

# EMALAHLENI LOCAL MUNICIPALITY



<b>Document name:</b>	<b>Emalahleni Municipality Disaster Management Plan</b>
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## **Abbreviations**

AQMP	Air Quality Management Plan
BCP	Business Continuity Plan
DOC	Disaster Operations Centre
DMA	Disaster Management Act
DMAF	Disaster Management Advisory Forum
DMC	Disaster Management Centre
EIA	Environmental Impact Assessment
ELM	Emalahleni Local Municipality
EMS	Emergency Medical service
FCP	Forward Command Post
GIS	Geographic Information System+
HIV	Human Immunodeficiency Virus
HOD	Head of Department
ICT	Information and Communication Technology
IDP	Integrated Development Plan
JOC	Joint Operational Committee/Centre
KPA	Key Performance Area
MEC	Member of Executive Committee
MHI	Multi Hazard Infrastructure
MMC	Member of Mayoral Committee
MOU	Memorandum of Understanding
NDM	Nkangala District Municipality
NDMC	National Disaster Management Centre
NEMA	National Environmental Management Act
NGO	Non-Governmental Organization
PA	Personal Assistant
PDMC	Provincial Disaster Management Centre
SAPS	South African Police Service
SANDF	South African National Defense Force
SWOT	Strength, Weaknesses, Opportunities, Threats
VIP	Very Important Person

## DEFINITIONS

Term	Definition
<b>Disaster</b>	<p>“is a progressive or sudden, widespread or localized, natural or human-caused occurrence which causes or threatens to cause:</p> <ul style="list-style-type: none"> <li>• death, injury or disease,</li> <li>• damage to property, infrastructure or the environment or</li> <li>• disruption of life of a community and is of a magnitude that exceeds the ability of those affected by the disaster to cope with it using only their own resources”</li> </ul>
<b>“Disaster Management”</b>	<p>means a continuous and integrated multi-sectoral, multidisciplinary process of planning and implementation of measures aimed at:</p> <ul style="list-style-type: none"> <li>• preventing or reducing the risk of disasters,</li> <li>• mitigating the severity or consequences of disasters,</li> <li>• emergency preparedness,</li> <li>• a rapid and effective response to disaster and</li> <li>• Post-disaster recovery and rehabilitation.</li> </ul>
<b>“Disaster risk”</b>	<p>“means the possibility, or chance, of harmful consequences, or expected loss (of lives, people injured, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human induced hazard and vulnerable condition”.</p>
<b>“Disaster risk reduction”</b>	<p>“means the conceptual framework of elements considered with the possibilities to minimize vulnerabilities and disaster risk throughout a society, to avoid (prevention) or to limit (mitigation and preparedness) the adverse impacts of hazard, within the broad context of sustainable development”</p>
<b>“Disaster risk reduction goals”</b>	<p>“are general guidelines that explain what you want to achieve. They are usually broad policy-type statements, long term, and represent global visions, such as:</p> <p>The economic vitality of the community will not be threatened by future flood events”. The continuity of local government operation will not be significantly disrupted by disaster.</p>
<b>“Disaster risk reduction objective”</b>	<p>define strategies or implement steps to attain the identified goals. Unlike goals, objectives are specific and measurable, such as:</p>

	Protect structures in the historic downtown area from flood damage. Educate citizen about wildfire defensible space actions.
<b>“Disaster risk reduction measures”</b>	are specific actions that help you to achieve your risk reduction goals
<b>“Disaster residual risk management”</b>	When the risks have been reduced to the extent that communities are not very vulnerable to risk and/ or find it acceptable to live with these risks, the residual risk management phase kicks in. Residual risk management can be defined as the discipline of being prepared to manage any of the residual risks with the utmost speed and efficiency.
<b>“Emergency Preparedness”</b>	means a state of readiness which enables organs of state and other institutions involved in disaster (and emergency) management, the private sector; communities and individuals to mobilize, organize and provide relief measures to deal with an impending or current disaster or the effects of a disasters.
<b>“Hazard”</b>	means a potentially damaging physical event, phenomenon and /or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation: natural (geological, hydro meteorological and biological) or induced by human processes (environmental degradation and technological hazards). Hazards can be single, sequential or combined in their origin and effects. Each hazard is characterized by its location.
<b>“Manageability”</b>	means the degree to which a community can intervene and manage the negative consequences of a hazardous event.
<b>“Post-disaster recovery and rehabilitation”</b>	means efforts, including development, aimed at creating a situation where: <ul style="list-style-type: none"> <li>• normality in conditions caused by a disaster is restored,</li> <li>• the effects of a disaster are mitigated of</li> <li>• Circumstances are created that will reduces the risk of a similar disaster occurring.</li> </ul>
<b>“Preparedness”</b>	“means activities and measures taken in advance to ensure effective response to the impact of hazards, including timely and effective early warning and the temporary evacuation of people and property from threatened locations
<b>“Prevention”</b>	in relation to a disaster, means measures aimed at stopping a disaster from occurring or

	preventing an occurrence from becoming a disaster
<b>“Resilience”</b>	means the capacity of a system, community, or society potentially exposed to hazards to adapt by resisting or changing in order to reach and maintain an acceptable level of functioning and structure. This is determined by the degree to which the social system is capable of organizing itself to increase this capacity for learning from past disaster for better future protection and to improve disaster risk reduction measures.
<b>“Response”</b>	in relation to a disaster, means measures taken during or immediately after a disaster in order to bring relief to people and communities affected by the disaster. Measures taken during or immediately after a disaster in order to aid and meet the life preservation and basic subsistence needs of those people and communities affected by the disaster. These measures can be of immediate, short-term or protracted duration
<b>“Risk”</b>	means the convolution of exposure, hazard and vulnerability (loss
<b>“Vulnerability”</b>	means the degree to which an individual, a household, a community or an area may be adversely affected by a disaster (the susceptibility to losses due to exposure to a hazard). The degree to which an individual, a household, a community, an area or a development may be adversely affected by the impact of a hazard. Condition of vulnerability and susceptibility to the impact of hazards are determined by physical, social, economic and environmental factors or processes

## **FOREWORD**

The development of the Emalahleni Local Municipality Disaster Management Plan presented an opportunity for the Municipality to assess its position in relation to the capacity and resources it has in dealing with hazards that could result in disasters. Key to the development of the Emalahleni Local Municipality Disaster Management Plan emphasis is placed on prevention measure to the occurrence of disasters.

The purpose of this publication is to provide insight of the municipality and the type of hazards that it is susceptible to by way of risk profile and on preventative measure to the occurrences of disasters.

The development of a Disaster Management Plan is in itself not an end but a means to the promotion of a safe and healthy environment as spelled out by Section 152 (d) of the South African Constitution 1996.

In line with Section 26 (g) of the Municipal Systems Act a Disaster Management Plan is amongst a few pieces of strategic documents that are considered core to the Integrated Development status without which the IDP of the municipality. The Systems Act accord the disaster management plan a core component status without which the IDP could be declared not credible.

Emalahleni Local Municipality remains committed to the continuous process of planning and implementation of measures aimed at preventing or reducing the risk of disasters as well as mitigating the severity or consequences of disasters. Furthermore, as required by the Disaster Management Act 57 of 2002, The Municipality has fulfilled the legal obligation of developing the Emalahleni Local Municipal Disaster Management Plan, which will serve to give strategic guidance on how local disasters should be handled

## **EXECUTIVE SUMMARY**

The Emalahleni Local Municipality, in terms of the Disaster Management Act, 2002 (Act 57 of 2002), is required to compile a Municipal Disaster Management Plan. This document fulfils the legal requirement as set out in the Disaster Management Act, the National Disaster Management Framework and confirms the arrangements for managing disaster risk, preparing, and responding to disasters within the MP 313 area.

The intended outcomes of the plan is the integration of disaster risk management into the strategic and operational planning and project implementation of all line functions and role players within the Emalahleni Local Municipality, the creation and maintenance of resilient community within the municipality and an integrated, fast and efficient response to emergencies and disasters by all role players.

The overall objective of this document is to define and describe the essential elements and procedures for preventing and mitigating major incidents or disasters, but also to ensure rapid and effective response and aspect specific contingency planning in case of a major incident or disaster that will:

- Save lives
- Reduce risk exposure
- Reduce suffering
- Protect property
- Protect the environment
- Reduce the economic and social losses, and
- Provide for the safety and health of all responders.

# Chapter 1

## 1 INTRODUCTION

South Africa faces a wide range of increased threats and disastrous risks, exposed to a wide range of weather hazards including droughts, cyclones and severe storms that can trigger widespread hardships and devastation. As a result of these, Municipalities find themselves burdened with budget constraints that result in humanitarian assistance obligations in times of emergency.

In addition to these natural and human-induced disasters, and despite the ongoing progress and efforts of the government to extend poverty alleviation grants to the needy people to alleviate malnutrition and starvation, which cause these people to be most vulnerable, a large number of these people still live in conditions of chronic disastrous vulnerabilities in residential structures that pose not only a threat of repeated informal settlement fires and collapsing structures, but a threat to the neighboring environment as well.

The Disaster Management, act no 57 of 2002, provides for:

- An integrated and coordinated disaster risk management policy that focuses on preventing and reducing the risks of disasters
- Mitigating the severity of disasters
- Preparedness, rapid and effective response and recovery to disasters and post disaster recovery
- The establishment of National, Provincial and, Municipal Disaster Management Centers
- Disaster Management Volunteers and
- Matters relating to these issues

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

Emalahleni Local Municipality has therefore developed this plan in order to provide key officials, role-players and departments in the Emalahleni Municipality, general procedures for the expected initial response to an emergency and overview of their responsibilities during an emergency or disaster.

For this plan to be effective it is important that all concerned parties be made aware of its provision and that every official, role-player, department and personnel be prepared to carry out their assigned functions and responsibilities before, during and after emergency.

This plan serves to confirm the arrangements in Emalahleni Municipality disaster management approach, to effectively prevent disasters from occurring and to lessen the impact of those hazards that cannot be avoided.

The preventative elements of this plan must be implemented and maintained on a continuous basis. The emergency or reactive elements of this plan will also be implemented in Emalahleni Local Municipality whenever a major incident or disaster is threatening to happen in its area of jurisdiction.

The coordination of the overall implementation of the plan is the responsibility of the Head of Disaster Management.

The Disaster Management Act requires the Municipality to take the following actions:

- Prepare a disaster management plan for its area according to circumstances prevailing in the area(sect.53)
- Co-ordinate and align the implementation of its plan with those of other organs of state and institutional role players, and
- Regularly review and update its plan (section 48)

The Municipality will submit a copy of its disaster management plan, any amendments to the plan to the District, Provincial Disaster Management and National Disaster Management Centre.

### **1.1 Geographical Location**

The Emalahleni Municipal area, which means the “place of coal and is situated in the Mpumalanga Province and it is also in the jurisdictional area of Nkangala District Municipality. The town was established in 1903

The town is known for its coal production which has attracted major industries and power stations which include Duvha power station, Matla power station, Kendal power station and Kusile power station. This Municipality, like other municipalities, will have inadequate land for residential, burial, stock and crop production in the near future. It is in the heart of this Municipality where the two national freeways, the N4 and the N12, join together posing not only road accidents threats but also other threats as well. Below is a map showing the Emalahleni Municipal area



## **1.2 Population size**

According to Statistics South Africa (Community Survey 2016) eMalahleni's population has increased from 395 466 people recorded in Census of 2011 to 455 228 people recorded in 2016. These figures represent the third largest population in the province behind City of Mbombela and Bushbuckridge municipalities.

Emalahleni recorded a population growth rate of 3.2% per annum between the periods of 2011 and 2016. Due to the rate in which the population is increasing and the challenges it presents in the planning structures, the municipality in partnership with external stakeholders and industries has plans to minimise the housing backlog, creating employment opportunities and develop skills.

Given the annual growth rate of 3.2% in the area roughly the population number, for 2019 is estimated at 500 343 and 2030 it is estimated that the municipality will have to deal with at least more or less 707 530 people given the historic population growth per annum. This will put pressure on infrastructure development, service delivery & eventually sustainable job creation.

Increase in population might be due to mining industries and businesses around, which result in:

- Informal settlements and back rooms– estimated 10 000 people residing in these areas (Increase in informal housing).
- Water supply to informal settlements and the residents are not contributing to the cost of these services (no revenue from the expenditure).
- Strain on water, sanitation, electricity and roads resulting in quality and capacity problems (backlog on water and sanitation)

## **1.3 Urban profile**

Urban settlements are found at Emalahleni (Witbank) Ackerville, Lynnville, Kwa-Guqa extensions, Pine Ridge, Ogies, Ga-NalaThubelihle, Rietspruit, Kriel mine Clewer, Duvha power station and other rural settlements found around Duvha power station, Van Dyksdrift, Tavistock, Albion mine and agricultural settlements around the whole agricultural area in Emalahleni.

## **1.4 Climate**

The climate of Emalahleni Local Municipality is mild. Thus, it has warm summers, cool to cold winters and a varying rainy season. The winter season starts towards the middle of March and extends till about the end of July followed by summer, which continues till about the end of March.

## **1.5 Air Quality**

The air pollution experienced within ELM is known to be caused by the emission of gas, liquid vapour or solid particulate matter into the atmosphere as a result of human activity. Apart from the impact on the natural environment, air pollution can adversely affect human health and wellbeing.

The main pollution sources within the ELM are coal fired power stations, industries, mining activities (which include smouldering mine dumps), domestic fuel burning and motor vehicles. There are existing air quality stations within ELM, which are not fully functional. Air quality data is currently sourced from the South African Weather Services.

## **Chapter 2**

### **2. LEGISLATIVE MANDATE**

This plan should be read in conjunction with the following legislations:

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

The Constitution of the Republic of South Africa (Act 108 of 1996) gives everyone the right to a safe environment. In section 24 it is stated that everyone has the right to an environment that is not harmful to their health or well-being.

#### **2.2 Public Finance Management Act no 1 of 1999 (as amended)**

To regulate financial management in the national and provincial governments; to ensure that 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.

#### **2.3 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 formalizes a range of alternative service delivery mechanisms that could be used to complement traditional service delivery mechanisms/ arrangements used by municipalities.

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

The Municipal Demarcation Act of 1998 provide for the re-demarcation of municipal boundaries.

#### **2.5 Municipal Structures Act no 117 of 1998 as amended**

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

#### **2.6 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.

#### **2.7 National Disaster Management Framework of 2005**

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

#### **2.8 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 to risks and or disasters.

#### **2.9 National Veld and Forest Act No 101 of 1998**

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

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

Provides for the environmental management strategies to prevent and mitigate environmental disasters.

