SECTION J

ANNEXURES

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ANNEXURES

ANNEXURE : A – DISASTER MANAGEMENT PLAN

ANNEXURE : B – TURN AROUND STRATEGY

UMTSHEZI LOCAL MUNICIPALITY

"DISASTER RISK MANAGEMENT FRAMEWORK" 2010

"PROVINCE OF KWAZULU NATAL"

KZ234

UMTSHEZI LOCAL MUNICIPALITY

"DISASTER RISK MANAGEMENT FRAMEWORK".

INDEX

PAGE NO.

1. OVERVIEW OF THE MUNICIPALITY

1.1 Geographic Profile

The Umtshezi Local Municipality occupies the .....part of the Province of KwaZulu Natal stretching latitudinal from.... to.... and longitudinally from ... to ... with a surface are of ..... of km It has common boundaries with the Emnambithi, Mbabazane and the Okhahlamba Municipalities. The surface area of the Umtshezi has two distinct features, namely: an interior plateau, and the land between the plateau and the coast.

Estcourt is located at the confluence of the Bushman's and the Little Bushman's River. It is also on the main Durban - Johannesburg railway line some 160 km north of Durban and 25 km south of the Tugela River crossing. In earlier years the main road, later to become the N3, passed through the town. The town itself is 1196 m above sea level and lies in the hilly country that dominates most of the Natal Midlands. The Drakensberg lies some 40 km to the west of the town.

Umtshezi Municipality is comprised by the former Wembezi/Estcourt and Weenen TLC's.It is located approximately 165km North-west of Durban and 400km South-East of Johannesburg. The National Road N3 also traverses the Municipality on its western portion linking the tow major cities i.e. Durban and Johannesburg. Estcourt Town is the main urban centre for the Municipality. Umtshezi Municipality is bordered on its South-Eastern portion by the Mooi Mpofana Municipality, Msinga Municipality on its Eastern portion, Indaka Municipality on its North-Eastern portion, both by Emnambithi and Okhahlamba Municipalities on its North-Western portion and Mbabazane Municipality on its South-Western Portion.

1.2 Demography

1.2.1 Population Size and Distribution

During the Apartheid era, Estcourt was a predominantly white and Asian town. The nearby Wembezi Township was home to a large black population. In 1995 these two areas were incorporated into a transitional local council prior to the setting up of the Umtshezi Municipality. In 2008, the estimated population of the Umtshezi Municipality was 59 922 blacks, 1726 coloureds, 6155 Asians and 3244 whites.

Population Distribution per racial groups

Description	2008
Black African	59 922
Coloured	1726
Indian or Asian	61554
White	3244

Population Distribution per Ward

The Municipality is also comprised of 13 951 households, spread unevenly in nine (9) municipal wards. The majority of the people are concentrated in urban areas (±29 934) and in farming areas (±19 950), but there are a few patches of high-density settlements within informal areas. The figure below indicates population distribution per municipal ward: .The above figure indicates that the most populated areas within Umtshezi Local Municipality are wards 6 and 1. These wards record better service infrastructure and in the past decade have experienced huge influxes of people attracted by better service provision and proximity to Estcourt town, which is a major economic hub presenting employment opportunities within the Municipality.

Ward 7 is the least populated within the Municipality. This is not surprising since the ward is mainly comprised of farming settlements around Weenen.

1.2.2 Gender

Umtshezi Municipality's population is slightly imbalanced with females outnumbering their male counterparts. Approximately 52% (31 455) of the total population is comprised of women while males account for only 48% (28 467) of the total population (refer to Figure 3 below).

Gender Distribution

Figure 4 below indicates male absenteeism throughout the municipal wards, with the exception of Ward 3. This can be attributed to a number of males going outside of the municipal boundaries to seek work at major economic hubs within the country, mainly in Durban and the Gauteng province.

Gender

Description	2008
Female	31455
Male	28 467

Household Gender

Description	2008
Male	7638
Female	6316

Given that most of the municipal area is dominated by farming settlements, male absenteeism is an indication that most farmers are no longer engaged in conventional commercial agricultural activities, which tend to utilize males for labour purposes, hence most males seeking employment elsewhere in the country.

1.2.3 Age

The age composition or structure also determines the kind of economic activities within the locality. Different age groups have different economic needs and different spending patterns.

Age Differentiations

Approximately 71% of the total population in Umtshezi Local Municipality area is below the age of 35. Children, below the pre-school enrolment age (that is, 0-4 years of age), constitute 11% of the population, with those who are at school-going age, including pre-school constitute 23% of the entire Municipal population. Approximately 4% of the total population is over the age of 65 years. This scenario indicates the high dependency ratio incident within the municipal area, an event which might have a negative impact on the overall socio-economic development of the area as it impedes on the ability of the individuals to save and invest. Figure 5 above indicates that the largest age group in the municipality is between the ages of 15-34 constituting 37% of the entire population. This is followed by ages 35-64 (25%) and by 5-14 age group (23%). This trend obliges the government and the local municipality to allocate a large percentage of their budget to social development facilities such as schools, child grant, pension and clinics instead of on capital Facilities such as roads, water and electricity infrastructure and municipal marketing activities.

Age Description	2008
0-4	6430
5-9	6661
10-14	7206
15-19	7158
20-24	5609
25-29	5265
30-34	4204

35-39	3795
40-44	3081
45-49	2572
50-54	2372
55-59	1547
60-64	1400
65-69	874
70-74	802
75-79	418
80 and over	519

1.2.4 Employment Profile

Table 1: Employees Occupation

Occupation

Description	2008
Senior Officials	559
Professionals	535
Tech/Assoc Prof	1293
Clerks	1092
Service workers	1112
Skilled agric work	416
Other	1039
Elementary occupation	2536
Occupations NEC	778
Plant Operators	963

Employment Status

Description	2008
Employed	10134
Unemployed	12297
Not Economically Active	14815

Employee Occupation in Percentage%

- Legislators & Senior Officials 0.2%
- Corporate & General Managers 5.0%
- Engineering Science Professionals 2.2%
- Life Science & Health Professionals 3.1%
- Teaching Professionals 9.0%
- Other Professionals 4.0%
- Clerks 11.0%
- Services related 6.5%
- Retail related 4.0%
- Commercial Agriculture & Fishery 4.0%
- Skilled 10.0%
- Plant Machinery Operators/ Drivers 9.0%
- Elementary 25.0%
- Undetermined 7.0%
- **TOTAL** 100%

Table 1 above indicates that the number of employees per occupation in Umtshezi Local Municipality area. Approximately 10% of the total working force in the municipality is skilled. Only 18.3% of the workforce is professional. Trade and craft constitute 10% of the workforce. This could also be used to boost the tourism sector within the municipality. An approximate number of 25% of the entire workforce is employed as elementary.

1.2.5 Income Profile

Table 2: Individual and Household Income

Household Income

Description	2008
No income	3763
R1 - R4 800	1332
R4 801 - R 9 600	2728
R9 601 - R 19 200	1762
R19 201 - R 38 400	1648
R38 401 - R 76 800	1281
R76 801 - R153 600	866
R153601-R307200	381
R307201-R614400	106
R614401-R1228800	38
R1228801-R2457600	35
R2 457 601 , more	10
Not Applicable	23

ANNUAL HOUSEHOLD INCOME PERCENTAGE (%)

No income 27%

R1 - R4 800 10%

R4 801 - R9 600 20%

R9 601 - R19 200 13%

R19 201 - R38 400 11%

R38 401 - R76 800 9%

R76 801 - R153 600 7%

R153 601 - R307 200 2%

R307 201 - R614 400 0.7%

R614 401 - R1 228 800 0.1%

R1 228 801 - R2 457 600 0.2%

The above figures indicate that on average 27% of the households are surviving on less than R12 per day. This indicates high dependency ratios in that most of the households may be surviving on government grants ranging from old-age pension grants, disability grants etc. Even if households employ informal or illegal survival strategies it is unlikely that they generate substantial income given the general lack of viable economic base within rural areas. This situation indicates a need for development of local economic development activities that will ensure thathouseholds do manage to have access to the bare minimum of household's amenities.

1.3 Economy

Industry, Commerce and Infrastructure

Umtshezi occupies the ideal spot for any manufacturing industry. It is adjacent to the N3 national highway, and lies on the Johannesburg-Durban electrified main railway line, facilitating the transportation of goods to and from the town. Umtshezi has a highly efficient, reliable and cost effective electrical infrastructure, which supplies its large industries with all the power they need to run their plants. An abundance of water, from the Bushman's River, which flows into the nearby Wage drift Dam, ensuring that the industrialists are suitably served in terms of their water requirements.

Estcourt's industrial area is well situated in relation to the labour sources of the town. A well-maintained aerodrome services Estcourt for any executive who needs to fly in to town. The possible expansion of the industrial area has been suitably planned for and there is much land available in the Broomcliffe area to accommodate this. The larger established industries are:

- Nestle(SA)(Proprietary)Limited
- Eskort Bacon
- Masonite (Africa)Limited
- SASKO
- Narrowtex
- Glamosa Glass
- Clover(SA)
- Karbotek

Established residential properties are available for rental or for sale through local estate agents and serviced sites for the erection of houses are available or can be made available. Industrial land is also obtainable.

Estcourt central business district is a busy hub of commercial activity with many chain retail stores as well as local businesses doing a roaring trade. Estcourt is now the largest commercial and service centre in the Midlands region and is also important to the nearby Mooi River, Winterton, Bergville, Colenso and Weenen, due to the fact that Estcourt now has a greater variety of shops. The town of Estcourt has become the home of some of the well-established industries in the country. These progressive manufacturing industries serve both the South African market as well as being significant exporters in the industry.

Over the number of years Estcourt and its surrounding areas has undergone a drastic change in terms of tourism development. Estcourt /Wembezi is the gateway to the central Drakensberg area and the environment offers unmatched lifestyle and leisure opportunities. Midway between Estcourt/Wembezi, the Wage drift Dam and surrounding ground are situated. Estcourt is ideally situated with easy access to various towns, which also make up the well known tourist attractions, namely the Drakensberg Region, The

Midlands Meander, Ladysmith, Weenen, and Colenso which also form part of the world renowned Berg, Bush and Battlefields Route.

Industry Description	2008
Agric relate work	901
Mining, Quarrying	14
Manufacturing	1685
Elec,gas,water	86
Construction	435
Wholesale,Retail	1829
Transport, Comm	340
Business Services	623
Community Services	3369
Private Household	
Undetermined	49590
ExtraTerrit Orgs	
Rep Foreign Gov	0

1.4 Society

Estcourt previously comprised of a population of approximately 3 407 whites, 710 coloureds, 5 432 Asians and 1 296 blacks as per the census taken in 1991. The population of Estcourt is now 13 650. The population of nearby Wembezi is approximately 25 000. It is estimated that the area immediately surrounding Estcourt/Wembezi is home to approximately a quarter million people, mostly living in the rural environment.

There are also other black homelands in the vicinity of Estcourt from which the town draws a great deal of its labour. Queen Victoria gave the area to the Black people during her reign. In the past there were certain areas allocated to the different race groups, the black and some Indian people lived in Rensberg and the colored and Some Indian people lived in Zaailaager. The white people lived in town and the Wage drift area.

After years of fighting on the Rensberg and Zaailaager farms, an Indian area was allocated. Black people now occupy Rensberg only and many farms still do not have electricity or water. Zaailaager is now a colored area called Trench town. Estcourt was served with two hospitals, one black hospital and a white hospital. The white hospital has recently opened its doors to all races.

Estcourt previously had two hotels, the Plough Hotel and Sunrise Hotel. Estcourt now has just one hotel, The Plough Hotel that is now called Val-U-Lodge. Over the past number of years Estcourt and its surrounding areas has a wide variety of accommodation facilities.

1.5 Administration System

Estcourt/Wembezi was incorporated into a Transitional Local Council in February 1995 with the town of Estcourt and nearby Wembezi coming together to form one town with well established industrial, commercial and residential areas.

These two areas linked-up with Weenen to become known as Umtshezi which is administered by a combined Council consisting of 14 Councillors.This area is also the heart of the large surrounding agricultural area.

2. DISASTER RISK IN THE MUNICIPALITY

2.1 Introduction

This section presents the findings of the disaster risk analysis and assessment of the Umtshezi Municipality. The chapter begins by presenting the key findings of the disaster risk analysis & Assessments on the prevalent disasters, followed by the impact these hazards have as well as the hazards that have the potential to cause catalyst disasters. The Umtshezi Municipality's vulnerability analysis and adjustment is also presented and finally the section concludes with the overall analysis of capacity and resources for the Umtshezi Municipality. It should be noted that that these assessments distinguishes between the disaster risks faced by the rural dwelling households as well as the urban dwelling households.

What are disasters?

Disaster in terms of the Disaster Management Act, 2002, means a progressive or sudden, widespread or localized, natural or human-caused occurrence which:

(a) **Causes or threatens to cause**:

(i) Death, injury or disease;
(ii) Damage to property, infrastructure or the environment;
(iii) Disruption of the life of a community; and

(b) **Is of a magnitude that exceeds the ability of those affected by the disaster to cope with its effects using only their own resources**.

A disaster is also described as an event or hazard that overwhelms the capacity of a household, community, city, business or area, to resist or recover from the impacts without external assistance. Disasters are also social phenomena that occur when a community suffers exceptional, non-routine levels of disruption and loss.

What are hazards?

