g. identify district health facilities and call support from other agencies</li> </ul>
<b>Animal Disease</b>	Loss of export capability.	<ul style="list-style-type: none"> <li>• Awareness programmes e.g. State controlled diseases, symptoms of animal disease</li> <li>• Ensure that Vetenary services have contingency plans in place.</li> <li>• Identify disposal sites and guard disposal sites</li> </ul>
	Cross contamination with indigenous wildlife will spread disease.	<ul style="list-style-type: none"> <li>• Awareness programmes e.g. Proper fencing, quarantine procedure</li> <li>• Ensure that Vetenary services have contingency plans in place.</li> <li>• Monitoring/Surveillance (SAPS Agriculture etc)</li> </ul>
	Loss of production (income) will have a severe impact on the economic viability of the rural population	<ul style="list-style-type: none"> <li>• Awareness programmes e.g. Type of service available.</li> <li>• Knowledge of symptoms</li> </ul>
	Impact on the reputation of the area.	<ul style="list-style-type: none"> <li>• Awareness programmes e.g. Facts and Effects of the disease, Avoid panic, Refer tourists to alternative resorts</li> <li>• Positive marketing</li> </ul>
	Loss of production (income) will have severe impact on the food supply of the rural population.	<ul style="list-style-type: none"> <li>• Ensure that Department of Agriculture to have contingency plans in place (Recruitment of Vetenary personnel)</li> <li>• Support from Department of Welfare/Vetenary services</li> <li>• Awareness Programmes: Encourage insurance</li> <li>• Ensure proper staffing provision of Recruitment of enough staff</li> <li>• Mutual assistance agreements with other provinces.</li> </ul>

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>Drought</b>	Reduction or loss of natural or reticulated water for human and stock consumption	<ul style="list-style-type: none"> <li>• Awareness programmes e.g. Do not cultivate or drain wetlands and Vlei's. Control of alien vegetation i.e. bug weed, wattle, lantana and paraffin weed. Protect springs. Encourage rainwater harvesting and investment in water tanks</li> <li>• Planning (IDP) for alternative reliable water sources e.g. Dams, covered reservoirs, boreholes and springs</li> <li>• Continuous maintenance of natural and reticulated water sources</li> <li>• Departments of Agriculture and DWAF to have contingency plans in place</li> </ul>
	Loss of crops	<ul style="list-style-type: none"> <li>• Awareness programmes: Good farming practices, contour ploughing, minimum tillage, crop rotation. Encourage planting drought resistant varieties.</li> <li>• Identify responsible agency and ensure to have contingency plans in place</li> </ul>
	Loss of grazing	<ul style="list-style-type: none"> <li>• Awareness programmes: Good farming practices e.g. back burning, fire breaks, crop rotation and prevention of soil erosion. Identify alternative grazing.</li> <li>• Proper clearing of encroaching alien vegetation e.g. Back burning</li> </ul>
	Loss of livestock	<ul style="list-style-type: none"> <li>• Awareness programmes: e.g. Fire breaks, Good grazing practice e.g. Designated areas for grazing</li> <li>• Make provision in IDP for designated communal holding areas to supplement feed and water</li> </ul>
<b>Fire</b>	Informal settlements have an increased vulnerability to fire because of the close quarters and lack of access.	<ul style="list-style-type: none"> <li>• Establish fire services.</li> <li>• Awareness programmes: Good House Keeping e.g. Encourage proper spacing, use of electrical equipment, use of cooking apparatus and storage of flammable liquid. Proper clearing of encroaching vegetation and disposal of refuse. Encourage specialized institution to present safety audits. Provide fire fighting training for volunteers and basic equipment</li> <li>• Proper policing to avoid further influx</li> <li>• Plan alternative accommodation e.g. include development of housing as priority in the IDP</li> </ul>
	Loss of stock and game	<ul style="list-style-type: none"> <li>• Awareness programmes: e.g. Agriculture advice to be give fire breaks, Good grazing practice e.g. Designated areas for grazing</li> <li>• Training of fire fighting volunteers</li> </ul>
	Loss of roofing., thatch, rendering housing uninhabitable	<ul style="list-style-type: none"> <li>• Awareness programmes: Encourage good building practices e.g. use of proper roofing materials</li> <li>• Proper clearing encroaching vegetation e.g. Back burning.</li> </ul>