## **Chapter 3**

### **INTERGRATED INSTITUTIONAL CAPACITY (KPA 1)**

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

### **3.1 Linkages with the Integrated Development Plan of Emalahleni Local Municipality**

The Systems Act defines the Integrated Development Plan to be the single, inclusive and strategic plan “for the development of the municipality”.

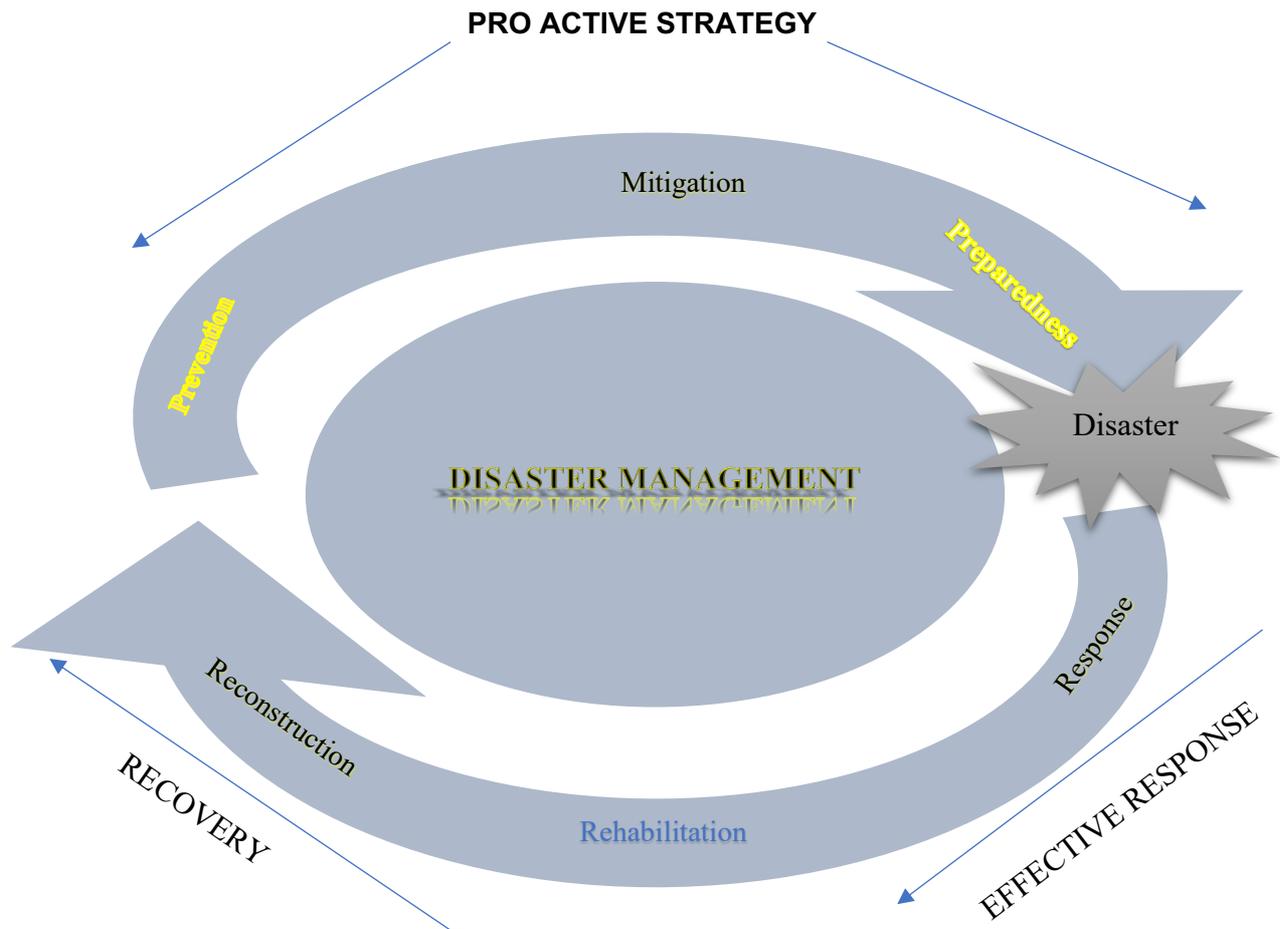
The Disaster Management Plan has become one of the criteria for determining a credible IDP document. Thus, disaster management is being elevated from the periphery of planning into the core of determining allocation of resources. To ensure success the disaster management planning process involves:

- In the first phase of the disaster management planning process, as in the IDP process, communities and stakeholders are given the chance to indicate/highlight the problems they experience and to determine their priorities (community-based risk assessment), with inputs from Disaster Management. The outputs of this phase are a list of the intolerably high risks, the high risks and the tolerable risks for each of the wards / clusters in the municipality.
- The intolerably high risks and the high risks are addressed in Phase 2 of the project. In this phase, the Advisory Forum, in conjunction with the technical task teams, will have to make recommendations on the most appropriate way(s) to address the intolerably high risks and the high risks, as well as, to ensure that project proposals are designed, which can be implemented.
- The tolerable risks are addressed. The Advisory Forum, in conjunction with the technical task teams, must identify and recommend the minimum preparedness and contingency planning requirements to be in a position to address tolerable risk manifestation.
- The Municipality, especially the IDP Manager and the Head of Disaster Management, has to make sure that the disaster risk reduction project proposals are in line with the objectives and the agreed strategies of the IDP of the Council.

### **3.2 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 addition of various annexes detailing the multi-sectoral and multi-disciplinary measures, is considered the most practical and workable approach.

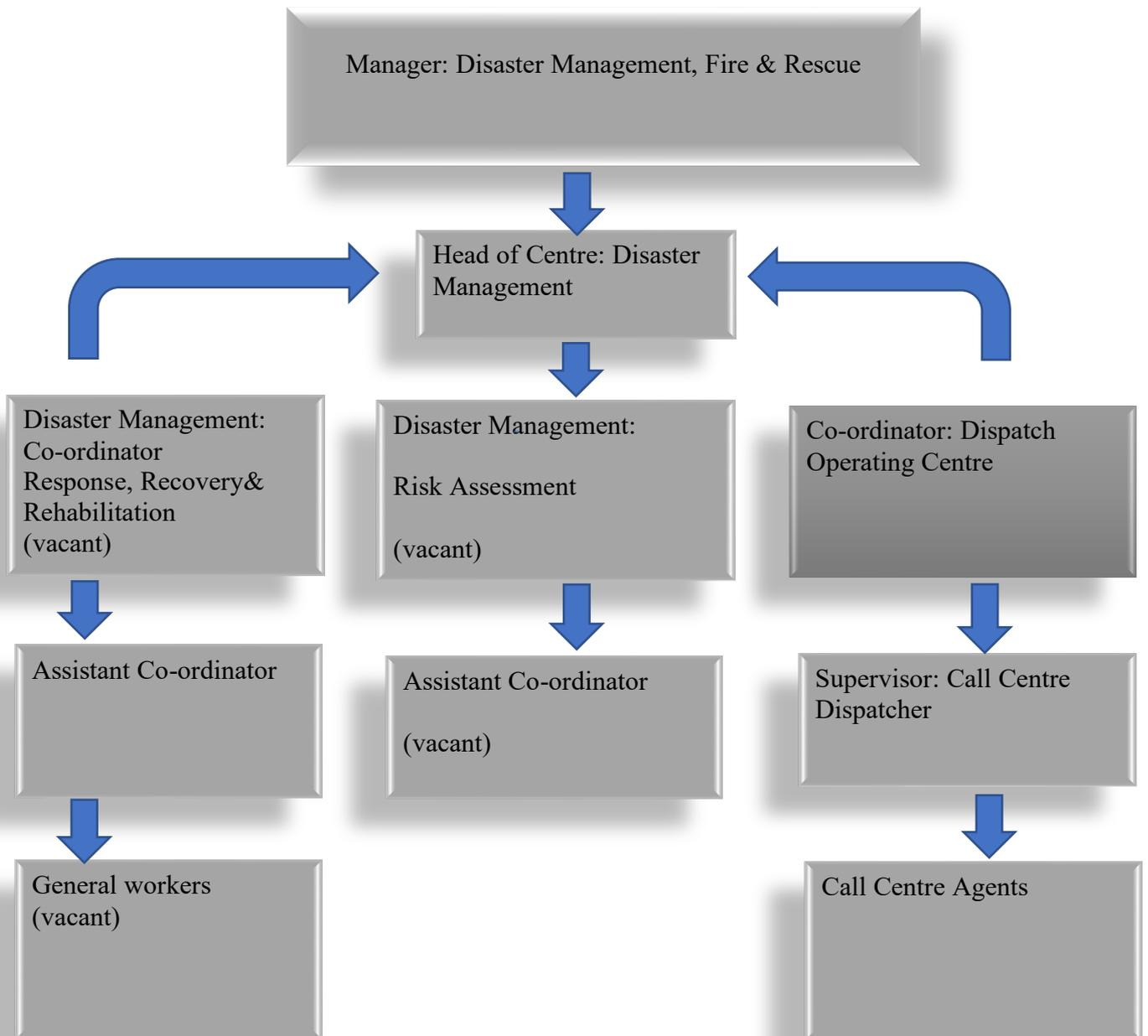
Disaster Risk Management can be explained through **the Disaster Risk Management Continuum:**



**Figure 1: Disaster Risk Continuum**

The continuum clearly indicates that Disaster Risk Management is a continuous process which involves proactive and re-active actions aimed at preventing disasters, mitigating the impact of disasters and implementing effective response and recovery if and when disaster strikes. However, the success of all these actions needs an integrated approach by all municipal functionaries.

## Disaster Management Organogram



**Figure 2: Disaster Management Organogram**

### **3.3 Annexes to the Corporate Plan**

The listed below are annexures in the plan:

#### **Annexure A**

- Draft Disaster Management Framework of Emalahleni Local Municipality

#### **Annexure B**

- Stakeholder Communication/Mobilization Plan

#### **Annexure C**

- Contingency plans and emergency procedures

#### **Annexure D** (Not attached due to confidentiality)

- Business Continuity Plan (confidential)

#### **Annexure E**

- Climate Change strategy

#### **Annexure F**

- Hazardous material spillage response plan

#### **Annexure G**

- Preparedness Plans

#### **Annexure G (1)**

- Preparedness plan for Epidemic (Covid-19/Corona Virus)

#### **Annexure G (2)**

- Fire and Rescue Incident Management Plan (available on request)

#### **Annexure G (3)**

- Air Quality management Plan (available on request)

#### **Annexure G (4)**

- ELM Waste Management Plan (draft study report)

#### **Annexure G (5)**

- Flood Preparedness Plan (Available on request)

### **3.4 Municipal Disaster Management Advisory Forum**

The municipality has established, in terms of section 51 of the Disaster Management Act of 2002, municipal disaster management advisory forum. Terms of reference for the forum were established and adopted. The forum consists of various stakeholders ranging from senior municipal officials, representatives from mining houses, power stations, sector departments, NGOs, District Disaster Management Centre and private institutions.

### **3.5 Composition of the Disaster Risk Management Advisory Forum**

The advisory forum comprises all the relevant stakeholders and role players in disaster risk management in the municipality, including non-governmental and community-based organizations, individuals or groups with special technical expertise, representatives of the local municipalities in the district and representatives of neighboring district municipalities.

This forum is a body in which a Municipality and the relevant disaster management role- players in the Municipality consult one another and co-ordinate their actions on matters relating to disaster management in the Municipality.

### **3.5.1 Terms of reference for the Disaster Risk Management Advisory Forum**

Terms of Reference for the establishment and functioning of a Disaster Risk Management Advisory Forum in a municipality.

#### **3.5.1.1 Purpose**

Section 44(1)(b) of the Disaster Management Act No. 57 of 2002 (DM Act) calls for an integrated and coordinated approach to disaster risk management in municipal areas. To make provision for the integration and coordination of disaster risk management activities and to give effect to the principle of co-operative governance in the Emalahleni Municipality. The municipal council may establish a Disaster Risk Management Advisory Forum. Section 51 of the DM Act makes provision for the establishment of such a forum.

#### **3.5.1.2 Management and administration**

The advisory forum must be established by the portfolio councilor responsible for the disaster risk management function in the Emalahleni Municipality. The advisory forum must be chaired by the head of the disaster risk management center of the Emalahleni Municipality. The disaster risk management center must provide the secretariat for the advisory forum and must ensure that accurate records of the activities of the forum are maintained.

#### **3.5.1.3 Composition of the Disaster Risk Management Advisory Forum**

The advisory forum must comprise all the relevant stakeholders and role players in disaster risk management in the municipality, including non-governmental and community-based organizations, individuals or groups with special technical expertise, representatives of the local municipalities in the district and representatives of neighboring district municipalities.

The forum must comprise but need not be confined to the members listed below:

- The head of Municipal Disaster Management centre in the Municipality.
- Senior representative of each department or component within the administration of the Municipality designated by executive mayor.
- Representatives of other disaster management role- players in the Municipality designated by the Executive Mayor or Mayor which may include:
  - Organised business in the Municipality
  - Organised labour in the Municipality.
  - Relevant community-based organisations
  - Traditional leaders.
  - The insurance industry in the Municipality.
  - Representatives of the agricultural sector in the Municipality.
  - Religious and welfare organisation in the Municipality.
  - Medical, paramedical and hospital organisation in the Municipality.
  - Institution of higher education.
  - Institutions that can provide scientific and technological advice or support to disaster management.
  - Other relevant non- governmental organisations and relief agencies in the Municipality.
  - Experts in disaster management designated by the executive mayor and
  - Persons co-opted by the forum in question for a specific period or specific discussion.

This forum is a body in which a Municipality and the relevant disaster management role- players in the Municipality consult one another and co-ordinate their actions on matters relating to disaster management in the Municipality.

In addition to the representatives listed above, the advisory forum may at any time co-opt additional members and individuals required for a specific task or for a specific period of time. The advisory forum may also appoint technical and other relevant ad hoc task teams with appropriate expertise to perform specific tasks. Such task teams will meet as and when it is required for the purpose of executing the tasks allocated.

### **3.6 Municipal Disaster Management Executive Committee**

It is the responsibility of the Disaster Management Executive Committee to ensure the compilation and maintenance of a corporate disaster management policy by the Disaster Management, as well as the relevant supportive hazard specific plans.

The committee should consist of the following:

- Executive Mayor
- Municipal Manager
- Executive Directors
- Head of Disaster Management Centre
- Managers of Departments

The Disaster Management Executive Committee shall be responsible for making recommendations for changes that are considered appropriate and verification of required support documents, resources, training and facilities to ensure that the plan is maintained.

The Emalahleni Disaster Management Executive Committee will be activated through the Disaster Response Procedure.