Hazards are normally classified in the following broad categories namely:

Natural hazards: Atmospheric, geologic and hydrologic hazards like storms, earthquakes and Floods, as well as the spread of infectious diseases. There is mounting evidence that worldwide

Environmental changes, especially climate change, will exacerbate the probability of natural hazards. This is also a sign that large-area hazards, as opposed to site-specific threats, will become more prominent. (Note: Drought is defined as a slow-onset environmental hazard).

Technological hazards: Major accidents, industrial failures, hazardous materials threats to human life and unsafe public buildings. The dependence on electricity supplies and mass communications to support the key functions of large cities and modern economies means that power failures and computer viruses can quickly disable urban life.

Context hazards: (global environmental change). International air pollution deforestation, desertification, loss of natural resources, intensive urbanization - climate change.

Super hazards: catastrophic earth changes, impact from near earth objects.

New-concern threats: The ongoing spread of technology and urbanization, together with growing social diversity and political tension creating opportunities for international violence and terrorism.

2.2 Prevalent Hazards and Disasters

Based on the desktop disaster risk review, analysis and assessments conducted on the prevalent disasters within the Umtshezi Municipality ,the following hazards have been identified and classified as key hazards prevalent the within the municipality .The key prevalent hazards and disasters include but not limited to the following :

- Rural & Urban Fires
- Thunderstorms and Lightening
- Floods
- Droughts
- Tornado
- Soil Erosion
- Environmental Degradation
- Snow
- Technological Hazards

It is common knowledge that these hazardous events not only destroy and slow down years of hard work and development but will result in severe social and economic losses both at the local, provincial and national level where these various structures of government and emergency & disaster management

organisations are required to provide emergency relief for the victims. These findings will be later followed by a detailed account of the impacts that can be sustained in the event that measures are not in place to prevent, mitigate or reduce the risk of the hazards happening in the near future.

It is generally acknowledged that there are a host of risks and hazards which result in disasters; it is however for a number of reasons not the intention of this exercise to discuss each and every hazard in this framework. Therefore given there is substantial evidence from the findings of the data review assessment and analysis suggesting that fire, flooding, thunderstorm and drought appears to be the most prevalent disasters, it has been deemed appropriate to discuss these prevalent hazards in much more detail

2.2.1 Drought

Drought appears to be a major feature of the climate of South Africa and has had devastating impact nationally, provincially and locally respectively. Drought is also now viewed as the normal condition of almost all the climates on earth. Drought can therefore be described as a condition of climate dryness that is severe enough to reduce the soil moisture and water levels below minimum necessary for sustaining plant, animal and the overall economic system. It is commonly referred to as a creeping hazard because it develops slowly and have prolonged existence and because of the fact that droughts are not constrained to a particular area or setting their impact can extend over very extensive areas. Finally the impact of drought will vary according to climatic conditions.

Famine can be perceived to be the most serious potential outcome of drought and unlike most hazards it can be difficult to recognize especially in the early stages and will therefore be defined in terms of effects rather than causes.

The simplest definition that we can assign the drought is the unusual dry period which results in the shortages of water. Rainfall deficiency is therefore the trigger but it is the shortage of useful water in soil, rivers or reservoirs which creates this hazard.

Types of Droughts

- **Hydrological Drought**

  This drought refers to the shortages of surface and subsurface water supplies, this happens when natural streams flow of ground water levels are sufficiently reduced to impact adversely on water resources. This type of drought is measured by relating shortfall of water supplies to water demand. Water in hydrological storage systems such as reservoirs are often used for multiple purposes such as flood control, irrigation, recreation. Therefore completion for water in these storage systems escalates during drought resulting in conflict between water users increasing significantly.

- **Meteorological drought**

The South African weather service defines drought on the basis of the degree of dryness in comparison to “normal” or average amounts of rainfall for a particular area or place as well as the duration of the dry period. Meteorological drought is therefore linked to the average rainfall in a certain area. A deviation from normal measure rainfall could indicate a meteorological drought. This type of drought is therefore regions specific and is monitored by the SA Weather Service.

- **Agricultural drought**
  Agricultural drought occurs when there isn’t enough soil moisture to meet the needs of a particular crop at a particular time. Rain –fed crops are dependent on adequate rainfall during the specific season. The Department of Agriculture has previously defined 4 types of agricultural drought namely:

  - ***Drought:*** *Prolonged abnormally dry period when there is insufficient water for users’ normal needs. Agriculture suffers first and eventually everyone feels the impact.*

  - ***Seasonal drought:*** *This is a predictable drought and an annual event e.g. dry winter in a summer rainfall region or dry summer in a winter rainfall region. Other seasons may also be much drier than normal. Where overgrazing prevails a seasonal drought may be mistaken for a severe drought which qualifies for assistance, it therefore becomes critical that the assessment is done thoroughly. Seasonal drought does not qualify for assistance unless the preceding seasons were disastrously dry.*

  - ***Periodic drought:*** *This occurs at more or less regular intervals and is largely the result of normal fluctuations in rainfall below the expected average. Overgrazing aggravates such droughts and periodic droughts must be provided for in the form of veld and fodder reserves.*

  - ***Disaster drought:*** *Disaster drought tends to develop gradually in grazing lands usually from chronic lower rainfall over many months and seasons. This type of drought is not predictable and occurs at uneven intervals of years.*

2.2.2 Floods

A flood refers to excessive water run-off or the rise in water level in a particular area which is more than the particular environment can absorb or carry. Floods are caused by either too much rain in a short space of time (for example cloud bursts), continuous rain in the same area blockages in rivers and streams(such as rubble or landslides) or failure in dam walls, levies, storm surges or the excessive release of water from dams and lakes. It is normally the prolonged period of rainfall which gives us a good indication of possible

floods. In summary the two elements which contributes to flooding is rainfall intensity which is the rate of rainfall and the duration that is how long the rain lasts.

2.2.2.1 Types of Floods

- ***River Floods***

  Flooding along the rivers is a natural and inevitable part of life. Some floods occur seasonably with summer or winter rainfall which causes the river basins to fill with too much water, too quickly. Torrential rains from tropical cyclones also called hurricanes can also provide river flooding.

- ***Urban floods***

  Our urban development creates a number of areas which cannot absorb natural rainfall e.g. parking lots, roads, buildings etc). Urbanisation increases runoff 2 to 6 times over what would occur on natural terrain. During periods of urban flooding, streets can become swifts moving rivers and houses and buildings can sustain damages.

- ***Flash Floods***

  Flash floods occur then an excessive amount of rain falls within a short period of time (in dried up streams and wetlands, river valleys and also urban areas) or when a massive amount of water is suddenly released (by dams or the release of blockages in rivers).Rain water causes a small but fast moving river which can gain velocity n a matter of minutes.

Flood Warning Signs

- It is normally in the rainy season
- There are severe inland thunderstorms or storms
- Previous Rains have saturated the soil and another storm is threatening
- There is excessive rainfall over a short period of time
- Moderate rainfall occur from slow moving storms resulting in lot of rain over the same area
- The ground cannot absorb the amount of water
- The water levels in rivers and dams rise suddenly
- There might be snow in the mountains which could melt once spring approaches
- More and more green areas are developed into urban centres which decrease the environment's absorption capacity.

2.2.3 Thunderstorms

Thunderstorms, the large cauliflower-like clouds commonly seen in the rainfall areas

Are violent, local atmospheric disturbances accompanied by lightening, thunder, heavy rain often by strong gusts of wind or tornadoes and sometimes by hail. A storm normally lasts for about 30 minutes, but severe may last longer. Rural KZN which includes the Umtshezi Municipality experiences very high incidences of thunderstorms, particularly in the summer rainfall regions. The key element which contributes to thunderstorms is warm weather which creates a significant amount of updrafts and a considerable amount of noticeable cumulus clouds.

2.2.3.1 Types of Thunderstorms

- ***Single cell (cloud) Storm***

  Single cloud thunderstorm has life spans of 20-30 minutes. They are usually not strong enough to produce severe weather. A true single cell storm is actually quite rare.

- ***Multi-cell cluster Storm***

  Multi-cell storms are the most common type of thunderstorm. It consist of group of cells, moving as one unit, with each cell in a different phase of the thunderstorm life cycle. The mature cell is usually found at the centre. Although each cell may last only 20 minutes, the cluster may last several hours. These can produce heavy rainfall, down bursts, moderate-sized hail and occasional weak tornadoes.

- ***The Multi-cell line Storm***

  This type of storm consists of al line of storms without continuous, well developed gust front (or winds) at the edge of the line of storms. This line of storms can be solid or it can have gaps. The main threats with these storms are golf ball-sized hail, heavy rainfall, and weak tornadoes. However, they are best known for their down bursts that manifests in strong wind gusts at ground that can be very damaging to structures and houses.

- ***The Super cell Storm***

  The super Cell storm is highly organised thunderstorm. Although these are rare, they pose a great threat to life and property. This is pretty much like a single cell storm in that it has one up-draft. However this one is extremely strong had has the ability to produce severe weather. This storm can produce large hail and strong down bursts and strong violent tornadoes.

2.2.3.2 Storm Warning Signs

- Normal rain season, particularly in the summer rainfall regions
- Observation of big grey clouds formations with a normally flat base
- The wind suddenly changes and blows cooler air
- Lighting within the clouds of the storm and far-off rumbling or thunder
- Down bursts of rain.

2.2.4 Rural & Veld Fires

Veld fires are forest fires that are dealt with under the National Veld and Forest fires Act. No.101 of 1998. This law defines the veld fire as a veld, forest or mountain fire, where veld means the open countryside beyond the urban limit or homestead boundary. Veld fires are therefore any fire which occurs outside the boundaries of urban build areas and pose the potential of running out of control.

It is also important to note that 90% of veld fires are started by humans the other 10% is started by natural occurrences such as lightning. There are 3 necessary components to start a veld fire: oxygen, fuel and heat. At least 16% oxygen must be in the air for a fire to start (the atmosphere contains 21%). Fuels such as dead plants, dry leaves, pine needles and grass burns more readily than moist green plants because the dead material contains less moisture. Heat is usually supplied by a lightning strike to a tree or dry grass. People normally start veld fires through carelessly (not properly disposing of cigarette butts) or malicious (intentionally starting a fire) behaviour.

2.2.4.1 Rural & Veld Fire warnings

- It is normally your dry season
- There are very hot conditions
- There are lot of potential fuel (e.g. dry leaves, wood, dead plants and grass).
- You can clearly see long dry grass and plants
- There are moderate to strong winds present.

2.2.4.2 The importance of Veld Fires

- Environmentally veld fires can be important to local ecosystems e.g. smoke and heat are sometimes needed for seeds to germinate
- Veld fires can lead to regeneration of local plant life
- Veld fires can have a good economic and emotional effect on people and property directly affected.
- Having a better understanding of veld fire causes can help with better preparations and perhaps minimise or prevent veld fire damage.

2.2.5 Lightning

Lightning is one of the most deadly natural phenomena known to humans. With bolt temperatures hotter than the surface of the sun and shock waves beaming out in all directions, lightning is a lesson that commands the respect of humankind.

Lightning occurs with every thunderstorm and must be expected as thunderstorm forms. Lightning results from the build up and discharge of electrical energy between positively and negatively charged areas in the atmosphere and clouds. The most lightning occurs between clouds but it is the ground strikes that are dangerous.

2.2.5.1 Types of Lightening

- ***Cloud to Ground***

  Cloud-to-ground lightning is the most damaging and dangerous form of lightning. It is the most common type, but it is the one that is the best understood. The cloud to ground lightning bolts strikes the highest object in the lightning bolts path; the lightning may strike the person. Lightning strikes can cause severe injury or death. Cloud-to-ground lightning is the best understood type of lightning because it leaves so much more evidence behind.

- ***Intra Cloud***

  Intra-cloud lightning is the most common type of lightning. It usually takes place within the cloud and looks like a bright flash of light which flickers. This bright flash may leave the cloud and the flash can be visible for many kilometres.

- ***Inter Cloud***

  A less common lightning strikes occurs between oppositely charged areas of different clouds. This means that there are positive and negative charges within different clouds and the strikes travels in the air between them.

2.2.5.2 Lightning Warnings

- Observation of the thundercloud formation
- A rumble in the clouds can be heard and flashes can be noticed when intra-cloud lightning occurs.
- You can count the time it takes to hear the thunder after seeing the flash.

