



Municipal Disaster Management Plan

Stellenbosch Municipality

Core Plan for inclusion within the IDP of the Stellenbosch Municipality

MAY 2017

In case of an emergency, the user of this document should immediately turn to the attached preparedness plan for guidelines on managing response.

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1 INTRODUCTION

This plan confirms the arrangements for managing disaster risk and for preparing for- and responding to disasters within the Stellenbosch Municipality as required by the Disaster Management Act, 2002 (Act 57 of 2002). *In case of an emergency, the user of this document should immediately turn to the attached preparedness plan for guidelines on managing response.*

1.1 Legal requirements

The Stellenbosch Municipality is legally obliged to prepare a disaster management plan for its area according to the circumstances prevailing in the area; to co-ordinate and align the implementation of its plan with those of other organs of state and institutional role players; and to regularly review and update its plan. The municipality must also consult the local municipalities within its area and local communities on the preparation or amendment of its plan.

The Disaster Management Amendment Act, 2015 (Act no 16 Of 2015) will commence on 1 May 2016. The Proclamation that was published in the Government Gazette No. 399430 on 22 April 2016.

Amendment of section 53 of Act 57 of 2002 of the Disaster Management Act, – hereafter referred to as “the Act”) requires the Stellenbosch Municipality to:

21. Section 53 of the principal Act is hereby amended by the substitution for subsection (1) of the following subsection:

“(1) Each municipality must—

- (a) conduct a disaster risk assessment for its municipal area;
- (b) identify and map risks, areas, ecosystems, communities and households that are exposed or vulnerable to physical and human-induced threats;
- (c) prepare a disaster management plan setting out—
 - (i) the way in which the concept and principles of disaster management are to be applied in its municipal area, including expected climate change impacts and risks for the municipality;
 - (ii) its role and responsibilities in terms of the national, provincial or municipal disaster management framework;
 - (iii) its role and responsibilities regarding emergency response and post disaster recovery and rehabilitation;
 - (iv) its capacity to fulfil its role and responsibilities;
 - (v) particulars of its disaster management strategies;
 - (vi) contingency strategies and emergency procedures in the event of a disaster, including measures to finance these strategies; and
 - (vii) specific measures taken to address the needs of women, children, the elderly and persons with disabilities during the disaster management process;

(d) co-ordinate and align the implementation of its plan with those of other organs of state and institutional role-players;

(e) provide measures and indicate how it will invest in disaster risk reduction and climate change adaptation, including ecosystem and community-based adaptation approaches;

(f) develop early warning mechanisms and procedures for risks identified in the municipal area;

(g) regularly review and update its plan; and

(h) through appropriate mechanisms, processes and procedures established in terms of Chapter 4 of the Local Government: Municipal Systems Act, 2000 (Act No. 32 of 2000), consult the local community on the preparation or amendment of its plan.”.

.....prepare a disaster management plan for its area according to the circumstances prevailing in the area and within the ambit of its municipal disaster management framework.

Section 53(2) (a) of the Act specifies that the disaster management plan for a municipality must form an integral part of the municipality’s integrated development plan (IDP). Section 26(g) of the Local Government: Municipal Systems Act, 2000 (Act 32 of 2000) lists “applicable disaster management plans” as core components of an IDP.

The Municipality must submit a copy of its Disaster Management (DM) plan, and of any amendment to the plan, to the Disaster Management Centre of the Western Cape Province and the National Disaster Management Centre.

1.2 Key outcomes

This plan seeks to achieve the following key outcomes:

- Integration of Disaster Risk Management into the strategic and operational planning and project implementation of all line functions and role players within the municipality.
- Resilient communities
- An integrated, fast and efficient response to emergencies and disasters by all role-players.