### **3.7 Technical Task Teams**

The Disaster Management Act, Sections 44 and 47, calls for a coordinated approach for prevention and mitigation that encourages risk-avoidance behaviour by organs of state, the private sector, on-governmental organisations, communities, households and individuals in the municipal area.

Thorough disaster risk management planning, refer Sections 52 and 53 of the Disaster Management Act, and effective co-ordination is the key to saving lives and limiting damage to property, infrastructure and the environment. This is also necessary for the optimal utilization of available resources.

The following four task teams will ensure hazard specific research, risk prevention and reduction, mitigation and preparedness measures.

- Natural Hazards: This task team will consider all potential geological and hydro meteorological hazards that can manifest in the Emalahleni Local Municipality e.g. earthquake, floods, severe storms and drought.

#### **Technical Task Team for geological and hydrometeorological hazards**

- Technical Services (Water Services, Roads & Storm, Electrical Services)
- Fire & Rescue Services
- Emergency Medical Services
- SAPS
- SANDF
- TRAC (for mist on the N4)
- SANRAL
- Environmental Services and Waste Management
- Communications Department
- Transport & Fleet Services
- NDMC

- Disaster Management
  - TELKOM
  - ESKOM
  - Department of Social Development
- **Biological Hazards:** Strictly speaking biological hazards form part of the natural hazard grouping, but due to the expert scientific knowledge needed for human, fauna and flora disease identification and control this must be handled as a separate task team. Examples include typhoid fever COVID-19, rabies, TB and influenza strains.

**Technical Task Team for biological hazards:**

- Department of Health
  - Disaster Management
  - Environmental Services
  - Life Cosmos Hospitals
  - Witbank Hospital
  - Emalahleni Private Hospital
  - Emergency Medical Services
  - Laboratories
  - NGOs and CBOs
- **Environmental Degradation:** This task team will study and analyse processes induced by human behaviour and activities (sometimes combined with natural hazards), that damage the natural resource base or adversely alter natural processes or ecosystems. Such processes, if not altered, will negatively impact on sustainable livelihoods and the continued use of natural resources and examples include water, air and soil pollution.

**Technical Task Team for Environmental degradation:**

- Environmental Services and Waste Management
  - Department of Water Affairs and Sanitation
  - Department of Agriculture, Land and Environmental Affairs
  - Disaster Management
- **Technological Hazards:** This task team will evaluate the danger originating from technological or industrial accidents, dangerous procedures or certain human activities, which may cause the loss of life or injury, property damage, social and economic degradation. Examples include dam failure, road / rail / aircraft accidents and hazardous materials spills.

**Technical Task Team for Technological Hazards:**

- Technical Services
- Department of Water Affairs and Sanitation
- Department of Mineral Resources and Energy
- Mining Houses
- Traffic Control
- Transnet
- Shell Petrol Depot
- Transnet Pipeline
- Sasol Gas
- Afrox Gas
- Chemical Spillages Cleaning Companies
- Fire & Rescue Services
- Department of Transport
- Environmental Services

### **3.8 Disaster Management Ward Structures**

- These structures will be assisting in liaising and advising disaster risk management coordinators and advisory forum in all disaster risk management related matters.
- Mobilize volunteers
- Assist in conducting risk assessments
- These structures will also serve as information conduit
- These structures will assist during awareness campaigns
- Assist in alerting, alarming and early warning
- Incident supervision

### **3.9 Institutional Responsibilities**

The main ELM Stakeholders have specific responsibilities with regards to disaster prevention/risk elimination projects and disaster response scenarios.

The primary objective of each municipal stakeholder must be to contribute, from their specific areas of expertise, to the prevention of the occurrence of emergencies or disasters that threaten life, property, the environment or economic activity in the ELM in keeping with Chapter 5 and Section 52 of the Disaster Management Act.

#### **3.9.1 Executive Mayor**

The Executive Mayor is ultimately in charge of the emergency / (threatening) disaster. The Executive Mayor or Acting Executive Mayor, as Head of Council, is also responsible for:

- Declaring a state of disaster to exist.
- Notify the MEC of Local Government of the declaration of a local state of disaster and the termination of the declaration of a state of disaster.
- With the assistance of Municipal staff, ensure that the Municipal Councillors are advised of the declaration and termination of declaration of the state of disaster and are kept informed of the (potential) impact of the event(s).
- Ensuring that the public, the media and neighbouring municipal officials are also advised of both the declaration and termination of a state of disaster.

#### **3.9.2 Municipal Manager**

To ensure disaster prevention, risk reduction and disaster preparedness, the Municipal Manager must ensure that the disaster management function is executed in an effective and efficient manner in the area of the ELM.

Before, during and after emergencies or disasters it will be the responsibility of the municipal manager to personally, or through a designated official to:

- Compile and issue appropriate administrative instruction to to the Disaster Management Centre to exercise its powers and duties,
- Monitor compliance with relevant legislation, regulations, licenses, documenting information for potential compensation claims,
- Authorize any extraordinary expenditures (access to disaster funding and/ or any alternative emergency funding sources),
- Ensure that the Municipal Disaster Risk Management Plan form an integral part of the municipality's Integrated Development Plan (IDP),
- Ensures that hazard identification, disaster risk assessment and risk prevention and/or risk reduction /mitigation principles are applied for all development projects which are being undertaken,
- Monitor internal compliance by all Directorates with relevant risk management legislation and regulations,

- On request from DRMC constitute an emergency Executive Team to be briefed on imminent disaster or post disaster issues
- Report, liaise and consult with the Executive Mayor and external district, provincial and national government departments on emergency impact and response to the Mayor,
- Report on event impact and response to the councillor(s) for the affected area(s),
- Report on event impact and response to the remaining Councillors,
- Notify next of kin when a Municipality employee is injured, missing or killed,
- Authorize extraordinary expenditures,
- Identify persons/organizations to receive recognition for contributions to emergency response.

### 3.9.3 Head of Centre: Disaster Management

The Head of the Centre is appointed in terms of Section 45 of the Disaster Management Act and has responsibilities as outlined in section 45 of the said Act.

The Head is also responsible for the performance of the Centre with regards to its disaster management functions and to implement and co-ordinate the Disaster Management Act.

The Head is also responsible to ensure that disaster risk reduction institutional arrangements address all capability (skills) and capacity (resource) needs, which includes, but is not restricted to:

- a dedicated disaster risk management communication system,
- community based risk assessment at regular intervals,
- community based aspect specific skills enhancement,
- high risk hazard research through the advisory forum technical task teams,
- access to emergency supplies,
- exercise response and contingency plans,
- ensure “memoranda of understanding” and “mutual aid agreements” with neighbouring local government and private entities,
- identify available resources to be utilised for disaster risk management purposes and as required by the Municipality,
- maintaining a central registry of evacuees,
- initiate emergency area rehabilitation and reconstruction efforts with identified role-players,
- identifying persons/organisations to contribute to post-emergency debriefs and reports

## Chapter 4

### 4. RISK ASSESSMENT (KPA 2)

This guideline only identifies hazards, analyses the hazards identified in respect of the set criteria for the affected area, probability, frequency, predictability and magnitude and assigns priority hazard according to the analysis

Disaster risk assessment is the first step in planning an effective disaster risk reduction programme. A Disaster Risk Assessment examines the likelihood and outcomes of expected disaster events. This includes investigating the related hazards and conditions of vulnerability that increase the chance of loss.

#### 4.1 Types of Hazards

Natural Hazards
Hydro Meteorological Hazards
Hail storms

Erosion	Severe storms
Fire	Violent wind
Flood	Fog
<b>Biological Hazards</b>	
Epidemics (Covid19)	Measles
	Rabies (Animals)
Flu	Rabies
HIV/AIDS	TB
<b>Geological Hazards</b>	
Earthquake	Sinkholes
Landslides	
<b>Technological Hazards</b>	
Aircraft accidents	Rail accidents
Dam failure	Road accidents
Hazardous material by railway	
Hazardous material by road	
Industrial accidents	
<b>Environmental hazards</b>	
Air pollution	Soil contamination
	Water pollution
	Illegal dumping

## 4.2 Types of hazards within Emalahleni Local Municipality

4.2.1 The following priority hazards were found to pose the highest risks at Emalahleni Municipality and need to be addressed through risk reduction programs and preparedness plans:

<b>Hazards &gt;</b>	Flash floods/ Severe storms
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities</li> <li>• Buildings</li> <li>• Houses</li> <li>• Informal-settlements (Empumelelweni, Dark City, Thabo Mbeki &amp; Van Dyk Naaupoort near Witbank Dam)</li> <li>• Live stocks Crops</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Damage to property</li> <li>• Increases risks of diseases</li> <li>• Loss of income especially to stock and crop farmers</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Lack of storm water drainage system</li> <li>• Poor maintenance of infrastructure</li> <li>• Lack of squatter control</li> <li>• Poor planning</li> </ul>

<b>Hazards &gt;</b>	Fires (veldt)
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Grazing land</li> <li>• arable land</li> <li>• live stock</li> </ul>

	<ul style="list-style-type: none"> <li>• property(buildings)</li> <li>• human lives</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Damage to property</li> <li>• Increases risks of diseases</li> <li>• Loss of income especially to stock and crop farmers</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• lawlessness</li> <li>• poor preventative measures</li> </ul>

<b>Hazards &gt;</b>	Shack fires
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities at informal settlements (Empumelelweni, Santa Village, Spring Valley, Dark City Thabo Mbeki MNS &amp; Masakhane Old Coronation)</li> <li>• Human lives</li> <li>• Animals</li> <li>• Property</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Damage to property</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Lack of control on informal settlements</li> <li>• Leaving of candles unattended</li> <li>• Poor building materials</li> </ul>

<b>Hazards &gt;</b>	Strong Winds
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities informal settlements (Benicon, Green House, Kwa Magagulu farm, Empumelelweni, Benicon Informal settlement)</li> <li>• Property</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Damage to property</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> </ul>

<b>Hazards &gt;</b>	Road Accidents
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• road users</li> <li>• vehicles</li> <li>• roads</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Damage to property (vehicle)</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• human errors</li> <li>• mechanical errors</li> </ul>

<b>Hazards &gt;</b>	Epidemics / Pandemics (Corona Virus)
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• live stocks</li> <li>• communities especially in informal settlements</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of human lives</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• poor sanitation facilities</li> <li>• lack of adequate infrastructure</li> <li>• consumption of contaminated water</li> </ul>

<b>Hazards &gt;</b>	Rail accidents
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Human lives</li> <li>• Property</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of human lives</li> <li>• Damage to property</li> </ul>

<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Human error</li> <li>• Mechanical failure</li> </ul>
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<b>Hazards &gt;</b>	Major infrastructure failure
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities</li> <li>• Infrastructure</li> <li>• Business Dwelling structure</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of electrical power</li> <li>• Loss of communication</li> <li>• Loss of income</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Poor planning</li> <li>• Lack of monitoring and control</li> <li>• Lack of skills</li> </ul>

<b>Hazards &gt;</b>	Industrial fires
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Human lives</li> <li>• Property</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of human lives</li> <li>• Damage to property</li> <li>• Loss of income</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• human error</li> <li>• mechanical failure</li> </ul>

<b>Hazards &gt;</b>	Underground Fires
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• communities</li> <li>• infrastructure</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• loss of lives</li> <li>• damage to property</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• mining activities</li> </ul>

<b>Hazards &gt;</b>	Mist
<b>Element at risk &gt;</b>	<ul style="list-style-type: none"> <li>• Road Users</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• loss of lives</li> <li>• damage to property</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> </ul>

<b>Hazards &gt;</b>	Water Contamination
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• communities</li> <li>• ecosystem</li> <li>• environment</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• loss marine life</li> <li>• disease outbreak</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Human error</li> <li>• Spillages</li> </ul>

<b>Hazards &gt;</b>	Drought
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Farming community</li> <li>• Livestock</li> <li>• Crops</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of livelihood</li> <li>• Loss of crops</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> <li>• Climate change</li> </ul>

<b>Hazards &gt;</b>	Earthquake
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Infrastructure</li> <li>• Human lives</li> </ul>

	<ul style="list-style-type: none"> <li>• Environment</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Damage to property</li> <li>• Damage to infrastructure</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> </ul>

<b>Hazards &gt;</b>	Animal epidemic
<b>Element at risk &gt;</b>	<ul style="list-style-type: none"> <li>• Animals</li> <li>• Farming communities</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Disease outbreak</li> <li>• Loss of lives</li> <li>• Loss of livestock</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> </ul>

<b>Hazards &gt;</b>	Hazmat fixed facility
<b>Element at risk &gt;</b>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Surrounding communities</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Injuries</li> <li>• Loss of lives</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Human error</li> </ul>

<b>Hazards &gt;</b>	Extreme cold
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> <li>• Loss of livestock</li> <li>• Loss of crops</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Nature</li> <li>• Climate change</li> </ul>

<b>Hazards &gt;</b>	Service delivery protests
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Communities</li> <li>• Infrastructure</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Damage to property</li> <li>• Loss of income</li> <li>• violence</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Lack of service delivery</li> </ul>

<b>Hazards &gt;</b>	Load shedding
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• infrastructure</li> <li>• communities' businesses</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• loss of income</li> <li>• damage to infrastructure</li> <li>• damage to property</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Lack of adequate energy</li> </ul>

<b>Hazards &gt;</b>	Illegal mining
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Environment</li> <li>• Local economy</li> <li>• Surrounding communities</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Damage to environment</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Criminality</li> </ul>

<b>Hazards &gt;</b>	Illegal electricity connections
<b>Element at risk&gt;</b>	<ul style="list-style-type: none"> <li>• Infrastructure</li> <li>• Human lives</li> <li>• Properties</li> </ul>
<b>Effects &gt;</b>	<ul style="list-style-type: none"> <li>• Loss of lives</li> </ul>

	<ul style="list-style-type: none"> <li>• Loss of revenue by the municipality</li> <li>• Damage to infrastructure</li> </ul>
<b>Causes &gt;</b>	<ul style="list-style-type: none"> <li>• Criminality</li> </ul>

## 4.2.2 Provisional Hazard Assessment Findings

### 4.2.2.1 Macro Vulnerability Assessment

The macro vulnerability assessment considered the elements which are vulnerable due to the possible impact of a hazard on the indicated geographical areas. The table below contains a breakdown of the social, physical, economic, environmental and political /institutional vulnerability factors which contributes to the increase in disaster risks.