2.3 Possible Impact

Hazard	Aspect	Hazard Effect	Possible Consequences
1. Droughts	▪ Crops	Reduced crops & Total crop Failure	Reduced income, food shortages, reliance on shops, unemployment & Evictions
	▪ Water	Reduction &Contamination	Human diseases, human health, livestock diseases, absence and deaths, crop failure and loss .
	▪ Employment	Layoffs & Evictions	Loss of income, food shortages, increased unemployment etc.
	▪ Livestock	Weakened, disease & death	Reduced health, food shortages and sales, slaughter and reduced income
	▪ Grazing	Reduced reproductive capacity of land.	Livestock weakening and death, livestock sales & slaughter, impounding, conflict, land degradation
	▪ Food Prices & Tenure	Increased evictions, closure of farms & food shortages	Food Shortages homelessness and migrations.
	▪ Fuel	Reduced	Disruption of domestic activities & conflict
2. Flooding	▪ Physical structures	Damaged to the physical structures of dwelling	Loss of physical structure resulting in large displacements of families and homelessness.
	▪ Personal Assets & Economic Assets	Damaged and loss of personal assets & belongings	Sustained damages to assets , food shortages and

	▪ Employment	Increased rate of absenteeism.	Loss of income and layoffs. Increased food shortages.
	▪ Household Income	Increased rate of absenteeism resulting in the loss of household income.	Reduced and or loss of income resulting in food shortages, loss of livestock and loss
	▪ Health	Disease and death	Increased Human illnesses, human health, livestock death and crop failure and loss.
3. Thunderstorms, Lightning, Winds, Hail and Flooding	▪ Physical structures	Loss of economic & social physical structures of dwelling.	Damage to houses due directly to severe winds, hail or storm water, or indirectly by windblown debris; Loss of physical structure resulting in large displacements of families and homelessness
	▪ Personal Assets & Economic & Social Assets	Damaged to the physical structures of dwelling & infrastructure Damaged and loss of personal assets & belongings	Disruption of power supply (and the subsequent knock-on effect on water supply, etc) from lightning strike or downed power lines; Road access disruption because of flash flooding, traffic accidents or fallen vegetation and/or power lines; Damage to houses due directly to severe winds, hail or storm water, or indirectly by windblown debris; Significant insurance losses to both buildings and possessions such as cars;

	▪ Annual & Perennial Crop losses	Loss of crops and damage to crop quality and crops and the biodiversity	Income loss for farmers due to damaged crop and poor crop quality. Increased and sustained food shortages Decline in food production and disrupted food supply.
	▪ Human Life	Sustained injures and fatalities	injury or death from both direct and indirect causes Fires and/or fatalities caused by lightning strikes. Increased medical cost to the state as a result of an immediate increase to multiple injuries.
4. Veld Fires	▪ Annual & Perennial Crop losses	Loss of crops and damage to crop quality and crops and the biodiversity	Income loss for farmers due to damaged crop and poor crop quality. Increased and sustained food shortages.
		Loss of farming and crop land	Unemployment from fire related declines in production and financial losses due to damaged plant. Reduced reproductive capacity of crop land and soil fertility.
	▪ Land Degradation	Loss of wildlife and livestock	Increased soil erosion and soil compaction, increasing surface run –off resulting in the decrease of infiltration. Reduced water required to recharge ground water resources resulting in reduced water for irrigation.
			Permanent loss of habitat and species and high

			livestock mortality rates.
	▪ Livestock & Wildlife	Loss of grazing land necessary for restocking	Disruption of reproduction cycles (delayed breeding and more miscarriages) Forced reduction of foundation stock and Reduced milk production. Declined production of milk and meat. Loss of grazing land necessary for restocking Unavailability of feed for livestock resulting in increased high cost of feed
	▪ Grazing Land	Loss of veld, forest and plantation resources such as timber and pine mealies etc.	Decline in food production and disrupted food supply.
	▪ Human Life	Increased mortality rates in humans	Loss of human life.
	▪ Income Generating Forests & Plantation		Impaired productivity of forest and plantation land resulting in financial losses due to damage. Availability of plantation resources such as timber, pine, mealies, etc. Revenue losses to national, provincial and local governments due to reduced taxes. Reduction of economic development and increased unemployment from fire related declines in production.

	▪ Biological Resources ▪ Economic Property		Loss of economic and social assets such as property resulting in a depressed economy Increased unemployment Loss of physical structure resulting in large displacements of families and homelessness

2.4 Exposure & Vulnerability

Vulnerability in this case means the degree to which an individual, a household, a community or an area may be adversely affected by a disaster. Vulnerability, like the risk and hazard is a possible future state that has implications of high risks which are combined with an inability to cope with those risks at a particular given point in time.

Vulnerability is can also be defined as the conditions determined by physical social, economic and environmental factors or processes which increases the susceptibility of a community to the impact of the hazard. Vulnerability, like risk and hazard, is a possible future state that implies high risk combined with an inability to cope. Human vulnerability is a more complex term.

Communities and households are exposed to different forms of vulnerability that include:

- **Weather-related shocks and natural calamities:** drought, earthquakes, hurricanes, tidal waves, floods, heavy snow, early frost, extreme heat or cold waves
- **Pest and disease epidemics:** insect attacks, predators and diseases affecting crops, animals and people
- **Economic shocks:** drastic changes in the national or local economy and its insertion in the world economy, affecting prices, markets, employment and purchasing power
- **Seasonal stresses:** hungry season food insecurity
- **Environmental stresses:** land degradation, soil erosion, bush fires, pollution
- **Idiosyncratic shocks:** illness or death in family, job loss or theft of personal property
- **Structural vulnerability:** lack of voice or power to make claims

Vulnerability to the various types of natural hazards is not homogeneous across geographical areas or within communities. Some communities and some households within given communities will be more vulnerable than others.

Vulnerability context: Key issues and questions to help assess the vulnerability context will include:

i. ***Assessing the overall vulnerability context***
   - What is the size of the population? How is it distributed? How many households are there in the village, by ethnic group if relevant?
   - How often do hazards/disasters hit the community? Is the incidence growing?
   - What are the main causes of vulnerability?

- What are the local perceptions of the risk of natural hazards/disasters differentiated, if appropriate, by socio-economic category or geographical location?

The vulnerability context frames the external environment includes:

- Population Trends
- Resource Trends
- Shocks (Natural hazards & disease outbreak)
- Seasonality in market prices and Employment opportunities.

ii. Hazard Exposure of the most vulnerable group

- Identification of the most vulnerable groups in the community and where are they located
- Where do the different ethnic groups live?
- Where are the female-headed households located
- To which natural hazards are they particularly vulnerable and why?

iii. Hazard exposure of livelihood assets

- What are the main natural resources and productive assets (e.g land, water, pasture, trees, tree nurseries, fish ponds, animal shelters, machinery, irrigation systems, wells, inputs/fodder/food storage facilities etc.)
- Where are they located within the community's geographical area?
- Are they available to the community only or are they also used by others (government, corporations and local private sector companies)?
- Which group in the community have access to them and why?
- To what degree are the resources and or productive assets exposed to hazard impacts differentiated by a hazard?

iv. Disaster preparedness, rescue and emergency response infrastructure and facilities?

- What community infrastructure and equipment (e.g schools, stores, wells, fire fighting equipment, power station, hospital or health clinics) are available to save lives and livelihoods during disaster
- Or to provide temporary shelter and emergency supplies: where are they located. **E.g. a hazard vulnerability map.**
- What formal and informal community facilities are available for the Disaster Risk Management?

v. Seasonal Vulnerability hazard risk planning

- When do hazards occur?

- Do hazards coincide with peak working seasons
- Do hazards threaten peak production periods or the harvest

Cropping Calendar

Key Crops	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	De c
Mealies												
Corn												
Soy Beans												
Potatoes												
Cabbages												

Seasonal calendar of natural hazards

Hazard Risk	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	De c
Hailstorm												
Veld fires												
Drought												
Floods												
Strong Winds												

***Seasonal Calendars**: Are valuable tools to assess seasonal vulnerability patterns and hazard implications. They can be used in meetings to help identify the key hazard risks facing the community and to stimulate and focus discussions on existing and potential local coping strategies*.

vi. Local coping mechanisms and adaption strategies

- What coping strategies exist for each hazard type?
- Which organizations and institutions, if any, support existing coping strategies or promote new strategies? Who has access to/ uses these supporting services.

This approach captures the dynamic, complex nature of people's vulnerability. While trends capture the temporal continuum of vulnerability in positive or negative directions, shocks capture largely external, unexpected events such as natural disasters. More importantly this framework does not look at the vulnerability context in isolation, but links it with transforming structures and processes. Practical application of such a framework means that it not only describes the different aspects of people's vulnerability but also points to social, political and economic structures and processes, transformations which would help reduce vulnerability and thus help insure sustainable livelihood for the poor.

Frequently disasters adversely affect the livelihoods of poor people by damaging their means of earning (destruction of the factory, loss of land due to erosion in flooding, destruction of the shop) and/or tools (loss of draught animals, plowing tools, etc).Mainstream disaster management responses frequently do not focus on rehabilitation of peoples' means of livelihood. Families, who lose their means of livelihood during a disaster, find their recovery from adverse effects become more unlikely and their vulnerability to future disasters more increased. It is also assumed that if people will have better sources of livelihoods and higher incomes, they will spend more on disaster risk management in order to save their property, because due to higher incomes they have savings to spend for this purpose. But if they do not have any savings then spending on disaster management, becomes the least priority in comparison to the chronic issues of survival.

Diversity in the sources of livelihoods is very important for increasing people's capacity to cope and recover. For example, a family that has two different sources of income including a tract of land and a shop. If this family loses the crop and one draught animal due to a severe flooding event, it still has the shop. This family will be in a better position to sustain after damage to crops and to recover by buying another animal by mobilizing the savings from the shop in comparison to a family which has only one tract of land and loses the standing crop and one animal, and does not have any other source of income. Thus, investment on strengthening and diversifying the sources of livelihoods of the people of disaster prone areas can be an effective strategy for disaster risk reduction in the long run.

2.5 Capacities and Resources

Enabling mechanisms:

2.5.1 Policy:

The Disaster Management Act, 2002 in conjunction with the National Disaster Management Framework provides firstly the platform for disaster risk management, secondly, the Key Performance Areas and Enablers provides the guidelines to the activities to be followed in the disaster risk management cycle.

2.5.2 Structures:

The well-organized structures and systems of the municipality can facilitate and ensure coordination of stakeholders' action and contributions to be in place. This involves the establishment and strengthening of focal points and coordination bodies for disaster reduction and response activities

2.5.3 Capacity:

The enhancement of national and local capacity to establish and implement disaster reduction and response measures, especially for vulnerable sectors and communities, is a constant undertaking.

2.5.4 Resources:

The identification and provision of resource requirements, including funds and trained human resources, are important. This includes means to access and use authorized fund appropriations for disaster reduction and response.

3. CHALLENGES AND OPPORTUNITIES

3.1 Challenges

- Rapid and Poorly controlled urbanisation and underdevelopment in the rural areas
- Widespread rural and urban poverty
- Inactive public policy
- Increasing construction of municipal and infrastructure production in hazard prone areas
- Minimal or non-involvement of the private sector, civil society and urban and rural communities in the prevention and risk management.
- Environmental degradation leading to loss of ecological values such as those provided by forests which buffers against natural hazards events.
- Failed Development approaches
- Perception that emergency preparedness and post disaster response which addresses only effects not causes constitutes an adequate approach.
- Unavailability of appropriate disaster risk information
- Political paralysis to integrate the prevention and mitigation processes of disaster risks
- Weak overall technical and operational capacity of the disaster risk management unit
- Poorly Planned development which compromises the protection of vulnerable populations, safe-guarding infrastructure, bolstering the local stability and sustainability and shielding of valuable economic, social and environmental assets from devastation
- Dense population in flood plains and settlements below potential hazard areas
- Inability to implement urban and rural disaster risk reduction process of land use planning , physical planning and urban and rural development
- Reduction of vulnerability in the existing social and economic infrastructure and building stock.
- Building the social and economic infrastructure stock e. g schools, hospitals which constitutes a life safety threat to the occupants , studies show that the cost of making buildings safe from hazards such as storms and fire etc is no more than 5-10% of the construction cost.
- Lack of awareness by the community on disaster risk management
- Lack of multi-stakeholder co-operation such as Private, National, Provincial, civil society and communities in disaster management and reduction strategies.
- Inadequate financial and human resources essentially compromising the disaster risk management and reduction given the fact that these processes are long term, low visibility with little guarantee of tangible rewards in the short term for politicians yet, inaction brings further complications and further accumulates the risks creating the need for future investments that are significantly higher than the those required now.

3.2 Opportunities

- Community education and awareness on the disaster risk management and reduction strategies which will foster and enhance a culture of community welfare, safety, preparedness and self reliance.
- Engagement of the multi-stakeholders such as national, provincial, private sector, civil society and communities on public policy and debate on disaster risk management
- Generation of resources and incentives through budgetary allocations for hazard and vulnerability studies that are geared towards long term sustainability
- Development of the human potential for disaster risk management and reduction through training of practitioners and competency building of professionals, decision makers and communities.
- More robust land use planning
- Environmental management through land degradation and unsustainable agricultural practices
- Encourage pre-disaster , vulnerability and reduction and mitigation measures
- Promotion and insisting on sound and use planning, environmental management and construction standards in all new developments
- Integration of disaster risk management into the planning processes.
- Providing of skills and competences to urban planners in risk sensitive land use planning and incorporating these tools into zoning and other land use regulation.
- Promoting urban and rural development as a powerful tool to reduce urban and rural risk through the introduction of both structural and non structural mitigation measures
- Enforcing life-safety construction standards for every new building
- Development of enforceable implementation policy processes which can be achieved through training, education and practice legislative processes.
- Development of a culture of prevention which can be achieved through multi-stakeholder co-operation.

4. VISION, MISSION & OBJECTIVES

4.1 Vision

Substantial reduction of disaster losses in the lives of the people residing in the Umtshezi Municipal area of jurisdiction as well as the social, economic and environmental assets of the community and the municipality at large.

4.2 Mission

- Integrations of disaster risk reduction into sustainable development policies and planning
- Development & strengthening of institution mechanisms and capacities to build resilience to hazards
- Incorporation of risk reduction approaches into the implementation of emergency, preparedness, response and recovery programmes.