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		<ul style="list-style-type: none"> <li>• Training of fire volunteers</li> </ul>
	Pregnant women, young children the elderly and the disable unable to evacuate in time.	<ul style="list-style-type: none"> <li>• Awareness programmes: Fire behaviour e.g. Reading wind direction and evacuation procedures.</li> <li>• Early warning systems e.g. Media broadcast, pamphlets and load halers</li> <li>• Identification of places of safety.</li> <li>• Identify alternative access routes</li> <li>• Training of fire fighting Volunteers</li> </ul>
	Loss of crops	<ul style="list-style-type: none"> <li>• Awareness programmes: Good farming practices e.g. Back burning, fire breaks and crop rotation</li> <li>• Training of fire fighting Volunteers</li> </ul>
	Loss of grazing land	<ul style="list-style-type: none"> <li>• Awareness programmes: Good farming practice e.g.</li> </ul>
	Destruction of industrial areas, industrial job losses, economic losses	<ul style="list-style-type: none"> <li>• Establishment of FPAS (Fire Protection Associations)</li> <li>• Maintenance of gas pipes, Awareness campaigns fire protection systems contingencies plans for industries</li> </ul>
<b>Flood, Severe Landslip</b>	<b>Storm, Rainfall,</b> People will not be able to evacuate the area	<ul style="list-style-type: none"> <li>• Identify vulnerable sectors informal/formal</li> <li>• Awareness programmes: Pre-identified high ground shelter, leave unnecessary item. Take food etc.</li> <li>• Consider relocation of informal temporary shelter</li> <li>• Pro-active measures of mitigation (gabion baskets)</li> <li>• Early warning systems Pre-identify alternative accommodation</li> <li>• Include in IDP for future development</li> </ul>
	Areas will be cut off by washed out roads, bridges etc, preventing access by response agencies.	<ul style="list-style-type: none"> <li>• Identify vulnerable sectors informal/formal</li> <li>• Awareness programmes (proper drainage ext)</li> <li>• Identify alternative routes</li> <li>• Planning, positioning and quality of roads</li> <li>• Pre-identify alternative resources in terms of access (Rubber duck ext) for floods only</li> <li>• Include IMS protocol in conjunction with department of transport</li> <li>• Include IDP</li> </ul>
	Building (Public and Private) and informal settlements will be destroyed, leaving large number of people homeless.	<ul style="list-style-type: none"> <li>• Awareness in terms of building codes in rural areas. (Quality of homes) and (management of household possessions)</li> <li>• Pre-identify alternative accommodation/Maintain database of resources. Exp (Food distribution plan)</li> <li>• Include re-housing in development programme. (IDP)</li> </ul>
	Sanitation and health problems.	<ul style="list-style-type: none"> <li>• Awareness programmes: Promote the</li> </ul>