1.3 Linkage with the Integrated Development Plan of the Stellenbosch Municipality

Both the Municipal Systems Act and the Disaster Management Act requires the inclusion of this plan into the Integrated Development Plan (IDP) of the Stellenbosch Municipality. It would however not be practical to include the complete Disaster Management Plan with all its annexures within the Integrated Development Plan of the Stellenbosch Municipality. Therefore the complete plan can be considered as an annexure to the IDP, while this core document without annexures will be submitted for inclusion within the IDP document.

A separate disaster management plan included into the IDP but standing on its own and isolated from the rest of the IDP does not necessarily give evidence of the integration of disaster management into the IDP. All departments and role players submitting input to the content of the current and future IDP of the municipality are therefore urged to consider the inclusion and integration of disaster risk management into their strategies, operational planning and project implementation.

It is strongly recommended that the municipality institutes the compulsory consideration of disaster risk management in the planning and execution stages of all IDP projects. This will ensure the integration of disaster management into the IDP, and will ensure that all plans and projects are focused on contributing to disaster risk reduction and disaster preparedness – thus reducing the impact of disasters on lives, property, community activities, the economy and the environment in the Stellenbosch Municipality.

1.4 Linkage with the Disaster Management Framework of the Cape Winelands District Municipality

The Stellenbosch Municipality must prepare and execute its disaster management plan within disaster management framework of the Cape Winelands District Municipality. The National, Western Cape Provincial and Cape Winelands frameworks will guide the development of this plan and future versions of this plan.

1.5 Structure of the plan

The Municipal Disaster Management Plan of the Stellenbosch Municipality consists of the components as indicated in the figure below.

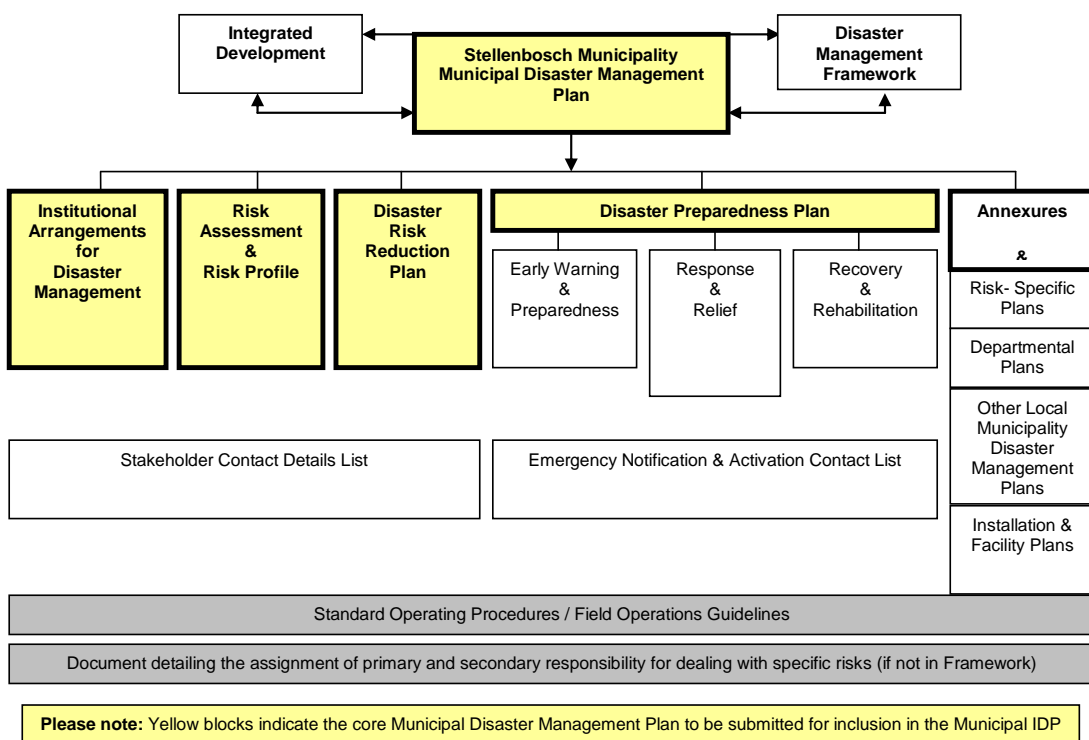


Figure 1: Structure of the Stellenbosch Municipal Disaster Management Plan

1.6 Definitions and abbreviations

ASAP	As Soon As Possible
DMC	Disaster Management Centre
LA	Local Authority
JOC	Joint Operations Centre
SAWS	South African Weather Service
DOC	Disaster Operational Centre