HAZARD	SOCIAL	PHYSICAL	ECONOMIC	ENVIRONMENTAL	POLITICAL / INSTITUTIONAL
<b>Fire (Shack)</b>	Lack of knowledge on Fire prevention  Unemployment  Child headed house-holds.  Domestic disputes.  Social behavior e.g. Substance abuse.  Lack of natural conservation. Need for self-preservation.	Building methods  Type of structures, use of combustible materials  Incorrect use of fuels for heating.  No access to fire protection/ equipment.  Lack of electricity services.  Shacks build too close to each other.  Displacement  Unsafe/old equipment  Unsafe practices e.g. Placement of cooking utensils.  Storage of bulk fuel used generally for heating close to shacks.  Incorrect farming techniques.	Poverty  Lack of Awareness and Education  Conflict between various classes in communities Lack of safety nets.	Settlement in the prone area. Weather conditions, seasonal factors e.g. Windy season, dry season etc.  Presence of high trees next to settlement especially alien vegetation.	Factors lighting  Inadequate development  Land redistribution  Political expectations  Inadequate planning  Exclusivity  Unchecked urbanization and urban spratol  Unchecked land invasion
<b>Veld Fires</b>	Lack of knowledge on Fire prevention	Absence of Fire breaks.	Uncontrolled fires might lead to burning of feedlots, loss of	Overgrowth of alien vegetation	Lack of information

	<p>Social behavior E.g. Smoking, unchecked open fires.</p> <p>Incorrect agricultural practices.</p> <p>Lack of access to early warning messages through IT/ Media.</p>	<p>Illegal dumping of combustible material</p> <p>Unavailability of fire protection equipment</p> <p>Grazing fields destroyed</p> <p>Fire breaks getting out of control</p>	<p>farming equipment, tools etc.</p>	<p>Maintenance of road reserves</p> <p>Negative impact on ozone layers</p> <p>Air and land pollution</p> <p>Wild animals attracted to suburbs in search of food/running from fires.</p> <p>Pest control problems</p> <p>Damage to sensitive environmental species</p>	<p>Influencing people to settle in specific arrears for political gain</p> <p>Insufficient resources to combat veld fires</p> <p>Unchecked land invasion</p>
<b>Flash Floods</b>		<p>Improper household drainage systems.</p> <p>Absence of storm water drainage systems.</p> <p>Soil type and structure.</p> <p>Unplanned development.</p> <p>Plane areas</p>	<p>Lack of Education</p> <p>Lack of safety nets</p> <p>Unavailability of budget for maintenance of storm water Management</p> <p>Lack of access to early warning messages through IT/Media</p>	<p>Improper management and or development In Wetlands</p> <p>Deforestation</p> <p>Seasonal factors</p>	<p>Poor development planning</p> <p>Poor storm water planning</p> <p>Poor maintenance of dam wall structures</p> <p>Maintenance of storm water systems</p>
<b>Hazmat</b>	<p>Social behavior. E.g. smoking in prohibited areas, drunk driving</p> <p>Non-compliance to legal requirements</p> <p>Continuous training for Hazmat workers</p>	<p>Storage facilities complaint with regulations, Location etc.</p> <p>Transporting vehicles comply with legislation</p>	<p>Clean up costs</p> <p>Maintenance of roads mainly used for HAZMAT transport</p> <p>Protective clothing provision and maintenance</p>	<p>Spillage impact</p> <p>Pollution</p> <p>Early warnings in place for extreme weather conditions</p> <p>Environmental impact assessment</p>	<p>Building regulations</p> <p>Enforcement of Legislation and regulations</p> <p>Keeping of Hazmat Registers</p> <p>Monitoring and planning of transport routes.</p>
<b>Special events</b>	<p>Risky social behavior</p> <p>Large gatherings</p> <p>Cultural clashes</p> <p>Lack of crowd control</p> <p>Substance abuse</p> <p>Unusual emotional states</p> <p>Types of events</p> <p>Crowd expectation</p> <p>VIP presence</p>	<p>Special location</p> <p>Venue capacity</p> <p>Permanent / temporary structures present</p> <p>Adequate facilities / amenities</p> <p>Security at adjacent premises</p> <p>Lack of knowledge of access and</p>	<p>Public entry fees</p> <p>Emergency resources and cost for standby</p>	<p>Extreme weather conditions</p> <p>Environmental analysis</p>	<p>Sufficient security</p> <p>Safety &amp; security regulations compliance.</p> <p>No disaster prevention plans.</p>

		evacuation routes			
<b>Critical system failure</b>	Bypass of meters / equipment  Illegal connections  Abuse of natural resources  Rage  Despondent council employees		Resources e.g. water outside restriction times		Safety and environmental regulations  Compliance to national and provincial regulations
<b>Transportation incidents</b>	Social behavior (tiredness, substance abuse)  Road rage  Crime e.g. Hijackings vandalism  Adhere to road regulations  Overloading of vehicles	Lack of clear road names / maps / signs  Poor road conditions  Poor vehicle condition  Lack of appropriate  Lighting at night / after hours  Overload vehicles  Unroad worthy vehicles  Lack of SOS communication assistance  Insufficient trained and effective council officials in incident management	Road maintenance  Emergency service, provision and costing  Policing costs  Safety nets 3 <sup>rd</sup> party insurance  Availability of alternative routes	Extreme weather conditions	License rewards  Enforcement of traffic regulations  Integrated infrastructure planning
<b>Building collapse</b>	Exceeding max people capacity  Vandalism  Crowd and spectator control  Terrorism	Building structure  Building maintenance  Location	Reconstruction costs  Insurance costs  Search and Rescue costs  Law suits	Environmental impact prior to development  Geological analysis prior to development (Soil analysis)  Early warning systems in place	Lack of compliance to building and safety regulations  Lack of Emergency planning

The below indicated risk assessment was undertaken by the Nkangala District Disaster Management Centre.

#### 4.3 Relative Risk Priorities

To ensure that all the parameters (Hazard Score; Vulnerability Score; Coping Capacity Score) required for calculating risk were equally weighted, all their respective scores were reclassified and rated from 1 to 3. **Calculate Relative Risk Priorities:** The following simple mathematical model was used to calculate the relative priorities of the risks to which the communities in each region are exposed.

$$\text{Relative Risk Priority Score} = \text{Hazard rating} \times \text{Vulnerability rating} / \text{Coping Capacity Score}$$

**Extremely High Risks** (*Relative Risk Priority  $\geq 7$* ): Should the relative risk priority of a particular hazard event impacting on a community be higher than or equal to 7, that community faces a potentially **destructive** risk with a high probability of occurrence, for which they are **unprepared**. This combination equates to an **extremely high risk** and is a disaster in the making. For these **extremely high risks** you must prepare **urgent risk reduction interventions**.

**High Risks** (*4.5  $\leq$  Relative Risk Priority  $< 7$* ): If the relative risk priority of a particular hazard event impacting on a community is between 4.5 and 7, the risks to which these communities are exposed are potentially destructive, but the community is modestly prepared for the hazard event occurrence. This combination equates to a **high risk** and you must prepare a combination of **risk reduction interventions** and **preparedness plans** for these risks.

**Tolerable Risks** (*2  $\leq$  Relative Risk Priority  $< 4.5$* ): Relative risk priorities of a particular hazard event impacting on a community between 2 and lower than 4.5 translate into an acceptable risk for a largely prepared community. This combination equates to a **tolerable risk** and you must prepare **preparedness plans** for these risks

**Low Risks** (*Relative Risk Priority  $< 2$* ): Relative risk priorities of a particular hazard event impacting on a community lower than 2 translate into a very small risk for a largely prepared community. This combination equates to a **low risk** and **any hazard preparedness plans** are sufficient for these risks

Hazard Type	Hazard			Vulnerability Indices					Managability										Risk	Priority
	Score: 3=Likely 2=Normal 1=Unlikely	Score: 3=Extreme 2=Moderate 1=Insignificant	Hazard Rating	Score:				Vulnerability Rating	Score: 1=Poor 2=Modest 3=Good								Managability Rating			
	1=Not Vulnerable 2=Vulnerable 3=Extremely Vulnerable				Resource	Training	Early Warning Systems		Response	Existing Risk Reduction	Municipal Management	Public Participation	Legislative Framework	Awareness						
	Societal	Economic		Environmental											Critical Facilities					
Illegal dumping	3	3	3.000	3	2	3	2	2.500	1	1	1	2	1	1	1	2	1	1.306	5.745	High
Roads Accidents	3	3	3.000	3	3	3	2	2.750	2	2	1	2	1	1	1	2	1	1.500	5.5	High
Mist	3	3	3.000	3	3	1	3	2.500	2	2	2	2	1	1	2	2	2	1.778	4.219	tolerable
Animal disease	3	3	3.000	3	3	3	3	3.000	3	3	3	3	3	3	1	3	1	2.556	3.522	tolerable
Hazmat	2	3	2.000	3	3	3	2	2.750	2	2	2	2	1	1	2	2	2	1.778	3.094	tolerable
Human disease	3	3	3.000	3	2	1	1	1.750	2	2	2	2	1	1	2	2	2	1.778	2.953	tolerable
Air pollution	3	2	2.000	2	2	2	1	1.750	1	1	1	2	1	2	2	2	3	1.639	2.136	tolerable
Railway Accidents	2	2	1.333	2	3	3	3	2.750	2	2	2	2	1	1	2	2	2	1.778	2.063	tolerable
Groundwater pollution	3	2	2.000	2	3	2	1	2.000	2	2	2	2	1	2	2	2	3	1.944	2.057	tolerable
River/Flash flood	3	2	2.000	2	2	1	2	1.750	2	2	2	2	1	1	2	2	2	1.778	1.969	low
Desertification	3	2	2.000	2	1	2	2	1.750	2	2	1	2	1	2	2	2	2	1.815	1.929	low
Deforestation	3	2	2.000	2	1	2	2	1.750	2	2	1	2	1	2	2	2	2	1.815	1.929	low
Endangered/Endemic species	3	2	2.000	2	1	2	2	1.750	2	2	1	2	1	2	2	2	2	1.815	1.929	low
Erosion/Land degradation	3	2	2.000	2	1	2	2	1.750	2	2	1	2	1	2	2	2	2	1.815	1.929	low
Dam failure	1	3	1.000	3	3	3	3	3.000	2	2	2	2	1	1	2	2	2	1.778	1.688	low
Water pollution	3	2	2.000	2	1	2	1	1.500	2	2	2	2	1	2	2	2	3	1.944	1.543	low
Veld fires	2	2	1.333	1	3	3	1	2.000	2	2	2	2	1	1	2	2	2	1.778	1.5	low
Earthquake/Ground Motion	1	3	1.000	2	2	2	3	2.250	2	2	2	2	1	1	2	2	2	1.778	1.266	low
Strong winds	2	2	1.333	2	2	1	1	1.500	2	2	2	2	1	1	2	2	2	1.778	1.125	low
Tornado	1	2	0.667	3	2	3	2	2.500	2	2	2	2	1	1	2	2	2	1.778	0.938	low
Water table flood	2	2	1.333	1	1	2	1	1.250	2	2	2	2	1	1	2	2	2	1.911	0.872	low
Drought	1	2	0.667	2	3	3	1	2.250	2	2	2	2	1	1	2	2	2	1.778	0.844	low
Sewerage/drainage	1	2	0.667	2	2	3	2	2.250	2	2	2	2	1	2	2	2	3	1.944	0.771	low
Severe storms	2	2	1.333	1	1	1	1	1.000	2	2	2	2	1	1	2	2	2	1.778	0.75	low
Sub-terranean fires	3	1	1.000	1	1	2	1	1.250	2	2	2	2	1	1	2	2	2	1.778	0.703	low
Cold Snap	2	1	0.667	2	1	1	1	1.250	2	2	2	2	1	1	2	2	2	1.778	0.463	low
Aircraft Accidents	1	2	0.667	1	1	1	2	1.250	2	2	2	2	1	1	2	2	2	1.778	0.463	low
Heat wave	1	1	0.333	2	1	1	1	1.250	2	2	2	2	1	1	2	2	2	1.778	0.234	low

## 4.2 Risk Profile for ELM

eMalahleni Local Municipality is located towards the south west of Nkangala District Municipality, between Victor Khanye and Steve Tshwete Local Municipalities. eMalahleni is one of two economic centres within the Nkangala DM. Most economic activities take place in the district's main town, eMalahleni. Illegal dumping, road accidents and mist were identified as the three highest risks in the municipality.

The illegal dumping is a common occurrence in the region and has severe secondary impacts on communities. Illegal dumping is a major problem as there exist no proper waste removal services due to a lack of resources, skills, local policy and by-laws, manageable landfill sites and transfer stations with littering being the norm within the communities. It contributes to the spread of disease, rodent infestation and the pollution of valuable natural resources such as surface and groundwater which is essential for the functioning of the community. Mpumalanga is the country's largest producer of hazardous waste with the Nkangala District being the centre for the mining and energy sectors. These industries along with agriculture sector and households contribute to the high levels of heavy metals and pollutants in watercourses and streams of the region which exacerbates the health of the already immuno-compromised communities. Refuse and debris also clog up watercourses and rivers which restrict water flow and exacerbate flood events.

The Mpumalanga province is located in a water stressed area with most of the water management areas in the region facing a water deficit, it is thus important to preserve the surface and groundwater of the area and tackle illegal dumping.

Road accidents were scored as the second highest risk in the area. Due to its central location and economic activities various major routes traverse the eMalahleni LM. Coal haulage by road contributes to the deterioration of the road infrastructure in the area. Some areas are so bad that coal trucks use longer alternative routes that exacerbate the poor road quality and the extent thereof. Poor road conditions together with high traffic flow contribute to high road accident risk.

Mist is one of priority risks within the municipality. It contributes to the high road accident rate in the region as well as the occurrence of respiratory diseases. Mist reduces the visibility on the roads, especially in congested traffic. This together with bad road conditions contributes to high road accidents. Traffic authorities need to close roads where the mist is too thick. This hazard is more prevalent during the early months of winter and it mostly affects areas that are near water streams or wetlands. The N4, N12, the Bethal Road, Old Middleburg road and Verena road are mostly affected by this hazard.

Due to several factors, amongst others, illegal electrical connections, aging infrastructure, vandalism, the municipality is faced with possible collapse of critical infrastructure like electrical substations. Various strategies are being looked at in trying to deal and manage the situation. This has resulted in an upsurge in the number of service delivery-related protests. These results in the damage to property and infrastructure.

### 4.3 Climate change

The gradual changes in atmospheric conditions that accompany global warming are affecting ecosystems and natural events. As a result, events that are potentially hazardous to humans, such as floods, storms, extreme temperatures and droughts will become more frequent and more intense in various parts of the world.

Climate change is a cross-boundary scientific reality that threatens the global community's shared carbon space. It poses a serious risk to ecosystems, food security, economic development, disaster management and the realization of sustainable development. The Municipality is thus responsible for incorporating mandates that deliver on both climate change and adaptation and mitigation measures into their respective policy frameworks, and to develop appropriate strategies for which they are legislatively responsible.