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

		<p>treatment of available water resources and good personal hygiene practices. Prevention of water born disease. e.g. (Malaria, Cholera and diarrhea)</p> <ul style="list-style-type: none"> <li>• Identify responsible and ensure contingency plans in place</li> </ul>
	Women left to care extended families with no means of transportation out of the affected area	<ul style="list-style-type: none"> <li>• Identify vulnerable sectors informal/formal</li> <li>• Identify alternative routes</li> <li>• Resources in terms of access</li> </ul>
<b>Hazmat Incidents</b>	Pollution of the water table	<ul style="list-style-type: none"> <li>• Awareness programmes: the effect of various chemical and precautionary measures, identify specialized and alternative treatment facilities and places of safety</li> <li>• MMM Environmental Health, DWAF to have contingency plans in place.</li> <li>• Identify Hazmat Task Team</li> </ul>
	Pollution of the soil	<ul style="list-style-type: none"> <li>• Awareness programmes: the effect of various chemical and precautionary measures, identify specialized and alternative treatment facilities and places of safety</li> <li>• MMM Environmental Health, DWAF to have contingency plans in place.</li> <li>• Identify Hazmat Task Team</li> </ul>
	Human exposure to toxic chemical resulting in serious harm or death.	<ul style="list-style-type: none"> <li>• Awareness programmes: the effect of various chemical and precautionary measures, identify specialized and alternative treatment facilities and places of safety</li> <li>• MMM Emergency Services &amp; Environmental Health, DWAF to have contingency plans in place.</li> <li>• Identify Hazmat Task Team</li> </ul>
	Pollution of the atmosphere will occur from the release of hazardous material.	<ul style="list-style-type: none"> <li>• Awareness programmes: the effect of various chemical and precautionary measures, identify specialized and alternative treatment facilities and places of safety</li> <li>• MMM Environmental Health, DWAF to have contingency plans in place.</li> <li>• Identify Hazmat Task Team</li> </ul>
<b>Snow</b>	People will not be able to evacuate the area	<ul style="list-style-type: none"> <li>• Identify vulnerable sectors informal/formal</li> <li>• Awareness programmes: Pre-identified high ground shelter, leave unnecessary item. Take food etc.</li> <li>• Consider relocation of informal temporary shelter</li> <li>• Pro-active measures of mitigation (gabion baskets)</li> <li>• Early warning systems Pre-identify alternative accommodation</li> <li>• Include in IDP for future development</li> </ul>
	Areas will be cut off by washed out	<ul style="list-style-type: none"> <li>• Identify vulnerable sectors</li> </ul>

	roads, bridges etc, preventing access by response agencies.	informal/formal <ul style="list-style-type: none"> <li>• Awareness programmes Identify alternative routes</li> <li>• Planning, positioning and quality of roads</li> <li>• Pre-identify alternative resources in terms of access Include IMS protocol in conjunction with department of transport</li> <li>• Include IDP</li> </ul>
--	---	---

**8.3.6 Integration of disaster reduction into development planning**

**8.3.6.1 Integration of disaster risk reduction with spatial development planning**

Provincial and municipal disaster management centers must establish mechanisms in association with spatial planners in both spheres to ensure that relevant spatial information informs disaster risk reduction planning.

**8.3.6.2 Incorporation of disaster risk reduction planning into integrated development planning**

Disaster risk reduction efforts are medium to long-term multi-sectoral efforts focused on vulnerability reduction and must be incorporated into ongoing IDP projects, processes, programmes and structures.

**8.3.6.3 Key Performance Indicators**

- 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.