4.3 Objectives

The following objectives in broad terms, as prescribed in the National Disaster Risk Management Framework (NDRMF), are applicable in this pro forma:

- To address holistically and comprehensively the various concerns and gaps in the different phases of the disaster management cycle by considering the underlying causes of disasters (i.e. he conditions of disaster risks) and the broader set of issues and contexts associated with disaster risk and its risk management.
- To prevent, mitigate, prepare for, and respond effectively to the occurrence of disasters through the enhancement of local capacity and capability, especially in disaster risk management (i.e. recognizing, managing and reducing disaster risks, and ensuring good decision-making in disaster reduction and response based on reliable disaster risk information);
- To promote multilevel, multidimensional and multidisciplinary coordination and collaboration among stakeholders in disaster reduction and response as they ensure the participation of the community, the integration of stakeholders' action, and the best use of limited resources.
- Insuring that appropriate enabling mechanisms are in place, including policy, structure, capacity building, and resources.

OBJECTIVES: MUNICIPAL DISASTER RISK MANAGEMENT FRAMEWORK

Objectives Description Of Municipal Disaster Risk Management Framework	**Description of Municipal Disaster Risk Management Framework**	**Activities To Accomplish Objectives**
Institutional capacity for disaster risk management (Key performance area 1)	Establishment of institutional arrangements for implementing disaster risk management within the municipal sphere of government. The application of the principle of co-operative governance for the purpose of disaster risk management. The involvement of all stakeholders in strengthening the capabilities the municipality to reduce the likelihood and severity of disasters. Describes processes and mechanisms for establishing co-operative Arrangements with provincial and national role players and within the Municipality	**Capacity building and liaison with stakeholders** all levels of Government all levels of Organized Community structures Establishment of a focal point within NCO's to communicate with other stakeholder e.g. DWAF/DMC'sat different levels
Disaster Risk Assessment (Key Performance Area 2)	To establish a uniform approach to assess and monitor disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by organs of State and other role players.	**Risk Assessment** Collect relevant information Establish the risk context. Identify the risks. Analyze the risks. Assess and prioritize the disaster risks. Identification of risks and hazards likely to result in disasters Estimation of the risk of such events

		Evaluation of social and economic consequences of derived risk Treat the disaster risks Monitor, review and communicate
Disaster Risk Reduction (Key Performance Area 3)	To ensure all disaster risk management stakeholders develop and implement integrated disaster risk management plans and risk reduction programmes in accordance with approved frameworks.	**Risk reduction** Protect or reduce the risk and the intensity of a hazard not becoming a disaster Influencing the cause of the risk Modifying the risk Develop plans and training to reduce the risk Dissemination of information e.g. early warning, flood warnings Measures to, respond and manage a hazard Measures to hazard alert to minimize severity or consequences of disasters and vulnerability of communities or areas Compiling of a Inventory of the NCO's capacity to deal with vulnerability and risks
Response and Recovery (Key Performance Area 4)	To ensure effective and appropriate disaster response and recovery by: Implementing a uniform approach to the dissemination of early warnings. Averting or reducing the potential impact in respect of personal injury, health, loss of life, property, infrastructure, environments and government services.	**Recovery/rehabilitation – post disasters** Develop and implement appropriate contingency plans Participate in processes to fully restore disaster affected communities or areas to pre disaster level functioning to become even more disaster resistant Participate in recovery and development programmes post disaster

	Implementing immediate integrated and appropriate response and relief measures when significant events or disasters occur Or are threatening to occur. Implementing all rehabilitation and reconstruction strategies following a disaster in an integrated and developmental manner.	Coordinate with relevant organizations in the advisory forums Apply appropriate measures to restore capacity(Note: It is important that NCO's develop their specific hazard tracking mechanisms e.g. early warning in collaboration with other role players e. g. D o A, SAWS, NDMC, PDMS's, MDMC's.)
Information management and communication (Enabler I)	To guide the development of a comprehensive information management and communication system and establish integrated communication links with all disaster risk management role players.	**Information management and communication** Participation in information management and communication system of Organs of State – at all levels
Education, training, public awareness and research (Enabler 2)	To support the education, training, public awareness and research enabler, the following functionalities are required: Education and training programmes pertaining to disaster risk management in all spheres of the education system need to be recorded and monitored. The content of education and training programmes as well as records of participants (professionals, volunteers, communities, learners), and the Education and training programmes they attended must be recorded. A register and records need to be kept of all accredited service providers as well as accredited facilitators to ensure that minimum standards set by Sector Education and Training Authorities (SETA's) are met. Research programmes and projects need to be registered and monitored and the information	**Education, training and information programmes** Participation in programmes of organs of State at all levels Disseminate education, training and information programmes to communities Create Awareness on- Prevention Preparedness Response

	disseminated to relevant stakeholders. Initiatives related to an integrated awareness programmes by all spheres of government need to be recorded to minimise duplication and to ensure synergy among stakeholders	
Funding arrangements for disaster risk management in South Africa (Enabler 3)	To provide a database that contains data relating to all funding matters. The funding mechanisms for different aspects of disaster risk management, budgets, applications for funding, approvals and spending, need to be recorded to ensure proper usage and management of available	**Inputs on funding requirements** All levels of Government All levels of Organized Stakeholders
Align and update of objectives and activities	Review and update	Align and review activities Align strategies

5. PRIORITY STRATEGIES & INTERVENTIONS

5.1 Introduction

To complete the plan it was deemed necessary to include a pro forma. Further research on this topic will be done in conjunction with Municipal Disaster Committee as well as Academics in the field of disaster risk management during the second phase.

5.2 Principles governing disaster risk management in the Municipal sector

Key principles applied in disaster risk management

The principles applied in managing municipal disasters are guided by the disaster risk management cycle model described in the National Disaster Risk Management Framework and seeks to do the following:

- Address important human needs;
- Be driven at all tiers of government;
- Be transparent and inclusive;
- Ensure community involvement;
- Accommodate local conditions;
- Have legitimacy;
- Be flexible and adaptable;
- Be efficient and effective;
- Be affordable and sustainable;
- Be needs oriented and prioritized;
- Involve other actors;
- Have a multi-disciplinary and integrated approach;
- Focus on key issues;
- Be practical;

Basic Elements of Disaster Risk Management

The following are the basic elements that will be followed:

- Disaster assistance must encourage and provide incentives water-dependent sectors or groups to adopt appropriate and efficient management practices that help to alleviate the effects of disasters especially drought.

- Disaster assistance must be provided in an equitable, consistent and predictable manner without regard to economic circumstances, industry or geographic region.

- Disaster assistance must be provided in the form of technical and relief measures, financially or otherwise.

- All disaster -relief agencies should co-ordinate their efforts to establish an accessible pool of knowledge and experience on disaster relief.

- Effective communication must be promoted amongst all parties concerned. It is of utmost importance that all parties involved are committed to co-operation and the promotion of confidence in each other.

- In cases of severe disaster conditions, prompt relief must be readily available and should be implemented with utmost speed and efficiency.

- Those at risk must know what to expect from government during disaster or other in order to be better prepared to manage risk.

- The commitment towards the conservation and protection of the natural resource base must be pursued with long-term and comprehensive conservation programmes.

- The creation of permanent structures (including infrastructure and human resources) capable of providing streamlined procedures and effective co-ordination, and to ensure continuity in the ongoing process of reducing vulnerability to recurrent disaster-related crises.

- The strengthening of rural community capacity through an education-, extension- and research scheme, thereby reducing their vulnerability to disasters especially drought, flooding and fire.

- Promotion of a general acceptance of a disaster management strategy for the agricultural sector so as to minimize resource degradation and the vulnerability of the sector to drought.

- Disaster management strategies should be co-coordinated amongst all sectors provincially and nationally. It is essential to co-ordinate individual actions, to be aware of each other's management strategies, and if possible strive towards a common disaster management strategy.

- The development and updating of procedures for the effective communication between all role-players, of information on the nature of available relief schemes and the procedures for the accessing thereof by all members of target communities

- The establishment and updating of sustainable systems through optimal resource utilization

- Improving the relevant household security conditions, creating capacity for self-reliance and ensuring access to effective relief rendering services must reduce the vulnerability of developing communities.

- Integrated information systems must be established on all levels ranging from communities to provincial and national structures. Effective management and co-ordination of information will ensure that probable disaster impacts are identified prior to the actual relief needs and that follow-up relief actions are monitored for adequacy.

- All necessary resources and support systems that can be used for disaster relief actions should be made available. The whereabouts and procedures of accessing these resources should be known to all the relevant relief organizations.

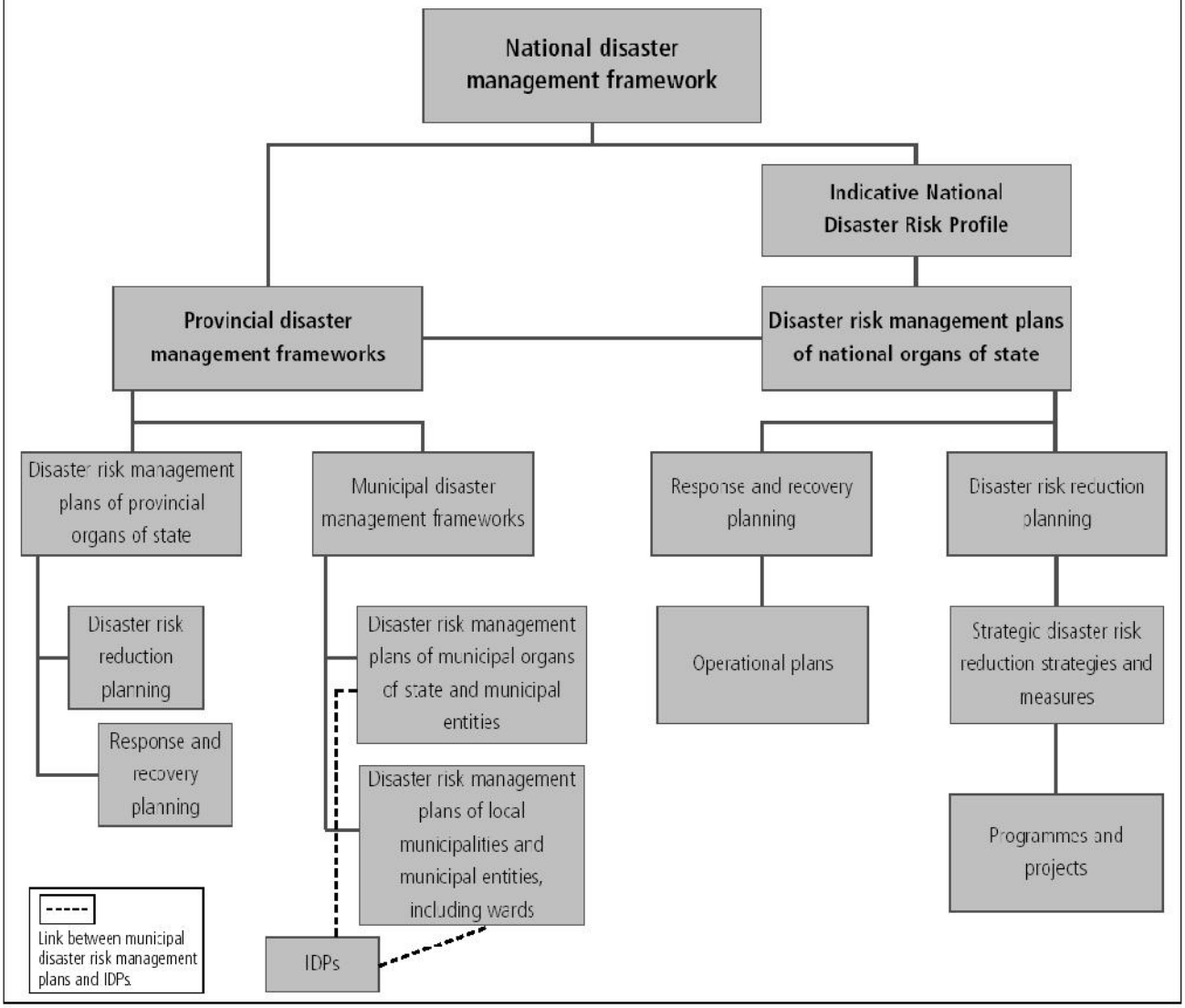
- Efficient communication and co-operation must be established between all the parties in the province to address disaster conditions. Relief actions in the municipality should be planned and co-coordinated in consultation with relief organizations in the municipality, district and province.

- Improving the relevant household security conditions, creating capacity for self-reliance and ensuring access to effective relief rendering services must reduce the vulnerability of developing communities.

- Existing infrastructure must be extended and reconstructed where needed, to enable utilization thereof for immediate relief actions. Procedures to access resources, activate operations and second personnel, must be specifically defined for disaster relief actions with emphasis given to the speed of implementation

THE MUNICIPAL DISASTER RISK MANAGEMENT FRAMEWORK

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



6. Objectives of the MDRMF

The Municipal Disaster Risk Management Framework as prescribed by the Disaster Management Act, 2002, drives the following Key Performance Areas (KPAs) and Enablers:

6.1 Key performance area 1: Institutional capacity for disaster risk management

6.1.1 Objective

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

Intergovernmental Committee on Disaster Management (ICDM)

The ICDM consists of the provincial district and municipal members involved in the management of disaster risk, or the administration of other national legislation aimed at dealing with an occurrence defined as a disaster in terms of section I of the Act. It includes members from the following departments.