Climate change brings with it long-term shifts in mean weather conditions and the possibility of increasing frequency and severity of extreme weather events. Hence there should be a mounting concern about the impacts of disasters related to climate change. The focus of disaster management is to reduce the risk posed by actual and potential hazards. Climate change is a multifaceted (from drought to flood) and multidimensional (from local to global) hazard. It is intensifying the hazards that affect human livelihoods, settlements and infrastructure and weakens the resilience of livelihood systems in the face of increasing uncertainty and frequent disasters.

Climate-related disasters have increased in frequency and /or intensity as a result of climate change. The trend is already noticeable, with dramatic and continuing rise in number of small and medium- scale climate-related disasters.

There is a strong interrelationship between climate change adaptation and disaster risk reduction. One of the fundamental linkages between the two areas of activity is their shared objective to address vulnerability in communities affected by climate risk. The difference is that while disaster risk reduction has traditionally looked at risks that community know and are familiar with, climate change adaptation focuses more on future scenarios as projected by climate science. Climate change has a slow-onset consequence and needs a long-term, gradual and progressive adaptation whilst Natural hazards have sudden consequences which need a short term to medium-term approach for risk reduction. The ultimate result is human lives are protected; social, economic and environmental damage is permanently prevented or reduced.

Climate change adaptation can be implemented at any stage of the disaster continuum. Even immediately after disaster strikes, measures such as providing a protected and safe water supply can prevent the situation worsening.

During the recovery phase, the infrastructure can be repaired or rebuilt better and more able to withstand future climate related events. In anticipation of climate change, drought-tolerant plants and water harvesting can be introduced to reduce the impact of declining rainfall.

## **Chapter 5**

### **DISASTER RISK REDUCTION (KPA 3)**

#### **5.1 Disaster Risk Reduction Plans**

Disaster risk reduction involves focused activities to reduce vulnerability, increase capacity and resilience, and avoid or reduce hazards that may affect specific elements at risk.

#### **5.2 Risk reduction process**

The success of risk reduction efforts will rely heavily on the results of a thorough disaster risk assessment (hazard and vulnerability assessment). The completion of a detailed risk assessment is a prerequisite for this process. Community-based risk mapping and risk assessments can also provide valuable information to base risk reduction planning on.

Using the risk assessment, the first step in risk reduction will be to identify priority risks.

For each priority risk, the following process should be followed:

- Analyze the risk, through consultation if required
- Determine stakeholders who can influence the risk (hazard / vulnerability / capacity)
- Convene stakeholders meeting
- Determine primary and secondary responsibility on a consensus basis (this might already be in place – see Institutional Capacity chapter)
- Develop risk reduction strategy options in a participative manner
- Evaluate the developed risk reduction strategy options
- Decide on most viable risk reduction strategies and describe these in detailed project proposals.
- Submit project proposals to DDMAF.
- Upon project approval from the DDMAF, perform project initiation (if the project is within the mandate of the District it can be submitted to the IDP office at this stage for inclusion in the IDP process)
- Convene a project team
  - Appoint a project manager (from discipline with primary responsibility for the hazard, vulnerability or capacity)
  - Appoint an internal project facilitator / manager within the NDDMC
  - Confirm project team (Stakeholders)
  - Confirm project sponsor
  - Confirm project champion
- Perform project scoping:
  - Develop work breakdown structure
  - Determine milestones and objectives
  - Confirm critical path
  - Establish monitoring & evaluation mechanism
  - Determine budget required
- Project implementation
  - Implement, monitor & evaluate
  - Project review and change control
  - Project close-out

### 5.3 Risk reduction proposals for ELM

Risk reduction proposal for priority risks are listed in the table below:

#### 5.3.1 Risk Reduction Project Proposals: Fire

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Build fire stations
	2 Plan and provide for buffer zone between residential and vegetation areas
	3 Plan and provide access roads for fire trucks in informal settlements
	4 Plan to prevent Illegal electricity connections in informal settlements
	5 Plan fire services in line with new development needs
	6 Ensure that development of dwellings does not take place before adequate bulk services are provided
	7 Encourage and facilitate Integrated catchment management planning
Engineering Construction Measures &	8 Ensure compliance with fire regulations and by-laws
	9 Install fire alarms in buildings
	10 Plan and provide fire escape routes and doors
	11 Plan and provide fire breaks in high risk vegetation areas
	12 Provide suitable roads as evacuation routes in informal settlements
	13 Provide informal areas with fire-resistant materials
	14 Plan and develop fire early warning systems
	15 Provide additional fire hydrants
	16 Research and upgrading / improvement of firefighting equipment/ trucks/ hydrants
	17 Provide fire hydrants in informal settlements
	18 Install watch towers, fire breaks, fire extinguishers in forestry areas
	19 Improve the quality and provide appropriate of firefighting equipment at all levels

Risk Category	Reduction	Risk Reduction Project Proposals
	20	Ensure that fire hydrant water supply is sufficient in higher lying areas
Economic Measures	21	Provide for capital projects in municipal budget
	22	Provide funds for upgrading of fire equipment
	23	Fines for illegal electrical connections
	24	Implement program to decrease high risk housing
	25	Authorities to develop a project to make fire extinguishers more affordable for every household, as well as a means of making the maintenance thereof less expensive
	26	Rural areas property rebates for areas under conservation
	27	Action plans in place
	28	Reaction plan in place
	Management & Institutional Measures	29
30		Appoint / train appropriate staff
31		Conduct fire and evacuation drills
32		Ensure evacuation doors are unlocked
33		Running of programs for prevention of arson
34		Maintenance program for fire extinguishing equipment
35		Identify and procure appropriate equipment
36		Structured and sustained fire-prevention inspections
37		Cleaning of undergrowth around buildings
38		Train and deploy firefighting volunteers at fire stations and road works
39		Identifying high risk fire areas (hotspots)
40		Identify safer alternatives for cooking and lighting i.e. stoves, lamps etc.
41		Ensure correct storage of combustible materials

Risk Reduction Category	Risk Reduction Project Proposals
	42 Develop and implement maintenance programs of access routes in high risk fire areas
	43 Train and develop fire response teams
	44 Training at all levels to improve the implementation of incident command system as a standard operating procedure
	45 Develop a management policy for the sale of paraffin
	46 Establish and support Fire Protection Association
	47 Develop area fire management plans
	48 Refrain from using recycling cardboard containers for recycling of paper
	49 Revisit policy for evicting shack dweller
	50 Maintenance programme
Societal Measures	51 Develop fire evacuation procedures for commercial/industrial complexes
	52 Declare non-smoking areas
	53 Prohibit fires in high risk areas
	54 Conduct fire hazard awareness programs
	55 Conduct community awareness programs in communities
	56 Implement community-based programs for the proper care/maintenance of electrical equipment
	57 Include fire prevention education in school curriculum
	58 Include disaster risk management in school curriculum
	59 Implement fire education, fire risk awareness, recruitment of volunteer fire fighters, social responsibility, ownership system e.g. hydrants

### 5.3.2 Disaster Risk Project Proposals: HazMat Incidents

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Zoning for MHI's (Building codes)
	2 Proactive hazmat classification of installations

Risk Reduction Category	Risk Reduction Project Proposals	
	3 Proper planning into the placement of factories and plants	
	4 Manage development around MHI's	
	5 Limit population figures around MHI's	
	6 Enforcement and evaluation of risk assessment for major hazardous installations	
	7 Enforcement and evaluation of EIA's for MHI's	
	8 Enforcement of proper labeling of chemicals and poisons (labels)	
	9 Monitoring and restricting and managing routes for hazmat materials in transit (railways/roads)	
	10 Safe packaging and storage to prevention of leakage and seepage of hazmat and poisons	
	11 Specific parking areas for hazmat vehicles along the roadside	
	12 Increased hazmat capabilities allocated to areas on main routes where hazmat freight vehicle parking areas are to be found	
	Engineering Construction Measures &	13 Enforcement of Construction needs to be determined by type of particulates being used and stored
		14 Identification of Containment sites and measures
Economic Measures	15 Fines for non-compliance	
	16 Awards to compliant companies	
	17 Fines for not having correct signage when transporting hazmat	
	18 Fines for not having correct paperwork when transporting hazmat	
	19 Spiller pays fine structure for hazmat spillage, and enforcement thereof	
	20 Polluter pays	
Management Institutional Measures &	21 Local economic development, assistance to non-compliant small businesses to comply	
	22 Compliance with storage and handling specifications	
	23 Annual compliance certificate for hazmat/lpg coupled with an inspection, using of approved/certified service providers	
	24 Declaration of what is being transported, and enforcing escorts for high risk cargo	

Risk Reduction Category	Risk Reduction Project Proposals
	25 Informing of LM's what cargo is passing through it's boundaries, especially if alternate routes are used
	26 Regulation of overnight stops for trucks transporting hazmat
	27 Introduction of measures which regulate the times at which hazmat can be transported
	28 Spiller to use accredited/competent mop up teams
	29 Create capacity for regular site inspections
	30 Create capacity for regular Vehicle inspections
	31 Enforcing Registers of hazmat on the premises
	32 Increased monitoring by law enforcement (road/railway)
	33 Regular Training of rescue personnel and transport personnel (Drivers) in contact and handling of with hazmat
	34 Education campaign for local cellars and farmers who transport spirits as mixed loads.
	35 Identify and manage Nodal points of inspection ~ yard/ weighbridges/ destination
	36 Regulation of bulk sale of fuel
	37 Enforce Occupational Health and safety adherence
	38 Registration/compliance of all hazmat and hazardous material installations (databases)
	39 Identification and register of all MHI's / inspection and liaising per area.
	40 Enforcement of storage regulations
	41 Enforcement of AVCASA regulations for pesticides
	42 Shift from reactive to proactive measures
	43 Annual compliance certificate for hazmat/lpg coupled with an inspection, using of approved/certified service providers
	44 Effective communication of Hazmat / poisons requirements
	45 Operational plans/ and response teams that are trained and practiced at hazmat installation
	46 Training exercise to improve response management skills
	47 Address lack of capacity at times of detours when passing small poor towns (Resource skills distribution)

Risk Reduction Category	Risk Reduction Project Proposals
	48 Monitoring and accreditation and registration of cleanup teams and disposal sites, and a contact database
	49 Enforcement of NEMA Section 28 and 30
	50 Enforcement of spiller pays regulation of using approved service providers
	51 Simplified coding system for Hazmat
	52 Promoting Cooperative governance between organs of state responsible for control of hazardous materials
	53 Simplifying recognition system of cargos to effect quicker and correct response in case of incident
Societal Measures	54 Community/individual training
	55 Regular Awareness published in news papers
	56 Education of farm workers how to handle/store hazmat/ poisons/ protective clothing
	57 Information sessions on pesticide poisonings on farms / misuse / misapplication
	58 Notification of times of "in-line" dosage of pesticides and poisonings
	59 Early warning system for spills/exposures.
	60 Community based training/awareness

### 5.3.3 Disaster Risk Project Proposals: Flooding

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 The enforcement of Environmental Impact Assessment with all development projects (EIA)
	2 Plan for the Upgrading of existing infrastructure to cope with new developments.
	3 Identification and plotting of vacant high-risk flood areas for future reference and avoid human settlements in such areas
	4 Avoid development and settling of communities along rivers and within the flood line
	5 Apply and update Zoning regulations regularly
	6 Identify alternate suitable venues/facilities for emergency services
	7 Apply Low intensity land use in 1:100 flood line areas

Risk Reduction Category	Risk Reduction Project Proposals
	8 Study and understand the impact of climate change on development
	9 Signage
	10 Asset management
	11 Maintenance
Engineering Construction Measures &	12 Study EIA to inform construction and building measures
	13 Identifiable flood measuring and early warning systems
	14 Plan and Build retention dams to reduce risk of flooding
	15 Restore and maintain water catchment areas
	16 Build retaining walls to protect buildings
	17 Improve and upgrade storm water reticulation systems regularly
	18 Develop and maintain Early warning systems
	19 Develop and maintain sustained cleaning programs for rivers and dams
	20 Plan bigger capacity dams to regulate flow of water
	21 Implement programs and measures to prevent erosion
Economic Measures	22 Plan and erect Visible warning signs in low lying areas
	23 Provide for disaster relief funds
	24 Adequate provision for the for maintenance of storm water systems
Management Institutional Measures &	25 Farmers developing areas for agricultural use in flood prone areas should pay increases insurance on crops in those areas
	26 Plan for the support for affected communities
	27 Develop and maintain flood Emergency response teams
	28 Develop and supervise Maintenance programs
	29 Ensure that SOP for disasters are developed and maintained

Risk Reduction Category	Risk Reduction Project Proposals
	30 Facilitate Strategic planning of resources to cover all areas during emergencies
	31 Plan and ensure Strategic distribution of disaster management resources across area
	32 Ensure the provision of Emergency flood kits
	33 Mutual aid agreements to be established for relief and response
	34 More command centre vehicles
	35 Quality assessments
	36 Asset management
Societal Measures	37 Develop Awareness training and workshops in high risk areas
	38 Develop and inform communities of response actions to early warning systems
	39 Ensure Coordination and cooperation with NGO's
	40 Community awareness
	41 Early warning systems

### 5.3.4 Disaster Risk Project Proposals: Earthquake

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Identify earthquake prone areas/geological faults
	2 Development of suitable Building codes (enforcement thereof)
	3 Develop Zoning codes for high risk areas
	4 Limit development in high risk areas
Engineering Construction Measures &	5 Approval of single- story buildings in prone areas only
	6 Enforcement Area specific building methods/codes
	7 Design strong/earthquake resistant infrastructure/services

Risk Reduction Category	Risk Reduction Project Proposals
Economic Measures	8 Disaster relief funds from National Government
	9 Household insurance (act of God)
	10 MOU's with suppliers of emergency materials / supplies
	11 Incentives for compliance with building codes.
Management Institutional Measures &	12 Develop institutional capacity for management of incidents
	13 Good response support services (police, fire department etc.)
	14 Development of Good evacuation plans
	15 Plan for relocation of people in prone areas
	16 Development and training for Mass casualty response team
	17 Development and communication of Recovery plans and strategies
	18 Identify Effective communication systems other than cell phones or radios
	19 Investigate and plan for Air evacuation system
	20 Development and training of Search and rescue teams and strategies
	21 Identify mass care facilities outside possible affected areas
	22 Develop mass care strategy
	23 Develop strategy and process for public notification and to inform communities about the risk
	24 Develop Mutual aid agreements and MOU's for identified tasks
	25 Plan and develop strategies and procedures for Trauma counseling
26 Plan for emergency responder's management and care	
27 Strict enforcement of building codes in identified earthquake prone areas	