2 INSTITUTIONAL ARRANGEMENTS

2.1 Shared responsibility for disaster management

The responsibility for reducing disaster risk, preparing for disasters, and responding to disasters is shared among all departments and employees of the Cape Winelands District Municipality, local municipalities within the Cape Winelands District Municipality, all departments and employees of the Stellenbosch Municipality, all provincial and national organs of state operating within the municipality, all sectors of society within the municipality and, perhaps most importantly, all the residents of the municipality.

2.1.1 Nodal points for disaster management

Although the municipal department within the Stellenbosch Municipality assigned with the Disaster Management function should direct and facilitate the disaster risk management process, it cannot perform the whole spectrum of disaster risk management activities on its own. Disaster risk management is everybody's business. It is required that each municipal department within the Municipality assign a person or section within the department / local municipality to be the nodal point for disaster management activities in that department / local municipality. The same applies to national and provincial departments operating within the municipality.

The disaster management activities to be performed within departments and local municipalities include participation in disaster risk reduction as well as preparedness and response.

Action: The Disaster Management Centre of the Stellenbosch Municipality will circulate forms on an annual basis requesting role players to indicate their nodal points for disaster management. The forms shall provide space for indicating the department, position and full contact details (also after hours) of the nodal point and at least one alternate contact person.

2.1.2 Departments with primary responsibility for specific hazards and disaster risks

Where a department has primary responsibility for a specific hazard, the department's role in disaster risk management for that specific hazard will be more than mere participation: it will have to lead risk reduction as well as preparedness activities due to its expertise in the field.

Stellenbosch Disaster Management can support such a department with advice, information, facilitation and coordination.

Action: Stellenbosch Disaster Management will maintain a list of hazards that may affect the municipality with associated primary role players indicated for risk reduction as well as preparedness for each specific hazard. (See next section for the process of assigning such responsibility.)

The plans for disaster risk reduction and preparedness compiled by these primary role players should be attached to this plan or should be referenced as supporting documentation as indicated in Figure 1: Structure of the Stellenbosch Municipal Disaster Management Plan, on page 6. These documents must be easily accessible to all relevant role players.

2.1.3 Assignment of responsibility to deal with specific disaster risks

Departments that are responsible for specific services in normal conditions will remain responsible for such services during disasters. The declaration of a state of disaster and the tighter coordination instituted during disasters does not absolve any agency of its assigned responsibilities.

Legislation assigns responsibility for most disaster risks to specific departments or functions. There is however grey areas related to some disaster risks. In order to ensure clear roles and responsibilities and enhance integrated disaster risk management efforts, such grey areas must be addressed and clearly assigned responsibilities must be confirmed.

Action: The risk profile of the Stellenbosch Municipality will be considered and primary and supporting role players will be identified for each identified risk. Such allocation of primary and supporting roles will be done in consultation with all relevant role players, will be informed by existing legal frameworks, and assignment will be done on a consensus basis.

The above assignment of responsibilities will be revisited and confirmed on an annual basis, and will be recorded and distributed in the format indicated in **Table 1** below.

Table 1: Assignment of primary and supporting role-players for disaster risks

Description of disaster risks identified in the risk profile of the municipality (Complete one table per risk)	Primary role player in risk reduction to be indicated here	Supporting role-players
	Primary role player in preparedness to be indicated here.	Supporting role-players
	Primary role player in response and relief to be indicated here.	Supporting role-players
	Primary role player in recovery & rehabilitation to be indicated here.	Supporting role-players

The document assigning responsibilities can become an annexure of the Municipal Disaster Management Plan of the municipality, if such assigning of responsibilities has not been dealt with in the Municipal Disaster Management Framework.