Agriculture and Land Affairs
Defence
Education
Environmental Affairs and Tourism
Health
Home Affairs
Housing
Minerals and Energy
DLGTA
Public Works
Safety and Security
Social Development
Transport
Water Affairs and Forestry.

Municipal Disaster Management Centre (MDMC)

The MDMC is the principal functional unit for disaster risk management in the local sphere. In essence, the MDMC is responsible for guiding and developing frameworks for the municipality's disaster risk management policy.

Disaster Management Advisory Forums
Municipal Disaster Management Advisory Forum (MDMAF)

In terms of disaster risk reduction, the local sphere of government is the first line of defence and, in the event of a disaster occurring or threatening to occur; the communities are in reality the first responders. The primary responsibility for the co-ordination and management of local disasters rests with the local sphere. Thorough disaster risk management planning and effective co-ordination is key to saving lives and limit damage to property, infrastructure and the environment.

This forum is responsible for:

- Give advice and make recommendations on disaster-related issues and disaster risk Management.
- Contribute to disaster risk management planning and co-ordination.
- Establish joint standards of practice.
- Implement response management systems.
- Gather critical information about the municipality's capacity to assist in disasters and
- To access resources.
- Assist with public awareness, training and capacity building.

Objective

The primary purpose of the MDMAF is to provide a mechanism for relevant role players to
Consult one another and to co-ordinate their activities with regard to disaster risk management issues. The Forum must make recommendations concerning the Municipal Disaster Risk Management Framework

Representation

The representation:

- The Head of the Municipal Centre;
- A senior representative of each provincial department ;
- Representatives of other disaster management role-players may include –
  - o Organized business;
  - o The Chamber of Mines;
  - o Organized labour;

- o The insurance industry;
- o Organized agriculture;
- o Traditional leaders;
- o Religious and welfare organizations;
- o Medical, paramedical and hospital organizations;
- o Organizations representing disaster management professions in South Africa;
- o Other relevant non-governmental and international organizations and relief agencies;
- o Statutory bodies regulating safety standards in particular industries;
- o Institutions of higher education;
- o Institutions that can provide scientific and technological advice or support to disaster management;
- o Experts in disaster management designated by the Minister; and
- o Persons co-opted by the Forum for a specific period or specific discussions.
- o The Head of the Municipal Centre is the chairperson of the Forum.

Disaster risk management committees

The local municipality will establish the inter-departmental disaster risk management committees for their areas. In addition, the municipality will establish its own disaster risk management committees and ensure the establishment of disaster risk management committees or forums in all municipal wards.

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Community participation

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

Participation of volunteers in disaster risk management

Every effort should be made to establish units of volunteers trained in special skills in communities at risk, in accordance with the national inclusive approach to the participation of volunteers in disaster risk management.

Arrangements for national and provincial co-operation for disaster risk management

Constitutionally, the Government bears primary responsibility for disaster risk management (Schedule 4, Part A, Constitution of the Republic of South Africa, Act No. 108 of 1996). However, political commitment, legal imperatives and institutional processes are not always sufficient to ensure success. An effective and comprehensive disaster risk management strategy cannot be achieved without participative decision making, involving a wide range of role players.

Disaster risk management is a shared responsibility, which must be fostered through partnerships between the various stakeholders and co-operative relationships between the different spheres of government, the private sector and civil society. Furthermore, disaster risk management is an intergovernmental process, with each sphere of government playing a unique role and performing a specific set of responsibilities in the process.

Co-operation between national, provincial and municipal spheres

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

- The NDMAF provides a further mechanism for co-operative governance by providing a forum for input, including technological and specialist input, by a wide range of stakeholders from, amongst others, civil society and the private sector.

Mutual assistance agreements

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

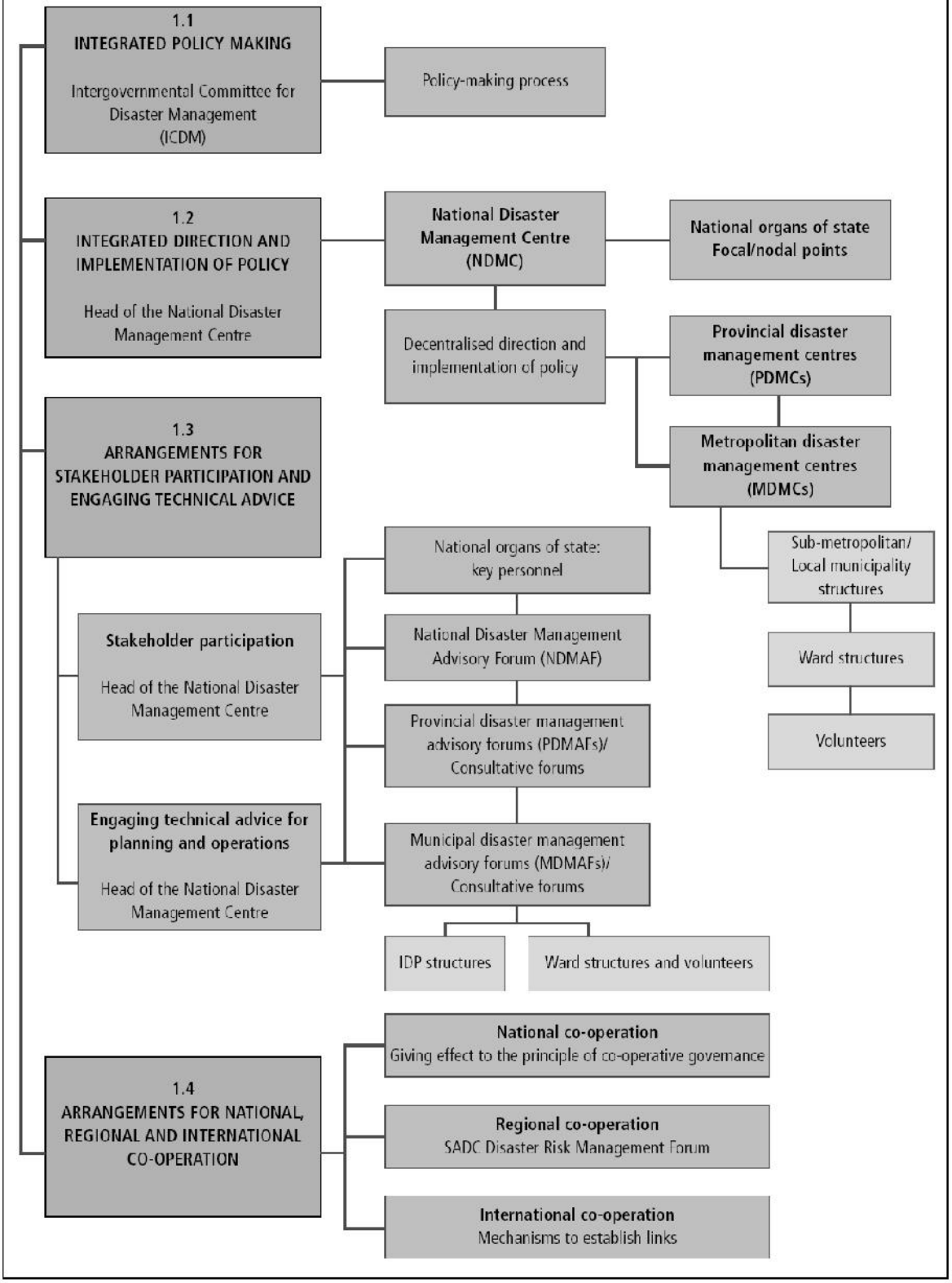
Provincial co-operation

As specified in the Act, provincial co-operation for the purpose of disaster risk management is essential, and the appropriate mechanisms must be initiated to establish a forum in which such co-operation can be achieved. Accordingly, a consultative process must be undertaken to establish a provincial forum for the purpose of disaster risk management co-operation in the province.

National co-operation

The local municipality supports and actively participates in the strategies and efforts of the national community to reduce disaster risk. It must associate itself with selected national development protocols, agendas and commitments.

Figure 1.1: Integrated institutional capacity for disaster risk management



6.2 Key Performance Area 2: Disaster Risk Assessment

6.2.1 Objective

To establish a uniform approach to assess and monitor disaster risks that will inform disaster risk management planning and disaster risk reduction undertaken by organs of State and other role players.

Disaster risk assessment and risk reduction planning

Disaster risk assessment is the first step in planning an effective disaster risk reduction programme. It examines the likelihood and outcomes of expected disaster events. This would include investigating related hazards and conditions of vulnerability that increase the chances of loss. Disaster risk assessment planning also requires identification of key stakeholders, as well as consultation with them about the design and/or implementation of the assessment and the interpretation of the findings.

Situations requiring a disaster risk assessment

Disaster risk assessments must be undertaken to:

- Anticipate and plan for known hazards or disasters to prevent losses and limit endangering impacts.
- Ensure that development initiatives maximize their vulnerability reduction outcomes.

Undertaking a disaster risk assessment

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

Stage 1: Identify the specific disaster risk(s)

- Identify and describe the hazard with respect to its frequency, magnitude, and speed of onset, affected area and duration.
- Describe and quantify vulnerability to determine susceptibilities and capacities.
- Estimate the likely losses resulting from the action of the hazard on those that are vulnerable, to evaluate likely consequences or impacts.
- Identify relevant capacities, methods and resources already available to manage the risk. Assess the effectiveness of these, as well as gaps, inconsistencies and inefficiencies in government departments and other relevant agencies.

Stage 2: Analyze the disaster risk(s)

- Estimate the level of risk associated with a specific threat or hazard to determine whether the resulting risk is a priority or not.

Stage 3: Evaluate the disaster risk(s)

- This stage involves the further prioritisation of disaster risks when there are multiple threats or hazards to assess.

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

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

Link with disaster risk management planning

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

- Known priority risks for the purpose of contingency planning.
- Priorities for vulnerability reduction planning.
- High-risk areas, communities and households exposed to multiple risks, and high-risk developments requiring further evaluation and prioritisation through focused comprehensive disaster risk assessments. (The outcomes of Stage 3 will directly inform the development of a Level 2 Disaster Risk Management Plan as well as components of a Level 3 Disaster Risk Management Plan. The results of Stage 4 will inform the development of a Level 3 Disaster Risk Management plan). (Note: Levels of Disaster Risk Management Plans to be discussed under KPA 3.)

Community - based disaster risk assessment

In accordance with the Act's intent to increase local capacity so as to minimise the risk and impact of disasters, disaster risk assessment efforts must actively include the participation of vulnerable communities and households, including physically isolated communities and female headed and child-led households.

Monitoring, updating and disseminating disaster risk information

Just like other risks, disaster risks are not static. They change seasonally and over time. To recognize such changes, and to strategically adjust programmes accordingly, all government departments are required to have monitoring systems in place that are relevant to their specific functional responsibilities. These systems form the basis for sounding timely warnings of, or alerts for, impending significant events or disasters. They are also essential for monitoring the effectiveness of ongoing disaster risk reduction efforts. Risk monitoring systems involve:

- Hazard tracking systems to monitor the physical phenomena that can trigger disaster events, for example, systems that track the seasonal build-up of grass fuels over large areas provide critical warning information on potential veld fire conditions.

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

6.3 Key Performance Area 3: Disaster Risk Reduction

6.3.1 Objective

To ensure all disaster risk management stakeholders develop and implement integrated disaster risk management plans and risk reduction programmes in accordance with approved frameworks. The successful implementation of the Act critically depends on the preparation and alignment of disaster management frameworks and plans.

Disaster risk management planning

The MDMC must ensure that all institutional role players undertake coherent and relevant disaster risk management planning.

Disaster management framework and disaster risk management plan

The Disaster management framework and disaster risk management plan are the strategic mechanisms through which disaster risk management action is co-coordinated and integrated across all spheres.

Level 1: Disaster Risk Management Plan

A Level 1 The disaster Risk Management Plan focuses primarily on establishing institutional arrangements for disaster risk management.

Level 2: Disaster Risk Management Plan

A Level 2 Disaster Risk Management Plan applies to national, provincial and municipal organs of
State that have established the institutional arrangements, and are building the essential supportive capabilities needed to carry out comprehensive disaster risk management activities.

Level 3: Disaster Risk Management Plan

A Level 3 Disaster Risk Management Plan applies to national, provincial and municipal organs of
States that have established both the level 1 and level 2 disaster risk management plans. The level 3 plan must specify clear institutional arrangements for co-coordinating and aligning the plan with other governmental initiatives and plans of institutional role players. It must also show evidence of informed disaster risk assessment and ongoing disaster risk monitoring capabilities, as well as relevant developmental measures that reduce the vulnerability of disaster prone areas, communities and households.

Strategic integrating role of disaster management centre

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

Setting priorities for disaster risk management planning

Effective disaster risk management planning by all bodies of State as well as other role players requires careful identification of priority disaster risks and the most vulnerable areas, communities and households to these risks.

Identifying municipal priority disaster risks

Municipal disaster priority setting is informed by three important considerations:

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

Identifying the most vulnerable areas, communities and households

Not all areas, communities and households face the same disaster risks. In undertaking disaster Risk management planning, priority will be placed on those areas, communities and households that are exposed to natural or other threats, and have the least capacity to resist and recover from the resulting impacts. These are called at -risk areas, communities or households.

Priorities for focusing disaster risk protection efforts

For disaster risk management planning purposes, the municipality will in accordance to its functional area or area of jurisdiction, give priority to protecting:

- Strategic infrastructure or lifeline services whose damage or disruption in disaster events would result in serious and widespread consequences.
- Critical economic, commercial, agricultural and industrial zones or sites whose damage or disruption would have serious and widespread consequences.
- Fragile natural ecosystems and environmental assets that offer protective environmental services and which, if damaged or destroyed in a disaster event, would result in serious natural and economic losses.