Risk Reduction Category	Risk Reduction Project Proposals
Societal Measures	28 Education on warning systems
	29 Awareness raising (how to act /react)
	30 Develop self-reliant communities/emergency preparedness
	31 Inclusion of programs in schools in earthquake prone areas

### 5.3.5 Disaster Risk Project Proposals: Infrastructure Failure

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Perform composite risk assessments prior to developing services.
	2 Research and development of alternative energy sources other than electricity e.g. generators
	3 Research of effective and correct waste removal and storage
	4 Development of standards and quality assurance of RDP houses
	5 Development and enforcement of min standards for service delivery
	6 Standardizing on a planning horizon at least 50 years
	7 Monitoring and responding to farmers altering river courses
	8 Planning of user -friendly public transport services
Engineering Construction Measures &	9 Applying min standards for all services
	10 Structured maintenance programs for service infrastructure
	11 Safe-guarding of essential service infrastructure

Risk Reduction Category	Risk Reduction Project Proposals
	12 Maintain the integrity of dams, dam walls etc.
	13 Proper assessment of building material and architectural plans
	14 Preventative maintenance and upgrading of equipment/facilities
Economic Measures	15 Fines for exceeding limits
	16 Improve ineffective systems lead to loss of revenue
	17 Fines for transgressions i.e. littering/dumping
	18 More effective road restrictions and toll fees should be implemented
	19 Corrupt service providers to be blacklisted
	20 More structured bulk service infrastructure contributions to be implemented
	21 Budgetary provision for sustained infrastructure maintenance to be made
Management & Institutional Measures	23 Buildings should have ISO 14001 accreditation in terms of water usage
	24 Mitigation/emergency measures/strategies should be in place in the event of sewage system failure
	25 Structured and sustained maintenance programs for service infrastructure
	26 Design and development of emergency measures in the event of service failure (Departmental emergency plans)
	27 Safe public transport systems to be implemented
	28 Design/upgrade bulk services before development
	29 Structured asset management with regards to infrastructure development and maintenance

Risk Reduction Category	Risk Reduction Project Proposals
	30 Emergency procedure development for all service disruptions
	31 Enforcement of Energy saving laws at all levels
	32 Defining and development of early warning system linked to management plan
	33 Monitoring of community responsibility w.r.t. feedback on structure service and quality
	34 Enforcing water conservation measures and/or by-laws
	35 Dedicated government supervision and quality assurance on all contracts
	36 Appointment of competent individuals to manage and monitor
Societal Measures	37 Ensure aid agreements and supplier agreements in case of specific infrastructure failure
	38 Community awareness in terms of water usage and economic use of services
	39 Transport management i.e. "lift clubs" to reduce road traffic
	40 Advocacy campaign i.t.o saving measures (electricity)
	41 Structured and sustained training and education (correct use of infrastructure)

### 5.3.6 Disaster Risk Project Proposals: Transport Incidents

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Plan alternative routes/road capacity required for increase in traffic
	2 Research and planning of safe sites for airports
	3 Research and planning of public transport safety measures
	4 Incorporate pedestrian safety into new developments

Risk Reduction Category	Risk Reduction Project Proposals
	5 Plan for increased, improved and effective infrastructure with regard to public transport
	6 Plan and ensure correct placement of railway crossings and pedestrian crossings
Engineering Construction Measures &	7 Planning and design of safe railway crossings
	8 Determining need and planning of pedestrian crossings
	9 Effective management of time delay in traffic lights change
	10 Make use of traffic circles to slow down traffic
	11 Construction of speed bumps in residential areas
	12 Setting standards and updating aviation standards
	13 Design and implement bicycle lane for cyclists
	14 More effective traffic light programming for peak and off-peak times
	15 Enforce exhaust emissions standards
	16 Plan for effective bus lanes as well as heavy vehicle lanes on major routes
Economic Measures	17 Ensure constant maintenance of all transport infrastructure
	18 Decrease in public transport travelling cost to promote public transport and decrease road traffic
	19 More effective management and processing of fines for all traffic offenders
	20 Introduce cost effective and time effective rail transport for commuters and freight to reduce road transport
	21 Design and implement Points demerit system for transgressors

Risk Reduction Category	Risk Reduction Project Proposals
Management Institutional Measures &	22 Identification and enforcement of alternate route for heavy duty vehicles
	23 Develop good institutional capacity and programs to promote transport safety
	24 Develop good infrastructure and capacity to facilitate effective law enforcement
	25 Capacity and structured audits for licensing
	26 Train and implement more scholar patrols
	27 Promote use of reflective bands for children
	28 Implement capacity to manage register for traffic offenders
	29 More advanced and affordable skills development programs for professional drivers
	30 More structured and vigilant testing/monitoring of licensed drivers and vehicles
	31 Use accredited contractors and building materials for road construction
	32 Enforcement of clear road signs/warnings and markings during construction periods
	33 Implement and manage structured general road maintenance programs
	34 Implement restriction measures to control heavy vehicles' times and routes
	35 Design and implement traffic management plans
36 Learner license and driver training programs in schools for development of young responsible drivers	
37 Develop a system whereby intoxicated pedestrians are effectively removed from busy roadways and prosecuted	
38 Permit system	

Risk Reduction Category	Risk Reduction Project Proposals
Societal Measures	39 Discourage aggression/ road-rage
	40 Promote alternative transport
	41 Structured education on road safety
	42 Structured program to increase awareness of pedestrians

### 5.3.7 Disaster Risk Project Proposals: Illegal dumping

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Develop the Integrated waste management plan
	2 Plan, construct and management waste management facilities
	3 Plan easily accessible public drop-off facilities and transfer stations
Engineering & Construction Measures	4 Build and maintain solid waste management facilities
	5 Erect signage at illegal dumping hotspots
	6 Provide refuse bins or skips at hotspots or at alternative easily accessible sites, inform communities
	7 Block access to illegal dumping areas
Economic Measures	8 Encourage waste recycling for money
	9 Establish waste recycling drop-off points or mobile recycling collection vehicles where community members and informal recyclable waste collectors can drop off recyclable waste and receive payment.
	10 Establish and enforce fines for illegal dumping
	11 Ensure that perpetrators rehabilitate the illegal dumping sites
Management & Institutional Measures	12 Law enforcement and investigation of illegal dumping
	13 Ensure awareness of fines

Risk Reduction Category	Risk Reduction Project Proposals
	14 Improve refuse removal services
	15 Identify illegal dumping hotspots, waste origins and main perpetrators
	16 Establish illegal dumping task team to focus on the problem for a defined period of time
	17 Provide ad-hoc solid waste removal service and encourage public and commercial use of the service for instances when large amounts of refuse is generated outside normal collection times
	18 Establish illegal dumping “hotline” for public to report dumping
Societal Measures	19 Raise public awareness of dangers of illegal dumping
	20 Awareness: Link illegal dumping with pollution, climate change and spreading of disease
	21 Awareness: Link illegal dumping with storm water blockage and flooding
	22 Encourage awareness and adoption of waste minimization, recycling and re-use
	23 Encourage communities to identify illegal dumping hotspots
	24 Organize clean-up days, where local authority joins community in rehabilitating prioritized illegal dumping hot-spots
	25 Competition among schools to limit littering in their surrounding areas / access roads
	26 Anti-littering campaign
	27 Education on public and community health impacts of littering and illegal dumping
	28 Encourage community pride in clean neighborhoods

### 5.3.8 Disaster Risk Project Proposals: Storms / Severe Weather and Climate change

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Enforcing of building codes to ensure buildings can withstand severe weather prevalent in area
	2 Considering weather conditions and storm / severe weather occurrence in development planning, zoning and land-use management.

Risk Reduction Category	Risk Reduction Project Proposals
	3 Identification and plotting of vacant high-risk areas for future reference to avoid human settlements in such areas
	4 Retro-fitting of vulnerable buildings to ensure resilience to storm, severe weather as result of climate change.
	5 Implement storm attenuation measures such as windbreaks in high risk areas.
	6 Identify alternate suitable venues/facilities for emergency services
	7 Develop the Emalahleni Climate change response plan
	8 Mainstream climate change issues into the IDP
Engineering Construction Measures &	9 Develop and maintain severe weather early warning systems and climatic patterns.
	10 Lightning conductors on roofs in high risk areas
	11 Implement robust construction methods according to building codes and known severe weather occurrence
	12 Provide robust community facilities that are less vulnerable to severe weather and can be used as temporary emergency shelter
	13 Ensure known severe weather occurrences are considered in all municipal infrastructure construction projects
Economic Measures	14 Pro-active maintenance
	15 Adequate provision for the maintenance buildings to reduce vulnerability to severe weather
	16 Procure insurance on important infrastructure that can be damaged by severe weather
	17 Institute and enforce fines or other punitive measures for non-adherence to building codes
Management Institutional Measures &	18 Plan for the support of affected communities
	19 Develop and maintain storm damage and search & rescue emergency response teams
	20 Develop and implement preventative maintenance programs
	21 Ensure that standard operating procedures for disasters are developed and maintained
	22 Facilitate strategic planning of resources to cover all areas during emergencies
	23 Plan and ensure strategic distribution of disaster management resources across area
	24 Educate building inspectors and infrastructure maintenance teams on known severe weather threats

Risk Reduction Category	Risk Reduction Project Proposals	
	25	Mutual aid agreements to be established for relief and response
	26	Ensure availability of mobile command vehicles
	27	Identifying hotspots / high risk areas – develop database of severe weather events and damage / impact experienced.
Societal Measures	28	Develop Awareness training and workshops in high risk areas
	29	Develop and inform communities of response actions to early warning systems
	30	Ensure Coordination and cooperation with NGO's
	31	Community awareness
	32	Collect community-based information on past severe weather events and make publicly available for school and research projects.

#### 5.4 Identification of critical facilities

The general goal of disaster management is to promote safety during a disaster. Certain public and private facilities are crucial to this goal, which cannot be achieved if these facilities are destroyed. They include schools, churches, clinics, community halls, and public buildings appropriate for supporting disaster affected populations.

#### 5.5 Community Halls

Location	Contact person	Contact numbers
Lynnville	Ms Anna Mazibuko	079 399 5370
Klarinet Ext 3	Ms L Nzimande	079 707 3143
Klarinet Ext 6	Mrs N Nhleko	076 500 3085
Hlalanikahle	Mr P Nyundu	072 591 5519
Thubelihle Hall	Mr S Moroane	076 858 2649
GaNala Community Hall	Ms N Ngobesilo	072 067 2206
Phola Community Centre	Ms A Mazibuko	079 399 5370
Kwa Guqa Ext 11 Community Hall	Ms M Mokoena	076 222 7714
Sinqobile Community Hall	Ms N Mahlangu	072 806 7386
Civic Centre	Mr G Serame	079 689 1108

Clewer Community Hall	Malindi Shabangu	071 224 2663
Empumelelweni Community Hall	Ms Masechaba Mokoena	076 222 7714

## 5.6 Clinics

Location	Contact person	Office numbers	Cell Phone numbers
Lynnville Clinic	SR Zandile Mnguni	013 696 5003	071 633 7975
Klipfontein Clinic	SR Matshidiso Motepe	013 692 0763	073 564 1163
Empumelelweni CHC	SR Danisile Mashego	013 695 8900	074 899 0236
Louis Clinic	SR Xaba	013 653 5694	084 880 5422
Hlalanikahle Clinic	SR Pinky Mahlalelsa	013 698 2004	071 367 1083
Ogies Clinic	SR Thoko Motau	013 643 1359	073 546 4381
Phola CHC	SR Lindiwe Masango	013 645 0112	082 443 9678
Poly Clinic	SR Masilela	013 696 3402	071 879 9014
Beaty Clinic	SR G Mohloana	013 690 2201	081 797 1119
Kriel Clinic	SR Helen Phasha	017 648 6258	073 678 4397
Ackerville Clinic	SR Rachel Mokgoatsana	013 696 5004	072 227 1406
Thubelihle CHC	SR Thami Motha	017 648 6902	082 300 3757
Rietspruit Clinic	SR Carol Khumalo	013 688 6412	082 754 6983
Siphosensimbi CHC	SR Nkosi	013 698 3001	082 823 7894
Vosman Clinic	SR Mabogoane	083 697 9988	083 697 9988

## 5.5.2 Hospitals

Name	Contact person	Contact numbers	Address
Witbank	Control room	013 656 2000/ 013 656 2111	Mandela street
Impungwe	Control room	013 685 5121	Bethal road
EPH	Control room	013 655 3000	Mandela Street

Life Cosmos	Control room	013 653 8144	Beaty & O.R Tambo
Hiveld hospital (Anglo)	Dr Jan Pienaar	013 656 9501	Greenside colliery
Eye Hospital	Reception	013 658 4000	1,3 Lana Street

### 5.5.3 SAPS

Name	Contact person	Contact numbers
Vosman	Charge office	013 698 7132/3
Witbank	Charge office	013 655 5000/10111
Ogies	Charge office	013 648 2266
Blink pan	Charge office	013 295 3162

### 5.5.4 Ambulance Services

Name	Contact person	Contact numbers
Provincial ambulances	Ms Nomusa	066 202 2037
Provincial Ambulance	Control room	10177
ER 24	Control room	084 124
Langamed	Dino Padeyaache	072 344 2344
Net Care	Control room	082 911
JD Med	Control room	079 235 0134
Legacy	Control room	061 996 0911
Care Well	Control room	084 700 4442
Igagu Ambulance	Control room	013 007 1367
Bophelo Ambulance	Control room	079 235 0134

## **Chapter 6**

### **6. DISASTER RESPONSE AND RECOVERY (KPA: 4)**

The objective of this KPA is to ensure integrated and coordinated policy that focuses on rapid and effective response to disasters and post –disaster recovery and rehabilitation. When a significant event or disaster occurs or is threatening to occur, it is imperative that there should be no confusion as to the roles and responsibilities and the procedures to be followed. This KPA requires the Municipality:

- To ensure that planning for disaster response and recovery as well as for rehabilitation and reconstruction is consolidated;
- To implement a uniform approach to the dissemination of early warnings
- To avert or reduce the potential impact in respect of personal injury, health, loss of life, property, infrastructure, environments and government services
- To implement immediate integrated and appropriate response and relief measures when significant events or disasters occur or are threatening to occur
- To implement all rehabilitation and reconstruction strategies following a disaster in an integrated and developmental manner

The different roles and responsibilities of stakeholders during a disaster need to be affected in a coordinated manner to minimize the duplication of resources and ensure optimal effectiveness.

#### **6.1 Preparedness Plans (Annexure G)**

Preparedness Plans are attached as annexure G

#### **6.2 EARLY WARNING SYSTEMS AND PLANS**

Early warning within disaster management has been described as the critical “hinged factor” in disaster management. It provides the vital link between preparedness measures and response action. The early warning systems and its associated procedures must be clearly defined and recorded down in plans, standard operational procedures and all other relevant documents. The warning system must be known to and understood by all key officials, the general public and all relevant parties.