2.2 Corporate Disaster Management Structure for the Stellenbosch Municipality

The Corporate Disaster Management structure for the Stellenbosch Municipality must deal with both pro-active and reactive disaster management issues and encompasses more than the department which is responsible for the function. The structure can include the following elements which may be collapsed into a smaller number of elements if less complexity is required:

2.2.1 Stellenbosch Disaster Management

The Directorate: Community and Protection Services within the municipality assigned with the Disaster Management function. A local municipality is not legally obliged to establish a Disaster Management Centre, but it is recommended.

The Disaster Management Centre of the Stellenbosch Municipality must aim to prevent or reduce the risk of disasters, mitigate the severity or consequences of disasters, prepare for emergencies, respond rapidly and effectively to disasters and to implement post-disaster recovery and rehabilitation within the municipality by monitoring, integrating, co-ordinating and directing the disaster risk management activities of all role players. A fully established and functioning Municipal Disaster Management Centre is a key element of this plan.

Action: The Stellenbosch Municipality will establish and maintain a fully staffed and resourced Disaster Management Centre.

2.2.2 Municipal Disaster Management Advisory Forum

Metropolitan or district municipalities may establish municipal disaster management advisory forums as described in Section 51 of the Disaster Management Act, 2002. Local municipalities are not required to establish advisory forums. It is however advantageous for a municipality to establish such a forum to coordinate strategic issues related to disaster management such as risk assessments and to approve and/or review the disaster management plan for the municipality before it is submitted to Council. The frequency of meetings of such a body is 2-4 times per year or as required.

Action: The Stellenbosch Municipality will consider the establishment of a Local Disaster Management Advisory Forum / Sub Advisory Forum and act upon its decision in this regard.

2.2.3 Interdepartmental Disaster Management co-ordination

Internal coordination will occur at manager level where instructions and identified projects from the Advisory Forum can be implemented and tracked. Municipal top-management meetings can serve as a coordination forum for disaster management issues within the municipality. Although a dedicated structure can be created for this purpose, this role will be performed by the top management team of the municipality to reduce the complexity of the disaster management structure. Ad-hoc external representation may form part of the deliberations upon invitation.

Action: The Stellenbosch municipality will consider the establishment of a dedicated body for interdepartmental Disaster Management coordination, or will assign this responsibility to the top management team (or officials) of the municipality.

2.2.4 Nodal points for disaster management within municipal departments

Refer to section 2.1.1 above.

2.2.5 Departmental planning groups

This element relates to planning groups that can be established within departments within the Municipality to deal with internal disaster management issues such as the compilation of departmental or local municipal disaster management plans and contingency plans for facilities and services of the department or local municipality. The disaster management nodal points of such departments or local municipalities will be involved in these planning groups.

Action: Nodal points will be empowered and supported by their departments / organisations to establish, manage, and participate in departmental and/or local municipal planning groups.

2.2.6 Risk reduction project teams

A multi-disciplinary project team convened to address and reduce a specific disaster risk. Convened by the primary role-player for the risk and supported by Disaster Management.

Action: The primary role-players for specific hazards or disaster risks, in collaboration with Stellenbosch Disaster Management, will establish and manage risk-reduction project teams as required or when requested by the Disaster Management Advisory Forum. (Existing structures should be used as far as possible to prevent duplication and reduce the meeting burden on role-players.)

2.2.7 Preparedness planning groups

A multi-disciplinary planning group convened to ensure a high level of preparedness for a specific disaster risk. Convened by the primary role-player for the risk and supported by Disaster Management.