- Communities in areas exposed to extreme weather and/or other natural and technological hazards and which are therefore likely to sustain serious human and property losses in the event of a disaster.

- Poor and underserved rural and urban communities, including informal settlements, especially those located in fragile ecological areas, which sustain repeated losses from recurrent small, medium, and large disaster events and that lack insurance coverage to facilitate recovery.
- Highly vulnerable households in at-risk areas with limited capacity to resist or recover from external shocks, particularly child-headed households or those headed by the elderly or households affected by chronic illness.(Note: Where possible, this process must take place in consultation with those most at risk).

Strategic planning: disaster risk reduction

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

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

Core disaster risk reduction principles of disaster prevention and mitigation

All disaster risk management plans will give explicit priority to the core principles of disaster prevention and mitigation. Nationally, disaster prevention, mitigation and preparedness are referred to as disaster risk reduction measures, because they lessen the likelihood of harmful losses by avoiding endangering hazards or reducing vulnerability. In this way, prevention and mitigation are central to achieving the goal of disaster risk reduction, in which vulnerabilities and disaster risks are reduced and sustainable development opportunities strengthened. It is often difficult to decide whether an intervention is preventive or mitigating. For this reason, it is more practical to refer to them jointly as disaster risk reduction measures, because both minimise the risk of disasters.

Disaster prevention

Disaster prevention refers to actions that provide 'outright avoidance' of the adverse impact of hazards and related environmental, technological and biological disasters. Many disasters can be prevented through

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

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

Disaster mitigation

Disaster mitigation refers to structural and non-structural measures that are undertaken to limit the adverse impact of natural hazards, environmental degradation and technological hazards on vulnerable areas, communities and households. These efforts will target the hazard or threat itself (for example, a fire break that stops a fire spreading close to residential areas). This is often referred to as 'structural mitigation', since it requires infrastructure or engineering measures to keep the hazard away from those at risk. Disaster mitigation efforts will also target people who are at risk, by reducing their vulnerability to a specific threat (for instance, promoting community responsibility for controlling fire risk in an informal settlement). This is often called 'non-structural mitigation', as it promotes risk avoidance behaviors and attitudes.

Operational planning: preparedness, response and recovery

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

Preparedness

Preparedness contributes to disaster risk reduction through measures taken in advance to warnings, including the timely and temporary evacuation of people and property from threatened locations. Preparedness enables the municipality, organs of State and other institutions involved in disaster risk management, the private sector, communities and individuals to mobilise, organise, and provide relief measures to deal with an impending or occurring disaster, or the effects of a disaster. Preparedness differs from prevention and mitigation as it focuses on activities and measures taken in advance of a specific threat or disaster.

Preparedness actions include:

- Planning for seasonal threats, such as heavy rainfall, flooding, strong winds, veld or rural fires, and communicable disease outbreaks.
- Anticipating and planning for the potential dangers associated with large concentrations of people at sporting, entertainment or other events.
- Establishing clear information dissemination processes to alert at -risk communities of an impending seasonal threat, such as a potential outbreak of cholera during the rainy season.
- Specifying evacuation procedures, routes and sites in advance of expected emergencies, including the evacuation of schools in areas exposed to flash floods.
- Defining in advance clear communication processes and protocols for different emergency situations, including the dissemination of an early warning for an impending extreme weather threat to isolated or remote communities.(Note: These actions are key components of the contingency plans that should be developed for specific threats as part of a municipal disaster risk management plan).

Disaster response

Disaster response refers to the provision of assistance or intervention during or immediately after a disaster to meet the life preservation and basic subsistence needs of those people and animals affected. It can be of an immediate, short-term or protracted duration. (See KPA 4.)

Disaster recovery

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

Disaster recovery includes:

- Rehabilitation of the affected areas, communities and households.
- Reconstruction of damaged and destroyed infrastructure.
- Recovery of losses sustained during the disaster event, combined with the development of increased resistance to future similar occurrences. (Note: Disaster recovery initiatives present excellent opportunities to incorporate disaster risk reduction actions. Following a disaster event, there are usually high levels of awareness about the risk factors that increased its impact. These present opportunities to introduce disaster risk reduction efforts consultatively with the affected communities and key stakeholders in order to reduce the likelihood of future loss). (See KPA 4.)

Eight key planning points for disaster risk reduction projects or programmes

There are eight key planning points or requirements that must be applied and documented when planning disaster risk reduction initiatives. These enhance the established principles and approaches detailed in existing guidelines for integrated development planning.

- **Planning point 1**: Use disaster risk assessment findings to focus planning efforts.
- **Planning point 2:** Establish an informed multidisciplinary team with capacity to address the disaster risk and identify a primary entity to facilitate the initiative.
- **Planning point 3:** Actively involve communities or groups at risk.
- **Planning point 4:** Address multiple vulnerabilities wherever possible.
- **Planning point 5:** Plan for changing risk conditions and uncertainty, including the effects of climate variability.
- **Planning point 6:** Apply the precautionary principle to avoid inadvertently increasing disaster risks.
- **Planning point 7:** Avoid unintended consequences that undermine risk-avoidance behavior and ownership of disaster risks.
- **Planning point 8:** Establish clear goals and targets for disaster risk reduction initiatives, and link monitoring and evaluation criteria to initial disaster risk assessment findings

Research

Disaster risk reduction initiatives will be preceded by transparent research and careful planning and will provide evidence of the relevance or likely effectiveness of the planned intervention(s). (See Enabler 2.)

Monitoring effectiveness and disseminating results

As part of the annual reporting requirements specified in the Act, the municipal disaster management centre will include documented accounts of the disaster risk, reduction projects, programmes and initiatives planned and implemented, including those aimed at reducing vulnerability and loss for defined priority disaster risks.

Integration of disaster risk reduction with spatial development planning

Disaster risk is driven by both hazard and vulnerability factors reflected in spatial development frameworks.

Incorporation of disaster risk reduction planning into integrated development planning

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

Risk - avoidance enforcement mechanisms

Critical components of effective disaster risk reduction are regulations, standards, by-laws and other legal enforcement instruments that discourage risk-promotive behavior and minimise the potential for loss. The municipality will assess the disaster risk management component of their existing policies, regulations, by-laws and other relevant legal instruments for their functional areas, and introduce measures to ensure alignment with the requirements specified in the Act. This will involve:

- Amendment of urban planning standards.
- Amendment of land-use regulations and zoning.
- Amendment of minimum standards for environmental impact assessments.
- Introduction of standards for 'risk-proofing' lifeline services and critical facilities from known priority disaster risks.
- Introduction of by-laws to implement extraordinary measures to prevent an escalation of a disaster or to minimise its effects. **Implementation and monitoring of disaster risk reduction programmes and initiatives**

Effective implementation of disaster risk reduction programmes:

The eight planning points outlined above will also be applied when implementing disaster risk reduction programmes and initiatives. The monitoring processes and evaluations for disaster risk reduction initiatives specifically targeted communities at risk and must include both qualitative and quantitative vulnerability reduction outcomes. In addition, projects will demonstrate close compliance with the goals**,**

objectives, timeframes and resource requirements identified in the planning process. Mechanisms must also be established to allow for project adaptation and adjustment for unforeseen conditions and opportunities. The Municipal disaster management centre will include in the annual report documented accounts of the disaster risk reduction projects, programmes and initiatives planned and implemented. This include reports documenting the effectiveness of disaster risk reduction pilot projects and research initiatives, as well as initiatives that aim to reduce vulnerability and loss for defined priority disaster risks.

Measurable reductions in short-, medium - and large - scale disaster losses

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

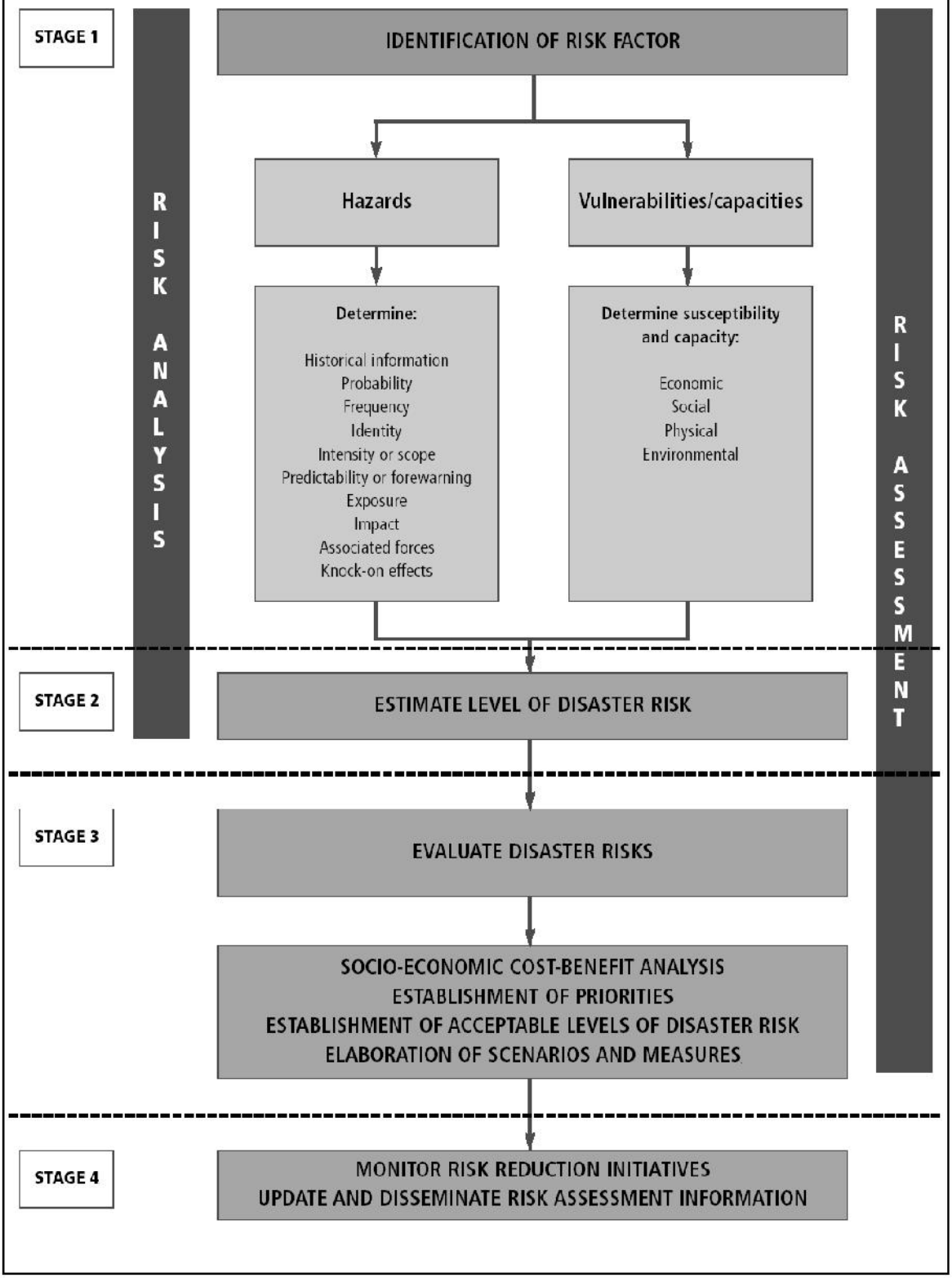
Reduced need for social relief in disaster-prone and economically vulnerable communities

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

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

The promotion of a 'culture of prevention' is practically enabled by access to examples of best practice in disaster risk reduction. In addition to the adoption of measures outlining training and capacity-building strategy, mechanisms for disseminating information on best practice in disaster risk reduction. This includes the development of learning materials and support guides for different risk scenarios and contexts. (See Enabler 2)

Figure 2.1: The basic stages of a disaster risk assessment



6.4 Key Performance Area 4: Response and Recovery

6.4.1 Objective

To ensure effective and appropriate disaster response and recovery by:

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

Early warnings

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

Assessment, classification, declaration and review of a disaster

When significant events or disasters occur or are threatening to occur, clear guidelines for the measures that have to be taken need to be established. Organs of State are in terms of section 25 of the Disaster Management Act, 2002, tasked with primary responsibility for dealing with disasters as a result of a particular hazard or significant event. To ensure immediate and appropriate response and relief actions the municipality will prepare operational guidelines for initial assessments, the extent of the area affected and the damage to critical infrastructure, lifeline facilities, property and the environment.

Disaster reviews and reports

Comprehensive reviews will be conducted routinely after all significant events and events classified as disasters. The findings will directly influence the review and updating of disaster risk management plans and will also serve as valuable training aids.

Integrated response and recovery

Co-ordination of response and recovery efforts

Responsibility for co -coordinating response to specific known rapid- and slow-onset significant events and disasters must be allocated to specific role players. For example:

- Flood response and recovery efforts would involve the combined efforts of many stakeholders, but the primary responsibility must be allocated to a specific stake holder with other stakeholder other stakeholders assuming supportive responsibilities. In the case of riverine floods, for example, the Department of Water Affairs and Forestry will bear primary responsibility. In the case of drought, the Department of Agriculture will be the primary agency, and in the case of extreme weather events, the NDMC could assume primary responsibility.