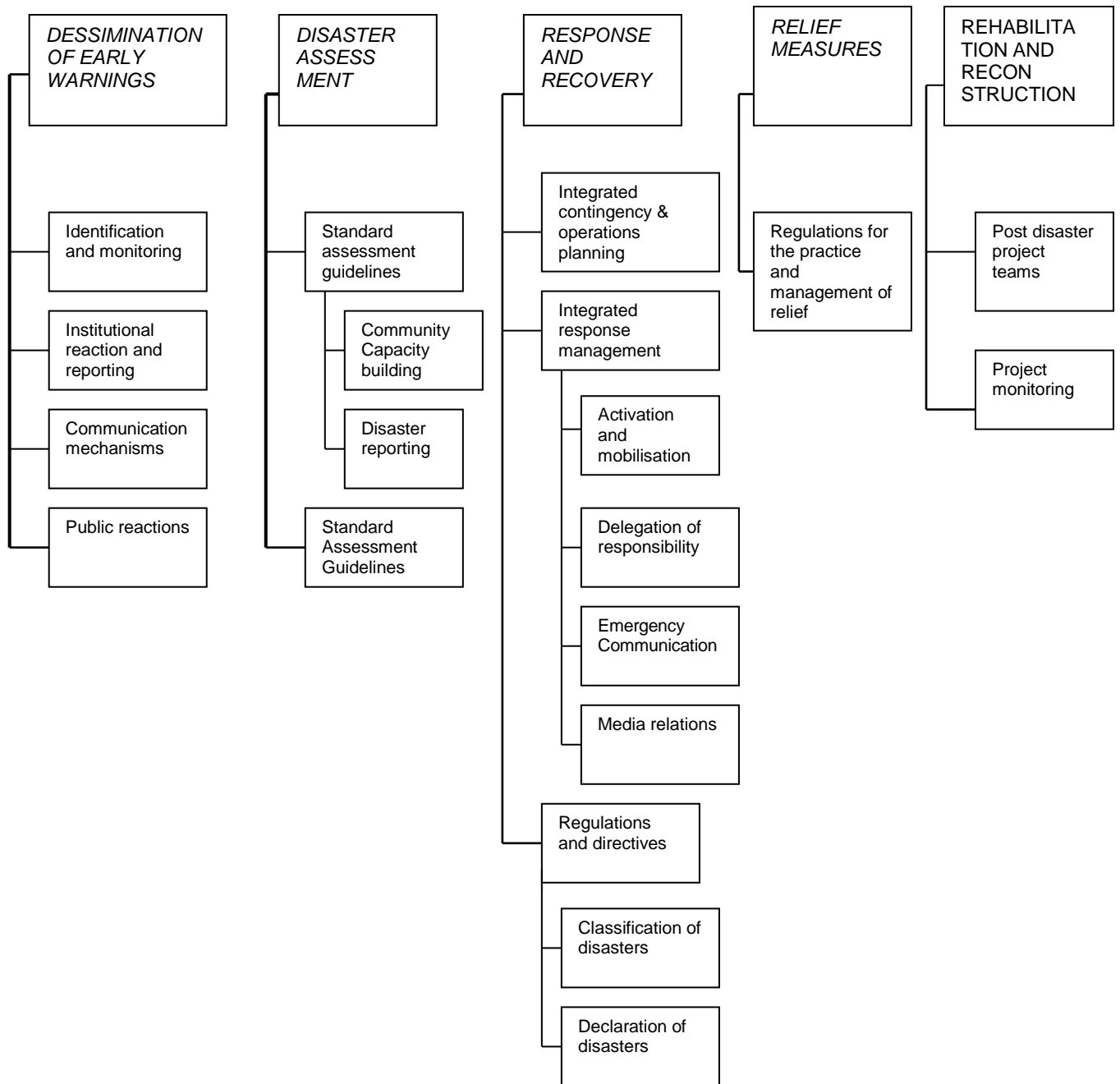
**8.4 KPA 4: RESPONSE AND RECOVERY**

**8.4.1 Objective**

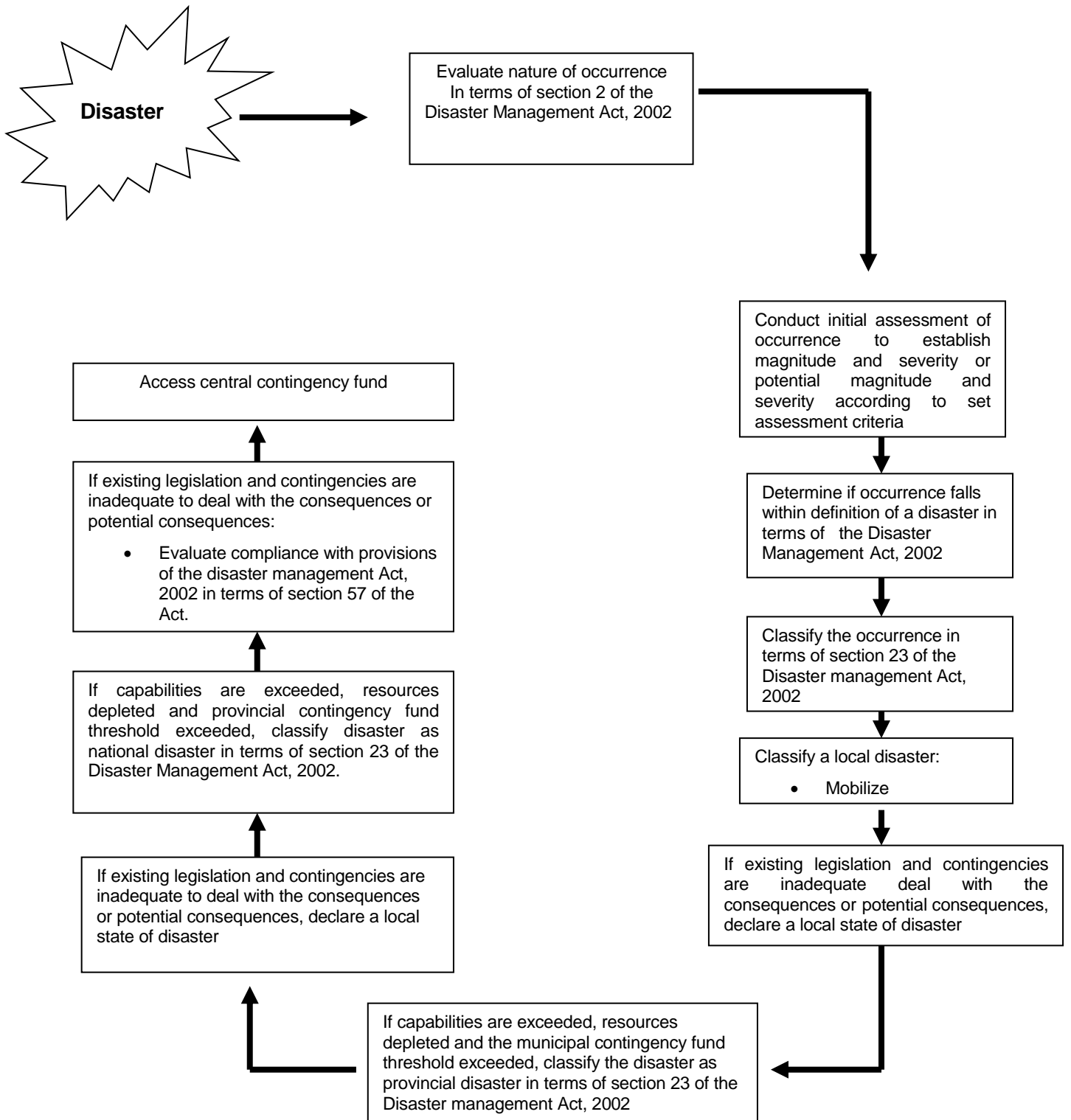
To ensure effective and appropriate disaster response and recovery by:

- 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, environment 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.

8.4.2 Disaster response and recovery



8.4.3 Process for the classification and declaration of state of disaster





#### **8.4.4 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.

#### **8.4.5 Major Role Players in integrated early warning:**

- South African Weather Services - climate forecast, satellite information;
- Department of Water Affairs & Forestry - flood warnings, dam and river levels, water supplies;
- Department of Agriculture - crop forecasts, staple food quality, forage availability, water irrigation and livestock;
- Department of Health – epidemics and diseases.

#### **8.4.6 Disaster Assessment**

On-site assessment includes 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.

#### **8.4.7 Response and Recovery**

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. Primary and secondary responsibilities will be allocated for each of the operational activities associated with disaster response e.g. evacuation, shelter, search and rescue, emergency medical services and fire fighting.

#### **8.4.8 Relief Measures**

Relief operations following significant and/or events classified as disasters will be coordinated. Relief assistance and donations will be equitably distributed.

#### **8.4.9 Rehabilitation and Reconstruction**

The organ of state tasked with primary responsibility for known hazard will facilitate the establishment of project teams.