Action: The primary role-players for specific hazards or disaster risks, in collaboration with Stellenbosch Disaster Management, will establish and manage preparedness planning groups as required or when requested by the Disaster Management Advisory Forum. (Existing structures should be used as far as possible to prevent duplication and reduce the meeting burden on role-players.)

2.2.8 Joint response & relief management teams

Mostly flowing from a preparedness planning group, a team that is mobilised to deal with the immediate response & relief required during or immediately after major incidents and disasters. Will normally convene in the Disaster Operations Centre (see description below).

Action: The preparedness planning group for each hazard will detail how the activation of a joint response and relief management team for that specific hazard will be managed, and who will form part of the team.

2.2.9 Recovery & rehabilitation project teams

These are project teams managing recovery and rehabilitation after disasters, mostly on a project-management basis. Disaster recovery and rehabilitation must focus on risk elimination or mitigation. Departments who are responsible for the maintenance of specific infrastructure are also responsible for the repair or replacement of such infrastructure after disasters.

Action: The preparedness planning group for each hazard will detail how the activation of recovery and rehabilitation project teams for that specific hazard will be managed, and who will form part of the teams.

2.2.10 Stellenbosch Disaster Management Communications Centre

This is the centre providing 24-hour emergency and essential services contact points to the public within the municipal area. The Centre is responsible for day-to-day emergency response by municipal departments and for the establishment of strategic communication links. Stellenbosch Fire and Rescue Services Control Centre will liaise closely with the Emergency Control Centres / Groups of the local municipalities and other stakeholders within the Stellenbosch Municipality on an on-going basis.

Action: Stellenbosch Disaster Management will maintain a fully staffed and resourced municipal Fire and Rescue Services Control Centre, and if required, collaborate with other agencies to maintain 24-hour per day, 7 days per week public emergency call-taking capacity.

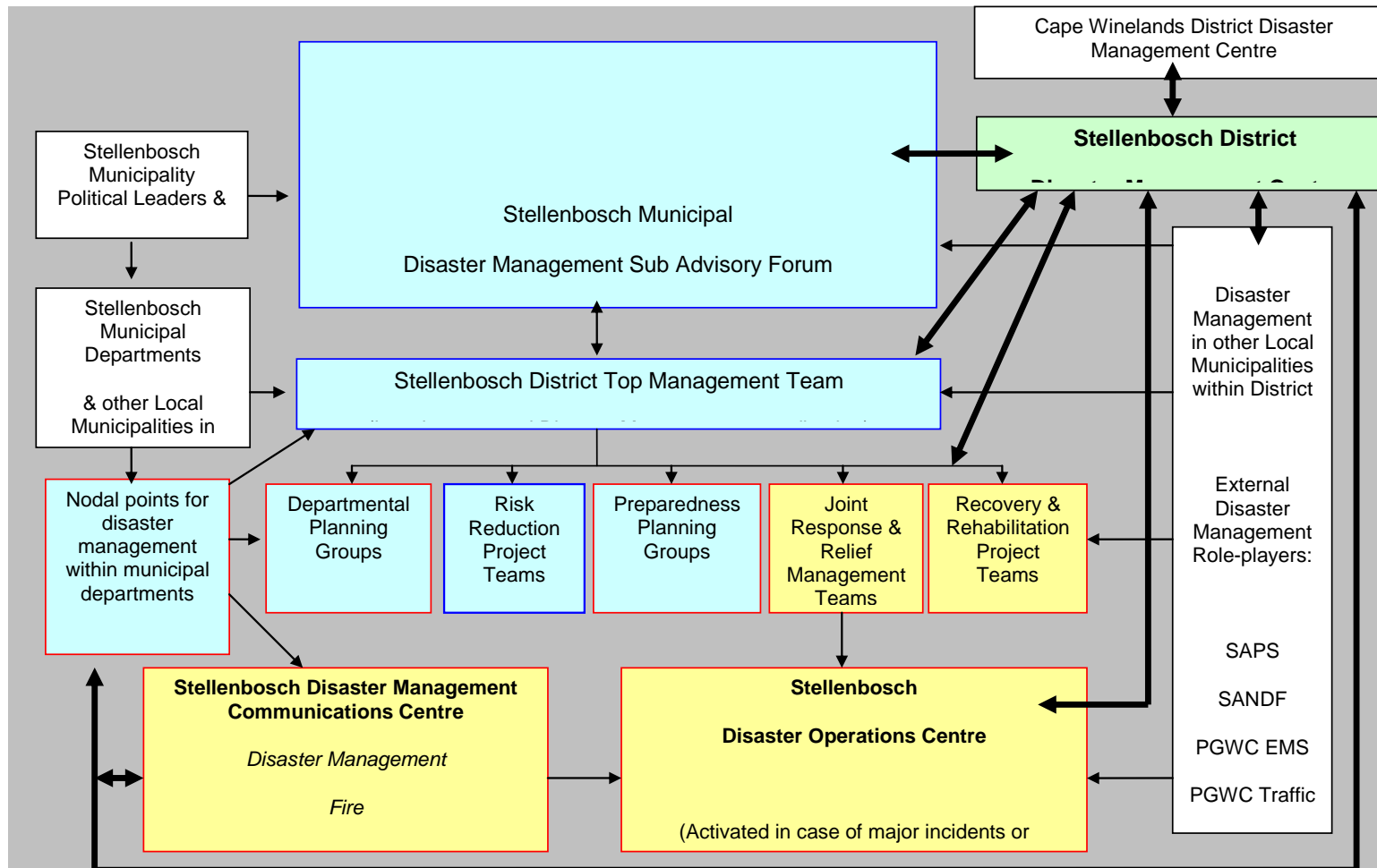
2.2.11 Stellenbosch Disaster Operations Centre (DOC) / Joint Operations Centre (JOC)