When a disaster disastrous event occurs, or is threatening to occur in the area of the municipality, on receipt of an activation alert from the Head of the DRMC (or designate), the following procedure (trigger mechanism) will be followed on the two scenarios:

- Where Early Warning alerts/ signals are available
- Where Disaster occurs without any early warning

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.

Intended recipients of warning possess the means to receive warning and be able to take relevant action, promptly. All facilities arrangements to be utilized subsequent to the warning (e.g. evacuation arrangements, shelters, safe havens, etc) must be in an appropriate state of readiness to react to warning.

Arrangements for activation and mobilization of resources must be in place and in order to make maximum possible use of any warning period. All plans and arrangements for disaster response must make provision for no-warning situations (e.g. for an earthquake or volcanic eruptions where prior indicators did not occur). The development of an early warning system is important to prevent or mitigate the effects of a potential disaster.

- Format of warning information

If precautionary measures are to be effectively applied, they depend significantly on the ability of people, especially the general public to understand what the warning information means. In other words, warning need to be disseminated in simple, understandable terms, on which people can take action.

- Communication channels
  - National and Local radio stations
  - Pamphlets
  - Local, regional and national news paper
  - Word of mouth
  - Community forums
  - Bulk SMS'
  - Social media (Facebook page)

### **6.3 Command and Control**

Command and Control during actions will be as contained in the mobilization chart.

After declaring the disaster, a Joint Operation Centre (JOC) should be established and take charge of control and command. If the disaster is of a criminal nature, the command and control will be handed to the responsible person of the SAPS as soon as they arrive on scene.

All managers will command and control their respective departments, equipment and supplies. All requests for assistance will be issued from the Joint Operation Centre (JOC).

The role players will send a detailed situation report of the disaster scene to the JOC as soon as possible and every half hour thereafter. Drawings of the disaster scene will be kept at and updated by both the JOC and First Aid Care Post.

The Manager for Emergency and Disaster Management will monitor all radio reports and requests and issue the necessary commands from the Joint Operational Centre (JOC).

All radio reports must be recorded and instructions and requests must be logged by the Joint Operation Centre.

If a disaster leads to injuries or casualties, the Head of Medical Services must notify the Superintendent of Hospitals. The Chief of Ambulance Services must immediately effect a communication to the Joint Operational Centre.

## **6.4 JOINT OPERATIONS CENTRE (JOC)**

### **6.4.1 The role of Joint Operations Centre (JOC)**

Section 51 (a) of the Disaster Management Act stipulates that the Council of the district municipality has primary responsibility for the co-ordination and management of local disasters that may occur in its area.

The objective is 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 to personal injury, health, loss of life, property, environment and government services;
- Implementing immediate integrated 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

The Head of the Disaster Risk Management Centre shall be the focal point in the command and control for disaster response in accordance with all relevant policies and guidelines. Depending on the nature of disaster and response he will be Incident Command of the Joint Operations Centre (JOC) himself or delegate the responsibility to some other officer as he may deem fit.

All relevant Managers of departments involved in response and relief will report to the Disaster Risk Management Centre and work in accordance with their respective Standard Operating Procedures (SOPs).

The JOC's main operational role is to establish a platform to manage incident related information in support of the Executive Management Team of the Municipality, established to direct a multi-disciplinary response to a major emergency/disaster.

### **6.4.2 PROCEDURE TO ACTIVATE THE JOINT OPERATIONS CENTRE (JOC)**

When a disastrous event occurs, or threatens to occur in the area of the municipality, on receipt of an activation alert from the Head of the Disaster Risk Management Centre (or designate), the following trigger mechanisms) will be followed depending on the two scenarios:

- Where Early Warning alerts/signals are available
- Where Disaster occurs without any early warning

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

#### **6.4.2.1. Where Early Warning alerts/signals are available**

- The National and Provincial Disaster Centre have been designated for generating/forecasting of events of natural disasters. Onset of disasters shall be indicated through forecasting by these Centre in respect of their respective hazards to the hazards to the Municipality's DRMCC.
- SAWS and the Council of Geoscience based on their forecasts shall be responsible to issue Watch, Alerts and Warnings to DRMCC.

- Industrial and business sector shall be responsible to issue their alerts and warnings to the DRMCC.
- First and foremost, task shall be informing the community likely to be evacuated by the disaster through a warning system and if necessary undertake evacuation. There shall be only one responsible agency/officer designated and authorized to issue warning in respect of a disaster to avoid miscommunication.
- Dissemination of warnings to common people shall be followed-up by subsequent warnings and de-warning in order to keep the people informed of the latest situation.
- Warning messages shall be user friendly. The warning protocols shall be designed in simple and local languages easily understandable by the public.
- JOC shall activate available manpower and resources of relevant functionaries.
- The JOC may order pro-active measures of evacuation. A comprehensive Standing Order, listing all necessary pro-active measures based on the warning, will be prepared by the JOC.

#### **6.4.2.2. Where Disaster occurs without early warning**

In disaster situations where no early warning signal is available, the primary objective from the DRMC shall be to dispatch immediate rescue and relief operations and set the process in as quick as possible. The following procedure shall be followed in such situations:

- The first field functionary at the scene shall inform the DRMC of the incident
- An Emergency Operating Centre (EOC) in close proximity of the scene shall be fully activated for managing the incident
- Information, warnings to the community will be executed by the Communications unit within the ambit of the Communications plan
- The EOC shall inform the DRMC on the severity, impact of the occurrence and seeks assistance if required.
- Depending on the EOC information relating to possible coping constraints the DRMC will activate the JOC and may activate measures for evacuation.
- JOC shall activate and deploy the response teams
- Team for rapid assessment of damage shall be deployed
- JOC shall inform Executive Management and Provincial DRMC
- The EOC will be the only communication center to the JOC on issues relating to the incident
- Depending on the severity and impact the PDMC shall inform the NDRMC
- JOC shall review the situation and activate coordination, command and control. Shall ensure proper and efficient recovery and rehabilitation processes are implemented
- The DOC will, depending on the severity and impact of the incident, motivate to the EMT the declaration of a local state of disaster. EMT after consideration, will recommend the declaration to the EMT or will decline the motivation

#### **6.4.2.3. 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 forecast, staple food quality, water irrigation and livestock;
- Department of Health – epidemics and disease;
- Council of Geoscience – earthquakes

### **6.5. Disaster Assessment**

On-site assessment includes the establishing what resources are necessary to ensure the delivery of immediate, effective and appropriate response and relief measures to the affected areas and communities and to facilitate business continuity.

### 6.6. Relief measures

Relief operations following significant incidents and/or events classified as disasters will be coordinated. Relief assistance by the Municipality or facilitated through NGOs and donations will be equitably distributed.

### 6.7. Rehabilitation and Reconstruction

Post-disaster recovery and rehabilitation operations, which may include reconstruction or redevelopment efforts, will normally take the nature of special programmes and projects.

The Disaster Risk Management Centre will assist with the identification of needs and will facilitate recovery and rehabilitation operations. The function or department with the most direct involvement in the operation will take responsibility for project management and delivery.

The causal factors of disasters must be addressed and disaster prevention through risk elimination should be pursued in the rehabilitation, reconstruction or redevelopment efforts in order to avoid the repetition of the disaster.

## Chapter 7

### 7 ROLES AND RESPONSIBILITIES

#### 7.1 Directorate: Development Planning

PRIMARY ROLES	SECONDARY ROLES
<ul style="list-style-type: none"> <li>• Re-alignment of town planning and building by-laws (in terms of Disaster Management Framework, KPA 3: Disaster risk reduction) if not adequately addressing disaster management needs</li> <li>• Ensure that all new planning applications have considered possible impact(s) on disaster management planning in the area and that an environmental impact study specifically addressing disaster management issues, has been undertaken.</li> <li>• Make available land for temporary allocation of people affected by disasters (i.e. emergency housing)</li> <li>• Compile disaster management plans that will enhance risk reduction and effective disaster</li> <li>• Provide inspections to affected buildings during and after disasters</li> </ul>	

#### 7.2 Directorate: Community Services

DEPARTMENT	PRIMARY ROLES	SECONDARY ROLES
<b>TRAFFIC &amp; LAW ENFORCEMENT</b>	<ul style="list-style-type: none"> <li>• Compile disaster management plans that will enhance risk reduction and effective disaster response</li> <li>• Coordinate all traffic controls during and after a disaster incident</li> <li>• Determine major intersections that will require point duty during major power failures</li> <li>• Determine alternative routes during major blockages of existing one</li> <li>• Establish road blocks</li> <li>• Establish vehicle park (vehicle assembly point)</li> <li>• Provide protection services at municipal buildings and sites</li> <li>• Assist with access control to dangerous areas</li> <li>• Crowd control</li> </ul>	<ul style="list-style-type: none"> <li>• Assist in the evacuation during disaster</li> </ul>
<b>DISASTER MANAGEMENT, FIRE &amp; RESCUE SERVICES</b>	<ul style="list-style-type: none"> <li>• Compile disaster management plans that will enhance risk reduction and effective disaster response;</li> <li>• Coordinate disaster management activities</li> <li>• Provide fire and rescue services</li> <li>• Provide a 24hours control room</li> <li>• Lead during the evacuation</li> <li>• Coordination of the provision of relief material</li> <li>• Attending to hazardous chemical spills</li> </ul>	<ul style="list-style-type: none"> <li>• Liaise with the Department of Social Development for counselling</li> </ul>
<b>LICENSING AND PUBLIC TRANSPORT</b>	<ul style="list-style-type: none"> <li>• Provide information on owners of vehicles involved during the Disaster</li> <li>• Assist Traffic and SAPS on the owners and Dealerships where vehicles were purchased</li> </ul>	
<b>ARTS, SPORTS AND CULTURE; LIBRARY, SOCIAL SERVICES</b>	<ul style="list-style-type: none"> <li>• Make available temporary shelters (community halls)</li> <li>• Arrange for counselling services</li> <li>• Facilitate the use of libraries as distribution points for material intended for community awareness and preparedness</li> </ul>	

### 7.3. Directorate: Finance

DEPARTMENT	PRIMARY ROLES	SECONDARY ROLES
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<b>EXPENDITURE</b>	<ul style="list-style-type: none"> <li>• Ensure that all departments provide for disaster management budgeting in terms of IDP processes and projects and according to legislative requirements</li> <li>• Monitors and reports on the expenditure in capital and operating votes for disaster management purposes</li> <li>• Monitor expenditure from donations received for disaster management purposes</li> <li>• Receive and administer items donated for disaster management use</li> <li>• Requisition and monitor usage of any grants received from other levels of government</li> </ul>	

#### 7.4. Directorate: Corporate Services

DEPARTMENT	PRIMARY ROLES	SECONDARY ROLES
<b>CORPORATE SERVICES</b>	<ul style="list-style-type: none"> <li>• Incorporating disaster management reports into agendas of council committee structures.</li> <li>• Development of marketing material and strategies to promote disaster management amongst communities and within the private sector, in conjunction with disaster management.</li> <li>• Finalize draft received and publish by-laws, or issue directions for disaster management in terms of legislation (section 55 (2) of the Disaster Management Act; Act 53 of 2002)</li> <li>• Process and have gazetted, the declaration of a local declared disaster in terms of section 55(1) of the Disaster Management Act</li> <li>• Attend to legal matters arising from any possible claims against the municipality arising from a locally declared disaster or other major adverse event.</li> <li>• Ensure that disaster management is included in the department's IDP process in</li> </ul>	

	terms of section 26(g) of the Municipal Systems Act	
<b>HUMAN RESOURCES</b>	<ul style="list-style-type: none"> <li>• Ensure that disaster management is included in the department's IDP process in terms of section 26(g) of the Municipal Systems Act</li> <li>• Incorporate disaster management as part of induction training for new employees of Emalahleni Local municipality.</li> <li>• Maintain records of volunteers recruited in terms of chapter 7 and section 44(1)(h) of the Disaster Management Act, as well as the Volunteer Regulations promulgated in terms of the Act.</li> <li>• Maintaining records of additional skills of municipal employees that may be useful for disaster management.</li> </ul>	
<b>COMMUNICATIONS</b>	<ul style="list-style-type: none"> <li>• Responsible for arranging and coordinating media liaison during proactive and reactive disaster management media liaison sessions.</li> <li>• Responsible for monitoring media coverage and providing feedback on disaster management matters, as pertaining to Emalahleni municipal area.</li> </ul>	
<b>INFORMATION AND COMMUNICATION TECHNOLOGY</b>	<ul style="list-style-type: none"> <li>• Ensure that disaster management is included in the departments IDP process in terms of section 26(g) of the Municipal Systems Act</li> <li>• Responsible for ensuring that ICT infrastructure and systems allow for the capturing of data necessary for the implementation of disaster management, as applicable to all services operating within the municipality. This service is necessary in order to comply with sections 44(1) (c) and 53 of the Disaster Management Act.</li> <li>• Ensuring that back-up disaster management data for all services is regularly updated and secured.</li> <li>• Maintain GIS in conjunction with other departments</li> <li>• for the implementation of disaster management plans or disaster response/relief measures</li> </ul>	<ul style="list-style-type: none"> <li>• Assisting with the acquisition of (temporary) suitable hardware urgently required</li> </ul>

## 7.5. Directorate: Environmental and Waste Services

<b>ENVIRONMENTAL &amp; SOLID WASTE MANAGEMENT</b>	<ul style="list-style-type: none"> <li>• Compile disaster management plans that will enhance risk reduction and effective response, relevant to solid waste.</li> <li>• Ensure that disaster management is included in the departments IDP process in terms of section 26(g) of the Municipal Systems Act</li> <li>• Coordinate refuse removal during extraordinary adverse events.</li> <li>• Identification of suitable temporary refuse sites for communities to use during a crisis.</li> <li>• Provide skips for refuse at predetermined sites during major disruptions of service.</li> <li>• Community awareness information on disposal of refuse during a major disruption in service, for inclusion in leaflets for distribution as part of a disaster management project.</li> <li>• Disposal of dead animals</li> <li>• Development and implement the Air quality management plan</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinate the development of the ELM Climate change response plan</li> </ul>
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**7.6. Directorate: Technical Services**

DEPARTMENT	PRIMARY ROLES	SECONDARY ROLES
<b>WATER WORKS</b>	<u>WATER</u> <ul style="list-style-type: none"> <li>• Provide a safe supply of water of specified quality to meet the needs of the community.</li> <li>• During major disruptions in water supply to prioritize restoration of services.</li> <li>• During major prolonged disruption in water supply, to arrange for the distribution of potable water at pre-determined watering points.</li> <li>• Training and educating of communities in safe water usage</li> </ul>	<u>WATER</u> <ul style="list-style-type: none"> <li>• Provide manpower and equipment for labor intensive tasks to other municipal departments requiring assistance due to the nature of events.</li> </ul>