#### **8.4.10 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 PDMC and NDMC.
- The disaster management centres has established and documented clear procedures for accessing, interpreting and disseminating early warnings of both rapid and slow onset hazards.

### **8.5 ENABLER 1: INFORMATION MANAGEMENT AND COMMUNICATION**

#### **8.5.1 Objective**

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

### **8.5.2 Establishing an Information Management and Communication System**

The information management and communication system will 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 role players and stakeholders involved in disaster risk management. The design of the system will 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 provincial emergency radio communication network.

### **8.5.3 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.

### **8.5.4 Data Acquisition (Data Collection and Capturing)**

The process will identify both the inputs and data sources (data custodians) 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 (e.g. topographical, census, land cover, infrastructure, deeds, environmental)
- Dynamic data (e.g. contact and other relevant details of all role players)
- Field data (e.g. features of buildings, infrastructure)
- Situational reporting system (e.g. incidents, local conditions)
- Hazard tracking (e.g. weather conditions, flood, fire hazard conditions, droughts)
- Early warnings

### **8.5.5 Key Performance Indicators**

- Data needs have been defined by the DMC.
- Data sources have been identified by the DMC.
- 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.

## **8.6 ENABLER 2: EDUCATION, TRAINING, PUBLIC AWARENESS & RESEARCH**

### **8.6.1 Objective**

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

### **8.6.2 Education and training**

#### **8.6.2.1 School Programmes**

The DMC will seek to establish links with existing awareness creation programmes in schools for the purpose of disseminating of information on disaster risk management and risk avoidance.

#### **8.6.2.2 Dissemination and Use of Indigenous Knowledge**

It is imperative that traditional leaders, as custodians of indigenous knowledge, play an active role at the local level. The indigenous knowledge is an integral part of disaster risk management.

#### **8.6.2.3 Training programmes for municipal officials and policy makers**

Training programmes for municipal officials and policy makers will embrace the multidisciplinary and interdisciplinary dimensions of disaster risk reduction, which will include the following:

- Development planning
- Hazard identification and assessment
- Communicable diseases
- Dry land agriculture
- Participatory rural appraisal
- Applied climate science and GIS

#### **8.6.2.4 Community training programmes**

Training programmes for communities will focus on disaster risk awareness, disaster risk reduction, volunteerism and preparedness. Communities will 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.

### **8.6.3 Public awareness**

#### **8.6.3.1 Public awareness strategy**

To inculcate risk avoidance behaviour by all stake holders, public awareness campaigns aimed at raising consciousness about disaster risks will provide information on how to reduce vulnerability and exposure to hazards. These campaigns will include:

- Organized and planned awareness programmes
- Imbizo meetings
- Annual recognition and celebration of World Disaster Risk Reduction Day
- Rewards, incentives, competitions and recognition schemes to enhance awareness of and participation in risk reduction activities
- Dissemination of information to all role players

#### **8.6.3.2 Communication through the media (Communication Unit)**

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. The PDMC will establish and manage ongoing relations with relevant local and national media.

#### **8.6.3.3 Research**

The DMC, through a process of consultation, will develop a strategic disaster risk reduction research agenda to effectively inform disaster risk management planning and implementation in the municipality. Research initiatives will also be linked to the IDP processes of municipalities.

The DMC will facilitate:

- Consultation and engagement between the communities of disaster risk scientists and professionals.
- A process for auditing existing research initiatives and programmes.
- Consultation with appropriate national and international agencies and foundations that support research.
- The development of an integrated disaster risk reduction research agenda and programme.