Stellenbosch Municipality does not have a dedicated facility equipped to serve as command and coordination centre during disasters, where the joint response & relief management team will convene. Alternative facilities should be identified as back-up to the primary DOC. The term JOC for Joint Operations Centre can also be used for this facility.

Action: Stellenbosch Disaster Management will establish and maintain a fully staffed and resourced Fire and Rescue Services Control Centre for activation as required and will identify fall-back or alternative facilities for the same purpose.

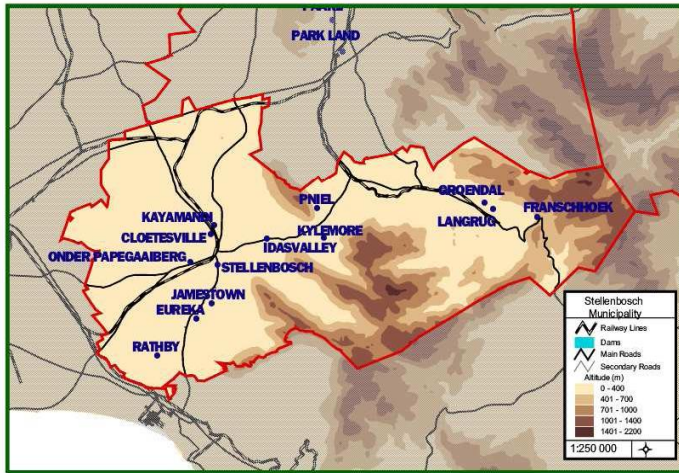
A MOA between Stellenbosch Municipality and Cape Winelands District Municipality- should the need be to use their fully equipped/resourced centre in Stellenbosch, would be ideal.

Figure 2: Municipal Disaster Management Structure (Can be collapsed into less elements if less complexity is required)



3 RISK ASSESSMENT

3.1 General Area Description



3.2 Risk Profile of the Stellenbosch Municipality

Various disaster risks have been identified and assessed during 2008, as set out in detail in the Risk Assessment Report accompanying this document.