	<ul style="list-style-type: none"> <li>• Manage water levels at dams for flood control purposes in terms of relevant legislation.</li> <li>• Coordinate functionality of fire hydrants</li> </ul> <p><u>SANITATION</u></p> <ul style="list-style-type: none"> <li>• To restore waste water services during a major disruption, in accordance with determined priorities.</li> <li>• To control and disinfect major waste water spillage in order to limit possible health hazards developing.</li> <li>• Removal of toxic material from the waste water system.</li> <li>• To promote awareness on the potential dangers of waste water during major disruptions</li> <li>• To timely highlight possible problem areas with (new/extended) waste water systems for proposed development projects as part of the disaster management assessment process.</li> </ul> <p><u>ROADS</u></p> <ul style="list-style-type: none"> <li>• After a disaster, ensuring that any damaged road surfaces are repaired in accordance with priorities allocated and where necessary determines alternative routes.</li> <li>•</li> </ul>	<p><u>SANITATION</u></p> <ul style="list-style-type: none"> <li>• Provision of (limited) construction equipment (outsourced)</li> <li>• Assist in securing temporary sanitation facilities where needed during a crisis</li> </ul>
<p><b>ELECTRICAL ENGINEERING</b></p>	<ul style="list-style-type: none"> <li>• Recommend priority restoration of power supply during a major disruption. (operating regulations for high voltage systems)</li> <li>• Ensure that disaster management is included in the departments IDP process in terms of section 26(g) of the Municipal Systems Act*</li> <li>• Compile disaster management plans that will enhance risk reduction and effective response, relevant to the safe provision of electricity supply. *</li> </ul>	<ul style="list-style-type: none"> <li>• Assist other municipal services with specialized vehicles such as aerial platforms, light mobile crane and trench digger, should this be required due to the nature of events.</li> </ul>

	<ul style="list-style-type: none"> <li>• Making safe of (exposed or dangerous) power lines and distribution points, should they have been damaged during a disaster.</li> <li>• Provide guidelines on awareness of communities in the safe usage of electricity and how to improvise during prolonged disruptions.</li> <li>• To timely highlight possible problems that may be encountered, with electricity supply to new developmental projects as part of the disaster management assessment process.</li> </ul>	
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## Chapter 8

### 8. PROCESS FOR THE CLASSIFICATION AND DECLARATION OF A LOCAL STATE OF DISASTER

In an event of a local disaster, the council of the municipality having primary responsibility for the co-ordination and management of the disaster may, by notice in the provincial gazette, declare a local state of disaster if-

- a) existing legislation and contingency arrangements do not adequately provide for the local executive to deal effectively with the disaster; or
- b) Other special circumstances warrant the declaration of a local disaster.

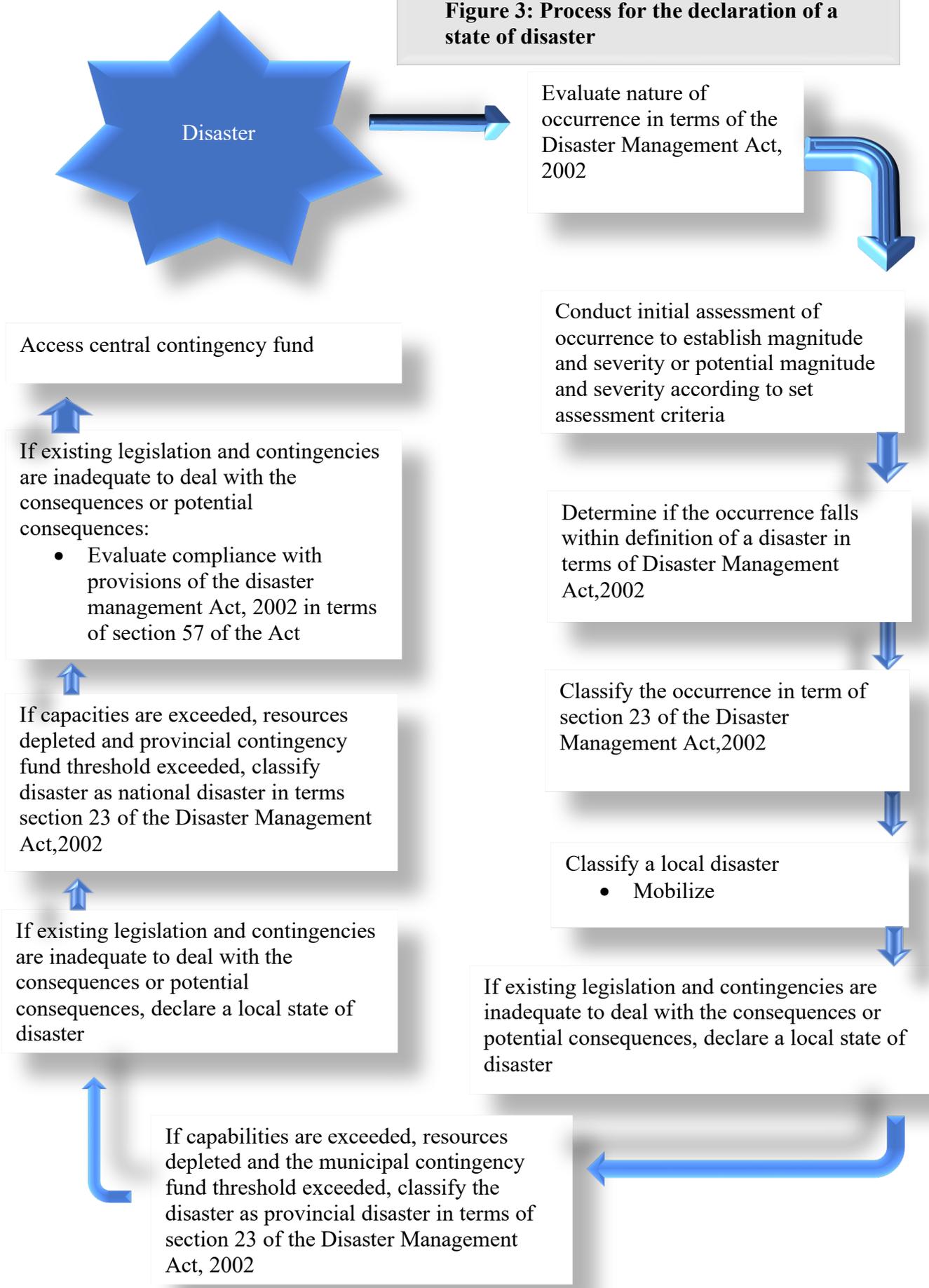
#### 8.1 Rationale for disaster declarations

The reason for the declaration of a quick of a disaster should include the following:

- Facilitating quick response to emergencies
- Facilitating the quick release of funds
- Ensuring the rapid mobilization and deployment of resources
- Expediting or waiving tender procedures
- Granting special powers to the Executive Mayor and other relevant officials so they can take appropriate action

The flowchart below describes the process for the declaration of a disaster.

**Figure 3: Process for the declaration of a state of disaster**



## **Chapter 9**

### **9. EDUCATION, TRAINING, PUBLIC AWARENESS AND RESEARCH**

#### **9.1. 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.

#### **9.2. Education and training**

##### **9.2.1. School Programmes**

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

##### **9.2.2. Dissemination and Use of Indigenous Knowledge**

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

##### **9.2.3. Community training programmes**

Training programmes for communities will focus on disaster risk awareness, disaster risk reduction training, 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.

#### **9.3. Public Awareness**

##### **9.3.1. Public Awareness Strategy**

To include risk avoidance behavior by all stakeholders, public campaigns aimed at raising consciousness about disaster risk 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
- Dissemination of information to all role players

##### **9.3.2. 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 Communications Unit will establish and manage on going relations with relevant local and national media. Communication will be done in terms of the Municipality's Communication Plan.

## **Chapter 10**

### **10. FUNDING ARRANGEMENTS FOR DISASTER RISK MANAGEMENT**

In terms of Section 10 (a) of the Municipal Systems Act, the disaster risk management function imposes constitutional obligations on the municipality. The Municipality thus must take appropriate steps to ensure sufficient funding for the performance of this assigned function. Provision must be made for:

- Ongoing operations (functionality of the Disaster Control Centre)
- Disaster risk reduction
- Response, relief, recovery and rehabilitation activities
- Training and capacity building programmes (including public awareness programmes)

Each Directorate in the execution of obligations and duties as outlined in this Plan must make provision in its own budget (e.g. routine operations, maintenance plans and public awareness programmes).

Chapter 6 of the Disaster Management Act, 57 of 2002 sets the guiding principles for funding of post-disaster recovery and rehabilitation. Under certain circumstances the Municipality may access additional funding from the national government within the prescribed threshold set by the Minister. The financial assistance to be provided by the National Government may consider what planning, prevention and mitigation measures were taken pro-actively and whether the situation could have been provided or minimised had the Municipality implemented the aforementioned actions.

#### **10.1 FUNDING SUPPORT FROM THE NATIONAL DISASTER MANAGEMENT CENTRE: MUNICIPAL DISASTER GRANT**

Disaster risk management is a national priority, but it is institutionalised at the local sphere of government hence, conditional grants must be disbursed to the Municipality.

- Currently the National Government (NDMC) makes provision of emergency funding namely Municipal Disaster Grant
- The main objective of the grant is to pro-actively respond to the immediate needs after a disaster has occurred in order to deal with its consequences
- The Municipal Disaster Grant focuses **ONLY** on municipal infrastructure damages
- The grant is allocated solely for the purposes of responding to the immediate needs after a disaster has happened and with the aim to alleviate the immediate consequences of disasters.

The grant can be accessed by Municipalities upon the submission of the following:

- **Business plan which must contain the following details:**
  - Copy of the classification letter in terms of the Disaster Management Act 57 of 2002
  - Copy of the declaration in terms of the Disaster Management Act no 57 of 2002
  - An initial assessment which includes the number of people affected and details of infrastructure damaged
  - A cost cash flow indicating the items to be purchased for the purposes of immediate relief and their estimated costs
  - Support that has been received from NGOs and businesses

- **Conditions of the Municipal Disaster Grant**

- Both copies of the declaration and classification letter in terms of the Disaster Management Act 57 of 2002 (as amended)
- This grant may only be used to fund the expenditure in the event that the Municipality is unable to deal with the effects of the disaster utilising own legislation/ guidelines and resources
- Examples of the expenditure that may be funded from the grant
  - Provision of temporary shelters if Human Settlement is unable to provide
  - Provision of temporary access roads and bridges if the Municipality is unable to provide
  - Provision of mobile classrooms if Department of Education is unable
  - Provision of assistance to the agricultural sector such as livestock feed
- Funds from the grant must be utilised within 3 calendar months following the date of transfer
- Emergency procurement system as guided by the MFMA should be invoked to ensure immediate assistance to the affected communities
- The criteria for allocation will be on a case by case basis
- Proof must be submitted that the sector cannot fund the occurrence based on reasons stated before application can be finalized.

### **10.3 HUMAN SETTLEMENTS EMERGENCY HOUSING GRANT**

#### **10.3.1. Purpose of grant:**

To provide funding to Municipal administration for provision of temporary shelter assistance to household affected by disaster.

This grant relates to emergency and short-term assistance to households affected and impacted by and/or disasters, through:

- Provision of temporary shelter
- Temporary relocation of households to safer accommodation and /or shelter

This grant funding is intended to address the housing needs of households who for reasons beyond their control, find themselves in an emergency housing need such as:

- The fact that their existing shelter has been destroyed or damaged by a disaster
- The fact that they are displaced from their existing houses due to disaster
- Relocation due to the fact that prevailing material (i.e. physical) and conditions pose an immediate threat to the adequacy and safety of their existing housing as a result of a disaster

Applicants for funding from this grant use the Emergency Housing Grant (EHG) Application form which includes the following:

- Details of the disaster, the impact thereof and number of temporary shelters required and the number of households affected
- Total funds required for disaster response

- Implementation plan
- Summary of the projects
- Consolidated project cash flow over a two months period as an annexure to the Implementation Plan
- A copy of the Municipality's emergency procurement policy

The Municipality must submit an application to the NDHS within 14 days of the agreement by the Mayor that a housing emergency exists in terms of section 2.3.1 (a) and (b) of the Emergency Housing Programme.

#### **10.4 MUNICIPAL SUPPORT: UNFORESEEABLE AND UNAVOIDABLE EXPENDITURE**

The Municipal Finance Management Act No. 56 of 2003, (MFMA). Section 29 allows the Mayor of a municipality to authorise unforeseeable and unavoidable expenditure in emergency situations (which in this instance can mean disasters). Such expenditure must be appropriated in the adjustment budget within sixty (60) days, otherwise the spending becomes unauthorised. Again, the amount of funds available to respond to emergencies is restricted to a prescribed percentage of the budget.

The council may, due to poverty levels and other socio-economic situations, develop and implement a policy on how to deal with individuals incidents humanitarian support to households affected by an occurrence which is not a disaster, but the occurrence is of such a nature that family cannot cope by themselves.

### **Chapter 11**

#### **11. TERMINATION**

- The Mayor will announce the termination of a disaster situation, emergency situation or disaster to all departmental heads after thorough analysis and evaluation of the situation
- The departmental heads must give detailed reports as to the actions their Departments took during disasters and the necessary recommendations to eliminate futuristic problems. This report must be sent to the head of the center that will complete a full and detailed report to be submitted to the Mayor.
- Depending on situations certain departments can lay dormant while other Departments stay operational and ready

#### **11.1 REVIEW OF THE PLAN**

The municipality will review and update its plan annually, as required by Section 53 of the Disaster Management Act, 2002. The reviewed plan will be submitted to the NDMC and the PDMC.

## **12. Reference**

Constitution of the Republic of South Africa, Act no. 108 of 1996

Disaster Management Act no. 57 of 2002

Disaster Management Framework of 2005

DORA, 2018 Schedule 7 Part B: Municipal Disaster Relief Grant, Cogta Vote 4: Unallocated provision for Municipalities for disaster response

DORA, 2018 Schedule 7 Part B: Municipal Emergency Housing Grant: Human Settlements Vote 38; Unallocated Provision for Human Settlements

Municipal Finance Management Act no. 56 of 2003 (MFMA). Section 29: Unforeseeable and Unavoidable Expenditure

Municipal System Act no. 32 of 2000

Nkangala Disaster Management Framework  
South Africa: SA Stats, Census 2011