Resources

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

Volunteers

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

Municipal standard response management system

Each agency identified in the response management system must establish Standard Operating Protocols or procedures (SOPs) for co-coordinating response and recovery operations, and for ensuring government/business continuity. The SOPs must be consistent with the requirements of relevant legislation, regulations and standards. The response management system must include common terminology for the identification of stakeholders responsible for direction, control and co-ordination of an event at the operational, tactical and strategic level, as well as for the title used for each level. For example, the tactical level (field operations), from where the event is being co-ordinated could be referred to as the Joint Operations Centre (JOC). Where strategic intervention is also required, for example in the case of a significant event, the head of the disaster management centre will be responsible for activating the Disaster Operations Centre (DOC) located in the centre of the relevant sphere. (Note: The involvement of organised agriculture at all levels of the integrated institutional capacity for disaster risk management is of vital importance.)

The system must take into account conditions in the province of KZN where frequent significant events occurring on a daily basis require extraordinary measures, but do not necessarily justify the declaration of a local state of disaster. The system must provide for a mechanism to track escalation of incidents and facilitate the reporting of 'trigger' indicators. 'Trigger' indicators must be clearly identified and must be reported to the disaster management centres in the various spheres. Examples include the routine reporting of all veld and forest fire incidents to the disaster management centre when fire danger rating indices are at certain levels, or the reporting of all incidents that require a predetermined level of response.

Emergency communication system

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

Media relations

Responsibilities and protocols for media liaison, including press releases and media interviews, in the event of a national disaster occurring or threatening to occur, will be determined by the MDMC.

Regulations and directives for response and recovery Operations

The MDMC will ensure the development of regulations and directives to standardize and regulate the practice and management of response and recovery operations.

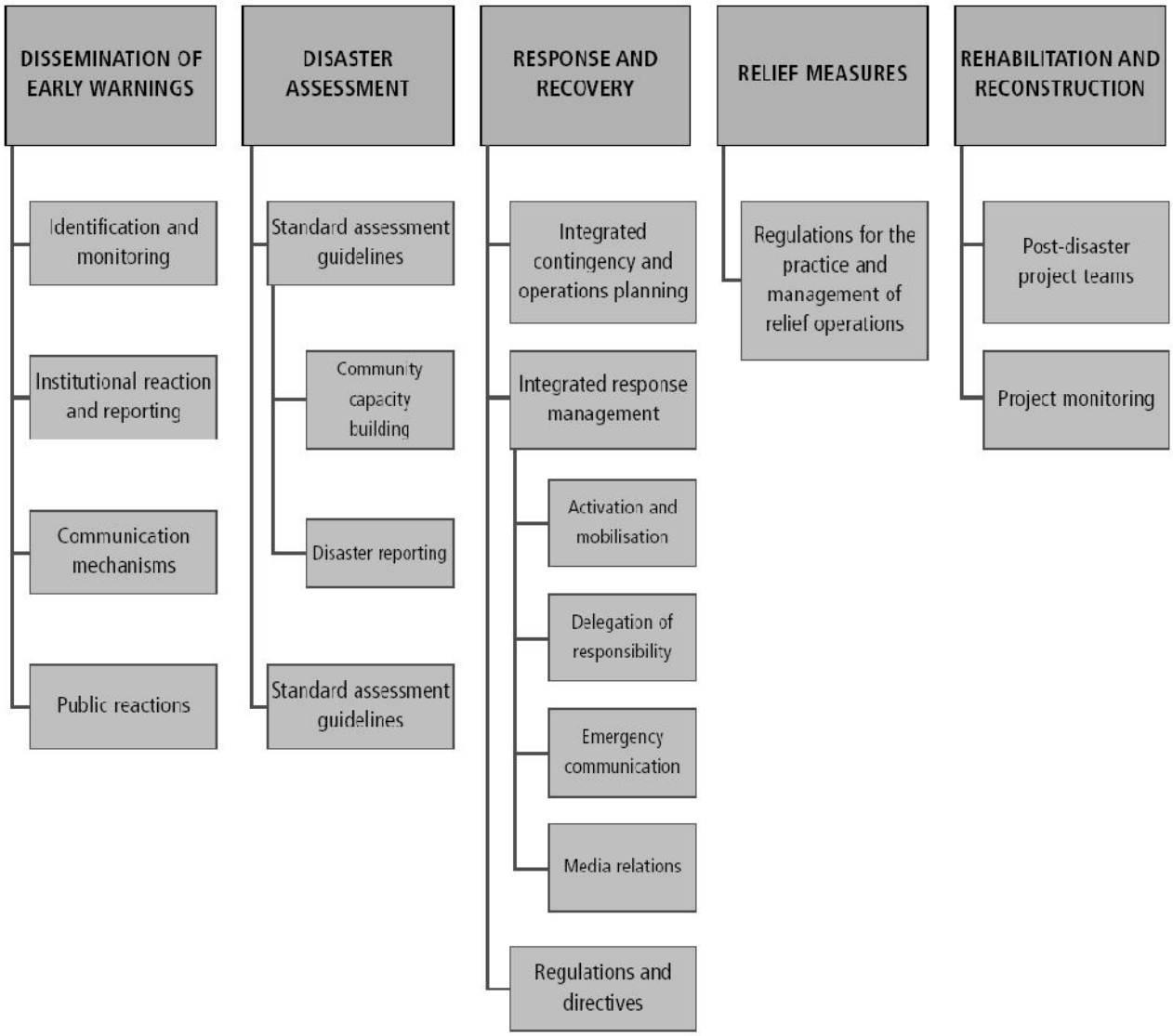
Regulation of relief measures

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

Rehabilitation and reconstruction

In order to ensure a holistic approach to rehabilitation and reconstruction in the aftermath of a significant event or disaster, the organ of State tasked with primary responsibility for a known hazard, will facilitate the establishment of project teams for this purpose. Checks and balances must be affected to ensure that projects and programmes maintain a developmental focus. Project teams established for this purpose will determine their own terms of reference and key performance indicators and will report on progress to the MDMC.

Figure 4.1: Disaster response and recovery



6.5 Enabler 1: Information Management and Communication

6.5.1 Objective

To guide the development of a comprehensive information management and communication system and establish integrated communication links with all disaster risk management role players. It requires systems and processes that will:

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

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

6.6.1 Objective

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

- Education and training programmes pertaining to disaster risk management in all spheres of the education system need to be recorded and monitored.
- The content of education and training programmes as well as records of participants (professionals, volunteers, communities, learners), and the education and training programmes they attended must be recorded.

- A register and records need to be kept of all accredited service providers as well as accredited facilitators to ensure that minimum standards set by Sector Education and Training Authorities (SETA's) are met.
- Research programmes and projects need to be registered and monitored and the information disseminated to relevant stakeholders.
- Initiatives related to an integrated awareness programme by all spheres of government need to be recorded to minimise duplication and to ensure synergy among stakeholders.

6.7 Enabler 3: Funding arrangements for disaster risk management

6.7.1 Objective

To provide a database that contains data relating to all funding matters. The funding mechanisms for different aspects of disaster risk management, budgets, applications for funding, approvals and spending, need to be recorded to ensure proper usage and management of available funding.(Note: It is important to look at the activities provided for under this enabler where all spheres of Government must adhere to the funding arrangements for their own organs. These will include the following costs:

- Development of plans,
- The sensitization of all concerned and the review of plans;
- Dissemination, coordination and implementation of early warning systems and issuing of advisories;
- Awareness campaigns and education; and
- Research initiatives.

The municipality will provide for disaster in their annual budget or Medium Term Expenditure Framework projections. If the disaster is of such a magnitude that a provincial municipality cannot handle it, assistance may be requested from the NDCM. The latter will then approach National Treasury for post-disaster recovery and rehabilitation. Funding will ultimately depend on the approval of assistance schemes).

7. INSTITUTIONAL ARRANGEMENTS

Composition, Key Functions & Constitution

Objective

The key and major objective of this process is to primarily establish integrated institutional capacity within the local municipality in order to enable the effective implementation of the disaster management risk management framework.

7.1 Municipal Disaster Management Advisory Forum

In Terms of the disaster risk reduction the local sphere of government is the first in line of defence and in the event of a disaster occurring or threatening to occur the communities are in reality the first respondents. The primary responsibility for co-ordination and management of the local disaster rests with the local sphere of Government. Thorough disaster risk management planning and effective co-ordination is key to saving lives, limiting the possible damages to property and infrastructure as well as the environment

Key Functions and responsibilities

- Give advice and make recommendations on the disaster related issues and disaster risk management
- Contribute to disaster risk management planning and co-ordination
- Technological and specialist input
- Establish joint standards of practice
- Implement response management systems
- Gather critical information about the municipality's capacity to assist in Disasters and access to resources
- Assist with public awareness, training and capacity building and training.

Constitution

The ICDM consists of members of various sector departments who in one way or another are involved in the management of the disaster risk. It includes members or representatives from the following sector departments:

- Head of the municipal disaster management centre

- Senior representatives of each of the following provincial departments designated by the manager of the department concerned:
  - Agriculture and Land Affairs
  - Defence
  - Education
  - Environmental Affairs & tourism
  - Foreign Affairs
  - Health
  - Home Affairs
  - Housing and Human settlement
  - Minerals & Energy
  - Cooperative Governance and Traditional Affairs
  - Public Works
  - Safety & Security
  - Social Development
  - Transport
  - Water Affairs & Forestry
  - Eskom
  - Telkom
- Head of the District Disaster Management Centre
- Representatives of organised local government in the Province
- Head or representative of the Provincial Disaster Management Centre
- Representative from organised business
- Representative from organised agriculture
- Representative from organised Traditional leaders
- Representative from organised religious organisations
- Representative from organised welfare organisations dealing directly with disaster related matters.

7.2 Disaster Risk Management Committee

The local municipality will establish the internal disaster risk management committee as well as to ensure the establishment of the disaster management committees in all wards.

Key functions and responsibilities

Constitution

The disaster risk management committee shall consist of the administration and political structure that are in one way or another directly or indirectly involved in the management of disaster risk. Those members will include members from the following departments:

- Head of the municipal disaster management center
- Health
- Fire & Protection Service
- Social & Community Service
- Planning & Development
- Environmental Health
- Engineering Services.
- Chairperson of the respective portfolio committees
- Municipal Manager

7.3 Municipal Disaster Management Centre

The MDMC and the DDMC are the principal functional units for disaster managements in the Local sphere. In essence the MDMC & DDMC are responsible for guiding and developing the framework for the municipal disaster risk management framework and policy as well as the facilitating, monitoring and implementation of the disaster risk management activities.

7.4 Community Participation

The community is at the coalface of disaster risk management. It is from the conditions or risks that exist that all other disaster risk management activities evolve. It is in the community where all the operational activities related to disaster risk management take place. All disaster risk reduction, planning and development of projects and programmes including the allocation of responsibilities must be founded on the needs and priorities of communities. It is therefore important to note that disaster risk reduction is a community process. An effective and comprehensive disaster risk management strategy cannot be achieved outside participative discussions involving a wide range of role players. DRM is a shared responsibility, which must be fostered through ongoing partnership and co-operation between the various role players and the community.

7.5 Participation of Volunteers in DRM

In terms of the Disaster Management act no 57 of 2002, every effort should be made to establish units of volunteers trained in special skills in communities at risks based on the disaster hazards prevalent in those respective communities. This process must be undertaken in accordance with a national inclusive approach to the participation of volunteers in disaster risk management.

7.6 Mutual Assistance Agreements (ANNEXURE 1)

Sections of the Disaster Management Act 57 of 2002 states that the various spheres must establish their level of capacity to deal with disaster risk reduction, response and recovery. In an effort to strengthen the municipal capacity to adequately deal with risk reduction response and recovery the municipality will enter into mutual assistance agreements with their neighbouring municipalities, the private sector, other organs of state and communities. Accordingly a consultative process must be undertaken for the signing of the MAA.