The following disaster risks were identified as priority risks to be addressed by disaster risk reduction as well as preparedness plans:

1.	Fire – Veld & Runaway Fires
2.	Dam Wall Failure: Idas Valley
3.	Floods
4.	Chemical spills: Hazmat incidents
5.	Explosive storage: (fuel, gas)
6.	Environmental pollution: (air, water, ground contamination, pesticides)
7.	IT – Failure of system: Access to info
8.	Infrastructure Decay : No / dysfunctional infrastructure / service delivery (sewerage, toilets, grey water, electricity)
9.	Transport incidents (road, railway accidents)
10.	Rock Falls
11.	Aircraft accidents
12.	Seismic: Earthquakes
13.	Erosion
14.	Communicable disease: (H1N1 Influenza (Swine Flu)
15.	Insufficient hydrants
16.	Power failure
17.	Strikes / Social conflict
18.	Climate change: (high/strong winds, severe heat/cold)
19.	Poverty
20.	Chlorine stations

The above lists illustrate the types of disasters that pose the highest risks within the area of the Stellenbosch Municipality and their possible effects. The communities at risk can be derived from the risk lists, and are also shown in the risk assessment that was conducted for the area.

More detailed risk descriptions, inclusive of hazards, vulnerability and capacity descriptions, are available in the original risk assessment document.

4 DISASTER RISK REDUCTION PLANS

Disaster risk reduction plans providing for prevention and mitigation strategies have been compiled through a participative process and have not been vetted or submitted to feasibility studies.

The risk reduction plans outlined in this document and its annexures which are implementable must be considered for inclusion within the IDP projects of the municipality and if included must be budgeted for in terms of the operating and capital budgets of the municipality. Each project should be evaluated to determine which municipal department can lead its implementation. When a lead department is assigned through consensus in the DMAF, such a lead department must manage all planning and budgeting processes for said project. The Disaster Management department of the Stellenbosch Municipality must assist in this regard.

Where the proposed project falls outside the mandate of the municipality, the municipality should establish a lobbying and monitoring mechanism to motivate the need for the project in the correct governmental or societal sector and to track progress on the project. It is anticipated that many projects will need to be executed on a partnership level, and in such cases the department of the municipality responsible for service delivery partnerships should take the lead with support from the Stellenbosch Disaster Management Centre.

4.1 Risk reduction plans for the Stellenbosch Municipality

Risk reduction project proposals for priority risks are listed in the attached risk reduction plan document.

4.2 Risk reduction capacity for the Stellenbosch Municipality

The organisational structure for risk reduction within the municipality includes Stellenbosch Disaster Management, the Disaster Management Advisory Forum, the top management team of Stellenbosch Municipality, the nodal points for disaster management within municipal departments within the municipality, departmental planning groups, risk reduction project teams and preparedness planning groups. See **Figure 2: Municipal Disaster Management Structure** on page 12.

The total structure of the municipality, with every member of personnel and every resource should also be committed to disaster risk reduction.

On-going capacity building programmes will be required to ensure the availability of adequate capacity for risk reduction.

5 PREPAREDNESS PLANS

Preparedness plans are compiled in order to enable fast and efficient response to predicted and unpredicted emergencies. *In case of an emergency, the user of this document should immediately turn to the attached preparedness plan for guidelines on managing response.*

5.1 Preparedness plans of the Stellenbosch Municipality

Risk-specific preparedness plan proposals for priority risks are listed in the attached preparedness plan document, along with a standard response procedure for Disaster Management. The risk-specific preparedness plans have been compiled through a participative process.

5.2 Preparedness capacity for the Stellenbosch Municipality

The organisational structure for preparedness within the municipality includes Stellenbosch Disaster Management, the Disaster Management Advisory Forum, the top management team of the Stellenbosch Municipality, the nodal points for disaster management within municipal departments within the municipality, departmental planning groups, preparedness planning groups, Joint Response & Relief Management Teams, Recovery & Rehabilitation Project Teams, and the

Stellenbosch municipal Fire and Rescue Services Control Centre. See **Figure 2: Municipal Disaster Management Structure** on page 12.