#### **8.6.3.4 Key Performance Indicators**

- Training programmes have been developed and implemented.
- approved service providers have been registered and are offering training services and products.
- Facilitators, instructors and presenters have become qualified and have been accredited.
- Widespread community-based disaster risk management training is taking place.
- Awareness of disaster risk management is promoted at schools and in communities known to be at risk.
- Disaster risk reduction is the focus of all disaster risk management awareness programmes.
- There is a widespread evidence of balanced media reports and coverage on hazards, disasters and disaster risk management issues.
- Disaster risk reduction is included as a standard agenda item for consideration at executive meetings of all role players and stakeholders.
- A strategic disaster risk research agenda linked between scientific research and policies, which is accessible to stakeholders, has been established.

### **8.7 ENABLER 3: FUNDING ARRANGEMENTS FOR DISASTER RISK MANAGEMENT**

#### **8.7.1 Objective**

To establish a mechanism for funding disaster risk management.

#### **8.7.2 Financial Arrangements**

Financial arrangements will be in accordance sections 16 and 25 of the Public Finance Management Act, 1999 and Councils Policy and Regulations. All operations with a financial implication must be reported to Council.

#### **8.7.2 Recommended Funding Arrangements. Funding of Post Disaster Recovery and Rehabilitation**

Funding of post disaster recovery and rehabilitation is to be dealt with in terms of the Act 2002, Chapter 6.

### **9. REVIEWING AND TESTING THE DISASTER PLAN**

Review of Council's Disaster Plan must take place at least annually and any amendments thereto must be submitted to the National disaster Management Centre, as well as the Centre of the Province of the Free State

#### **Tabletop**

Table below provides an overview of the recommended funding mechanisms for each of the five disaster risk management activities.

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

**Key Output Goals for Risk Elimination and Risk Reduction**

- Preventing or reducing the risk of disasters occurring
- Mitigating the severity or consequences of disaster by promoting sustainable development and sustainable livelihood
- Increasing and expanding existing emergency preparedness strategies
- Ensuring rapid and effective disaster response
- Planning for effective post disaster recovery and rehabilitation by the incorporation of developmental initiatives
- Ensuring effective institutional arrangements for efficient disaster management

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL ONE:  
Preventing or reducing the risk of disasters occurring**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Develop a disaster risk profile by conducting a scientific Risk and Vulnerability Analysis for Council's area	<ul style="list-style-type: none"> <li>✓ Conduct a review of available relevant information</li> <li>✓ Compile a specification and brief for a scientific vulnerability and risk analysis for Council's area</li> <li>✓ Advertise and commission research</li> <li>✓ Analyse data to determine levels of vulnerability</li> <li>✓ Establish hazard Mapping and monitoring capability</li> </ul>				

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
		<ul style="list-style-type: none"> <li>✓ Continue to participate in IDP process</li> </ul>				
2	Develop a sustained risk elimination strategy for communities at risk focused on probable disasters	<ul style="list-style-type: none"> <li>✓ Identify risk elimination strategies for probable disasters</li> <li>✓ Link strategies to IDP priorities</li> <li>✓ Integrate strategies with IDP</li> </ul>				
3	Develop and implement community awareness programme	<ul style="list-style-type: none"> <li>✓ Complete development of current material</li> <li>✓ Implement programme in communities most at risk</li> </ul>				
4	Initiate training and capacity building programmes to increase resilience to hazards	<ul style="list-style-type: none"> <li>✓ Focus existing programme for the establishment of Disaster Management Teams in Communities most at Risk</li> </ul>				
5	Develop a policy for contingency plans for major events					
6	Develop Early Warning Systems related to probable hazards	<ul style="list-style-type: none"> <li>✓ Continue with the development of existing programme in co-operation with the relevant organs of state and media</li> </ul>				
7	Monitor all developmental projects to ensure the avoidance of high risk developments	<ul style="list-style-type: none"> <li>✓</li> </ul>				

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL TWO:  
Mitigating the severity or consequences of disaster by promoting sustainable development and Sustainable livelihood**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Integrate Disaster Risk Reduction programmes with IDP	Identify risks which cannot be eliminated in the short term and introduce mitigation strategies to reduce risk				
2	Monitor and track hazards to develop a scientifically based loss tracking database					
3	Compliment and participate in strategy for HIV/AIDS and Cholera risk reduction					
4	Establish a strategy for outcomes of AIDS pandemic					
5	Integrate early warning systems, community awareness strategies with emergency preparedness strategies					