Table 7.8 Primary roles and functions of various organizations at different levels by DRM elements (illustrative example)

		Pre-Disaster				Post-Disaster	
Level	**Actors**	**Prevention**	**Mitigation**	**Preparedness**	**Response**	**Recover**	**Development**
National	National Agencies	Raise awareness on DRM	Ensure quality in donor funded infrastructure projects	Treat DRM as an inclusive activity	Mobilize financial aid as grants and long term loans	Fund food for work and rehabilitation programmes	mainstream DRM Activities in development Planning
National	National Government	Establish early warning systems, infrastructure, legal and policy framework for DRM	Promulgate construction code and safety regulations	Prepare national disaster relief Plan	Declare a disaster and state of emergency	Set up emergency fund and recovery fund	Prepare Codes of Conduct in relief and Development
Province /District Municip ality	Provincial Government	Set local administration rules, Provide incentives for promotion of risk reduction technology	Promote multi-sectoral integrated approaches in DRM	Provide agro-ecological data for Disaster relief Plan	Co-ordinate and mediate actions between national and local level	Implement food for work or other rehabilitation programmes	Protect infrastructure; promote risk reducing technologies
	Technical line agencies	Develop risk reducing technologies	Test risk- reducing technologies and sector specific forecast systems	Prepare sectoral risk management and response plans	Assist in needs assessment and distribution of sector specific inputs	Promote sector specific recovery processes	Develop risk reducing technologies
	Intermediary-level NGO's	Provide Training to local NGO's	Undertake watershed/river basin planning	Provide Skills Training to local NGO's	Mediate between National and Local Level	Set Up rehab projects to restore lost assets	Promote local institutional development
	Local Government	Develop local disaster prevention plan	Undertake watershed/river basin planning	Prepare evacuation and contingency plan	Provide shelter to displaced households	Set up rehabilitation projects for public goods	Prepare local risk maps and disseminate information
Commu nity	Local Leaders & Representatives	Plan/Implement awareness raising campaigns	Solicit external technical Assistance on DRM	Carry out awareness raising campaigns	Act as advisory Focal Points	Promote improved technologies	Facilitate links and co-ordination between organizations
	Local Emergency Committees	Undertake hazard risk diagnosis	Undertake household vulnerability assessments	Prepare evacuation plans	Deploy search and rescue teams	Deploy food aid and committee /teams	Advise how to reduce local vulnerability
	Local Level NGP's	Undertake hazard risk diagnosis	Undertake household vulnerability assessments	Conduct Awareness raising campaigns	Deploy trainers on hygiene & Health	Provide psychological counseling & Support	Define local priorities to reduce vulnerability
	Micro-Financial Intermediaries	Undertake hazard risk diagnosis	Promote mitigation practices	Spread risks across portfolio	Undertake client damage assessments	Arrange loan rescheduling and other special activities	Integrate DRM in development activities
	Community based Organizations	Undertake hazard risk diagnosis	Maintain Public Infrastructure	Construct infrastructure to protect property	Tap customary solidarity networks	Mobilise communities for joint action	Provide moral support and advice

UMTSHEZI MUNICIPALITY

Umtshezi Municipality: Municipal Turn-Around Strategy 2012/2013 - Key Priority Areas

MTAS	MILESTONE	DETAILED ACTIVITIES	RESPONSIBLE OFFICIAL	TARGET DATES	BLOCKAGES/ CHALLENGES	SUPPORT NEEDED IN TERMS OF UNBLOCKING
1. Access Roads to Rural Areas **2. Road Maintenance** **3. Purchase of Equipment (Rollers)**	• Madondo: 2,4km (MIG) • Ezintabeni – 400m (In House) • Ezitendeni – (MIG**)** • Weenen Roads (In House) • Umgwenya Road (In House)	Communicate with ward councillor to prioritise projects in line with the IDP. Appoint Staff from each area. Register appointed staff with EPWP. Construct all roads.	**Director Civil: P Zamisa**	**30 June 2013**	Minimal allocation from MIG. Inadequate Equitable Share. Shortage of staff with Technical.	Additional allocation of funds. Technical support from supporting Bodies.

MTAS	MILESTONE	DETAILED ACTIVITIES	RESPONSIBLE OFFICIAL	TARGET DATES	BLOCKAGES/ CHALLENGES	SUPPORT NEEDED IN TERMS OF UNBLOCKING
4. Electricity Infrastructure Refurbishment	Upgrade of Substation 57 Phase 2	• Finalise Tender Process • Apply for additional funding • Engage Project Managers • Progress Reporting	**Acting Director: Electrical C Moodley**	**30 June 2013**	Insufficient Funding. Shortage of Suitable qualified staff	Additional allocation of funds Technical Support from Supporting Bodies Additional Suitably qualified staff Awaiting Adjudication
	Upgrade of Sub 39 33kv Pylon Refurbishment Scada System Implementation Upgrade of Wembezi Substation Upgrade Metering System Improvement of Streetlights	Application for funding Follow Supply Chain Policy Engage Project Managers Progress Reporting				

MTAS	MILESTONE	DETAILED ACTIVITIES	RESPONSIBLE OFFICIAL	TARGET DATES	BLOCKAGES/ CHALLENGES	SUPPORT NEEDED IN TERMS OF UNBLOCKING
5. Housing Assistance	• Commencement for the construction of 2000 units and complete Stage 2 application for a further 3000 units. • Increase the number of units. • Lindelani • Cornfields	7 IA'S to be appointed Various processes have to be followed prior to construction, namely; • Conditional approval (2 months) • Stage 1 Pre-lim • Stage 2 – Detailed • Stage 3 – Construction These stages could take at least 18 months Tripartite contracts to be signed by the Municipality, IA and province	**Director PECS**	**30 June 2013**	Land Legal Issues Slow rate of approval projects by Department of Human settlements	Assistance from Department of Human settlements. Quick approvals/prompt response

6. Clean Audit Report	To ensure that the Municipality receives a clean audit report from the Auditor General	• Prepare action plan and time table for the preparation of the AFS • Prepare control sheet for legislative compliance and monitor compliance monthly.	**CFO: Mrs N Thomas**	**30 June 2013**	Staff experience and capacity	Send staff for training initiatives timeously.
MTAS	**MILESTONE**	**DETAILED ACTIVITIES**	**RESPONSIBLE OFFICIAL**	**TARGET DATES**	**BLOCKAGES/ CHALLENGES**	**SUPPORT NEEDED IN TERMS OF UNBLOCKIN**
7. Revenue Collection	To ensure that revenue collection of the Municipality is maximised	• Consumer Education • Disconnect 100% defaulters • Block prepaid purchase • Do follow ups daily • Initiate Legal Process	**CFO: Mrs N Thomas** **Acting Director: Electrical: C Moodley**	**30 June 2013**	Tampering with electricity meters Resistance from Ratepayers Association	Appoint external service provider to police tampering Community Consultation
8. Performance Management	Ensuring that Performance Management is in place	• PMS reports to be reviewed monthly and monitored quarterly. • To introduce PMS to Senior Managers	**Municipal Manager: Miss PN Njoko**	**30 June 2013**	Appointment of a suitable person	Send staff for training. To obtain support from COGTA

9. Refuse Removal and Solid Waste Disposal **10. Weigh Bridge** **11. Skips** **12. Eradication of Illegal Dumping**	Extend solid waste collection to other areas previously not covered. 20% increase. Collect 8000 tons of waste as per the entry waste gate register/sheet Waste minimisation system: Introduction Recycling	• Ensure landfill site is properly fenced. • Procure new weighbridge • Vigorous Community awareness on waste management • Attend waste management system(mis) for capturing our waste statistics and reporting to NEMA. • Waste disposal survey to be carried out by NEMA.	**Director: PECS**	**30 June 2013**	Construction of fencing has been completed. Weigh Bridge	Obtaining necessary funding from AFA.

MTAS	MILESTONE	DETAILED ACTIVITIES	RESPONSIBLE OFFICIAL	TARGET DATES	BLOCKAGES/ CHALLENGES	SUPPORT NEEDED IN TERMS OF UNBLOCKING
13. Review of Public Communication Strategy/ Marketing Strategy	Review Current communication strategy Circulate for comments Submit to Council for adoption	• Update and review communication strategy • Circulate for comments • Final adoption by Council • Conduct a workshop for councillors	**Director: PECS**	**30 June 2013**	Preparation of document to incorporate relevant strategies	COGTA support requested on finalising this issue.
14. Poverty Alleviation	Employ 1000 destitute people living below poverty line.	• Conduct assessments • Recruit beneficiaries • Train Supervisors • Procure Uniforms • Deploy beneficiaries per project identified by communities	**Director: PECS**	**30 June 2013**	Budget	COGTA and LIMA to fund project Partner with Cogta and CWP Programme

MTAS	MILESTONE	DETAILED ACTIVITIES	RESPONSIBLE OFFICIAL	TARGET DATES	BLOCKAGES/ CHALLENGES	SUPPORT NEEDED IN TERMS OF UNBLOCKING
15. Youth Development	Train 100 youth in various skills and put them through artisans programme.	• Conduct assessments • Recruit youth • Train Supervisors • Procure Uniforms • Deploy youth per project identified by communities	**Director: PECS**	**30 June 2013**	Budget	NYDA Fund and Umtshezi Municipality Partner with Cogta and NYDA Programme
16. By-Laws& Other Policies	• Review all current By-Laws & Policies	• ReviewBy-laws • Review Policies	**Director : Corporate Services**	**On going**	• Availability of Role Players to facilitate Workshops • Poor attendance at the workshops • Cancellation of workshops due to unforeseen circumstances • Complexity involved in categorizing By-Laws	• Commitment from Role Players
17. Upgrading of Recording System	• Regular Servicing of System	Maintenance Agreement to be implemented	**Director: Corporate Services**	**On going**	Outright purchase with no Maintenance Agreement	• Maintenance Agreement to be

						finalized. • Submitting to Finance Committee Meeting 13/03/13
18. Traffic Officers	• Visibility of Traffic Officers	• Implementation of weekly duty roster. • Traffic Officers to engage in Foot Patrol • 1 Fully qualified Traffic Officer to be paired with 1 Rookie. • Rotation of Traffic Officers	**Director: Corporate Services**	**On going**	• Shortage of qualified Officers • Financial Constraint • Lack of funding • Shortage of Office Space	• TraineeTraffic Officers to be trained urgently. • Source funding from D.O.T • Additional allocation of Funds
19. Increase of Revenue by Traffic	• To improve monthly revenue.	• Minimize errors on fines issued • Follow up on case results • Target of 150 fines per month to be allocated to each Officer(5 officers) • Monitoring of targets on regular basis • Incentives /	**Director: Corporate Services**	**On going**	• Lack of competency • Errors on fines issued cause withdrawals of fines by the Public Prosecutor	• Refresher training by Manager & Supervisor to be done • Fines to be checked by Manager/ Supervisorbe fore being captured. • Allocation of funding

		bonuses for top achievement				
20. Filling of important Vacancies	• Fast track Recruitment Processes	• Ensure regular & prompt communication with Panel members	**Director: Corporate Services**	**On going**	• Non attendance of Officials for the Recruitment Process	• Co-operation from the relevant Officials

Action Plan for each MTAS Priority

ANNEXURE A: 2012/2013 IDP Review Action Plan

ACTIVITY NUMBER	KPA	KPI	TIME FRAME	RESOURCES REQUIRED	TARGET	STATUS
1	**-Advertise for the update of the IDP Stakeholders list**	Advertisement	30/07/12	Finance	100%	Done - 30 August 2012
	- Advertise Draft Process plan for comments and inputs **- Forward Draft Process Plan 13/14 to COGTA**	Advertisement Draft Process Plan	30/07/12 30/07/12	Finance Printing	100% 100%	Done – 30 July 2012
	- Adoption of process plan by Umtshezi Municipal Council/Executive Committee	Adopted Process Plan	1/09/12	Finance	100% with amendments	Done – 29 July 2012
	- Advertise Final Process Plan	Advertisement	8/09/12	Finance	100%	Done – 30 August 2012
	- Submit Process Plan to MEC	Submitted document	8/09/12	Finance	100%	2 August 2012

2	**1st IDP Steering / Strategic planning committee meeting**	Minutes	29/09/12	Finance	60% stakeholder attendance	***Done - 20 July 2012***
3	**IDP Workshop: For the new Council**	Report	DEPENDING ON THE DATE OF ELECTION	Finance	90% attendance	
4	**2nd IDP Steering Committee Meeting:** **Analyse :** Level of existing services (Consider Assessment Report and MEC Comments) >Review Municipal Vision >Review Objectives and Strategies >Review Spatial development Framework >Identify outstanding sector plans >Integrate Finalised Sector plans >Municipal PMS	Minutes	10/01/12	Finance	60% stakeholder attendance	Complete – 12 and 13 January 2013
5	1st Representative **Forum Meeting**	Minutes	28/01/13	Finance	60% stakeholder attendance	Done – 9 February 2013
6	**3rd IDP Steering Committee Meeting** Review Projects and	Minutes	11/02/13	Finance	60% stakeholder attendance	28 February 2013

	Programmes Review KPI's targets, timeframes, etc, where impacted upon by reproritization. Align with draft budget estimates					
7	**Service Providers Forum/Sector Departments** > Service Providers Alignment Workshop	Minutes	30/03/13	Finance	60% stakeholder attendance	Incorporated into the Representative forum 9 Feb. 2013
8	**Public Participation** Consultative meetings with all stakeholders	Public meetings	To be completed before 4th Steering Committee	Finance	Decentralised Meetings	
8.1	**Meeting with ward committees**	Minutes	To be completed before 4th Steering Committee	Finance	60% stakeholder attendance	Incorporated into the Representative forum 9 Feb. 2011
8.2	**Meeting with Chamber of Commerce and Industry**	Minutes	08/02/13	Finance	60% stakeholder attendance	10 February 2013
8.3	**Meeting with Farmers Association**	Minutes	15/02/13	Finance	60% stakeholder attendance	Fr meeting 29/2/13
8.4	**Meeting with Tourism Associations**	Minutes	22/02/13	Finance	60% stakeholder attendance	20 January 2013
8.5	**Public meetings for all wards**	Minutes	Decentrelised Dates to be	Finance	To reach out to as many as possible	

	Finalisation of IDP Review and Budget		determined		members of public	
9	**4th IDP Steering Committee Meeting** (Consider Public comments)	Minutes	4/04/13	Finance	60% stakeholder attendance	21 April 2013
10	**2nd IDP Representative Forum meeting** Presentation of Draft IDP 10/11	Minutes	13/04/13	Finance	60% stakeholder attendance	
11	**Workshops with internal staff**	Minutes	On going	Finance	60% attendance	On going
12	**Council Meeting** Adoption of final IDP 10/11 for submission to MEC for comments	Minutes	30/05/13	Finance	100%	6 May 2013
13	**Development of all outstanding Sector Plans**	Completed and adopted documents	On going	Finance and technical support	70%	On going