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL THREE:  
Increasing and expanding existing emergency preparedness measures**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Monitor and assist with the development of disaster plans of other municipal entities					
2	Develop and refine contingency plans for specific disasters and hazardous installations/ infrastructure					

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
3	Establish effective Incident Management System including mobile Incident Control Post					
4	Establish and develop capacity of Interdepartmental Disaster Management Committee					
5	Recruit and establish volunteer reserve and general community volunteers					
6	Implement community awareness and training and capacity building programmes					
7	Develop and maintain emergency communication infrastructure and mechanisms					
8	Develop and establish electronic resource database linked to GIS					
9	Reinstate and develop functional Disaster Operations Centre					
10	Establish Municipal Disaster Management Advisory Forum					

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL FOUR:**

Ensuring rapid and effective disaster response

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Develop policy and capacity to facilitate and co-ordinate physical and technical support during disasters					
2	Exercise and rehearse Incident Management System					
3	Exercise and rehearse Disaster Operations Centre personnel and functionality					



**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL FIVE:  
Planning for effective post disaster recovery and rehabilitation by the incorporation of developmental initiatives**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Monitor and actively participate in recovery and rehabilitation projects and ensure integration of developmental initiatives					
2	Develop policy for co-ordinated and equitable relief distribution					

**PRIORITY OBJECTIVES FOR ACHIEVING KEY OUTPUT GOAL SIX:  
Ensuring effective institutional arrangements for efficient disaster management**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
1	Consult with other local municipalities within the Motheo District and assist with the establishment of institutional frameworks in each municipality					
2	Develop Information system for Disaster Management					
3	Conduct multi-disciplinary disaster operations within the Mangaung Disaster Management Centre					
4	Establish and maintain a central facility within the Mangaung Disaster Management Centre to provide 24-hour communications to facilitate the issuing of early warnings and co-ordinated responses to incidents.					

**MANGAUNG METROPOLITAN MUNICIPALITY DISASTER MANAGEMENT PLAN**

<b>KPA No</b>	<b>Key Performance Area</b>	<b>12 Month Objectives</b>	<b>Target Date</b>	<b>Lead Functionary</b>	<b>Review Date</b>	<b>Completion Date</b>
5	Ensure comprehensive disaster planning to meet envisaged disasters.					
6	Create awareness within communities and amongst individuals by providing information related to pre-disaster risk reduction and post disaster recovery in the context of the disaster continuum.					
7	Promote the recruitment, training and capacity building of volunteers and other role players to participate in all aspects of disaster management.					
8	Establish and maintain four satellite centres to deliver services in terms of the disaster continuum throughout Council's area.					
9	Establish partnerships with multi-sectoral role-players for the purposes of disaster management and in accordance with the requirements of the Integrated Development Plan.					

**10. ABBREVIATIONS AND ACRONYMS**

CBO	Community based organization
DMA	Disaster Management Act (Act No. 57 of 2002)
DMIS	Disaster Management Information System
DOC	Disaster Operations Centre
DRMAF	Disaster Risk Management Advisory Forum
DRMP	Disaster Risk Management Plan
GIS	Geographical Information Systems
MMDRMC	Mangaung Metropolitan Disaster Risk Management Centre
IDP	Integrated Development Plan
JOC	Joint Operations Centre
KPA	Key Performance Area
MFMA	Municipal Financial Management Act No. 56 of 2003
NDMC	National Disaster Management Centre
NDMF	National Disaster Management Framework
NGO	Non-governmental organization
PDRMC	Provincial Disaster Risk Management Centre
PDRMF	Provincial Disaster Risk Management Framework
PFMA	Public Financial Management Act No. 1 of 1999
SDF	Spatial Development Framework
MMM	Mangaung Metropolitan Municipality