The total structure of the municipality, with every member of personnel and every resource can potentially form part of preparedness capacity. On-going capacity building programmes will be required to ensure the availability of adequate capacity for disaster preparedness.

The Stellenbosch Fire and Rescue Services Control Centre are responsible for the operational procedures associated with day-to-day operational response to emergencies by municipal departments.

The Stellenbosch Fire and Rescue Services Control Centre and the Stellenbosch top management team are jointly responsible for the emergency management policy framework and organisation that will be utilized to mitigate any significant emergency or disaster affecting the municipality.

6 RESPONSE & RECOVERY

During response and recovery operations the relevant disaster preparedness plans of the municipality will be executed by the disaster management structures.

6.1 Response Procedure

During Disaster Response the Unified Command approach will be implemented and the Western Cape Disaster Preparedness Response and Relief Plan (DPRRP) will be utilised. The duplication of the DPRRP inside this plan would constitute unnecessary duplication and therefore the DPRRP is seen as a reference document, while the response and relief procedure from the DPRRP will be summarised here for quick reference.

The basic steps and actions of the response and relief management procedure are summarised below.

Table 2: Steps in the response and relief procedure

Number	Steps	Components
S1	Notification and Activation	Detection Mobilisation
S2	Rapid Assessment	
S3	Integrated Structure	Unified Incident Management FCP / On-site JOC Team Coordinator Inner Cordon Outer Cordon Staging areas Process Management Sectors
S4	Re-Assess	Resources Hazard Situation
S5	Objectives	
S6	Plan of action	Planning Implementation
S7	Monitor / evaluate / review	
S8	Close and document	

This procedure is compatible with KPA 4 of the SA National Disaster Management Framework

6.1.1 Notification/activation

During the notification phase, it must be ensured that management and operational staff are informed and mobilised as speedily and effectively as possible. To facilitate the foregoing it is imperative that 24 hour duty and standby rosters are kept current and available at the 24 hour communication facilities for the PDMC and all service communications centres who have an emergency and/or Disaster response role in the Province.

Such call-out lists must indicate the first response mobilisation and 2nd line responders clearly.

It is therefore necessary to design Standardised response procedures and protocols for specific incidents and also consider variables such as season, time of day etc.

6.1.2 Rapid Initial Assessment

The basis for any effective response is the initial rapid, but accurate on-scene assessment of the situation i.e. nature of the hazard, resource requirements, immediate threats to people, property and the environment, magnitude and boundaries of current and possible future impacts, and to be able to communicate this information in a predetermined standardised format.

Rapid and effective response can also be facilitated if a standardised initial report-back includes response suggestions and needs.

The rapid initial assessment must be as accurate as possible with accurate predictions of what may still occur,

6.1.3 Establish response management structure

Once the initial response has been affected and services arrive on the scene the process for the implementing of the secondary response must be initiated as soon as possible. This response must be based on the needs received from the scene as a result of the rapid assessment.

This response must build on existing response levels and strengthen the deployments and actions on scene.

Structures to coordinate response

The establishment of a structure to manage, co-ordinate and integrate response actions at the scene of an incident is imperative and a priority for all services involved at an incident. Such a basic structure should be contained in a "Standardised incident management plan" agreed to beforehand by all role-players.

There are a number of essential elements to the structure and principles, which should be observed at all times;

Flexible organisation

The composition of the organisation must be adapted to the size, magnitude and nature of the incident. The organisation must be adapted (increased or decreased) as circumstances dictate.

Standardised Terminology

All services must be informed and be familiar with the organisation and terms used by services, which may be involved in an incident.

Tactical Incident Management facilities / structures

As part of the management structure, there are a number of essential facilities / structures, which may need to be established at the scene of an incident, these can include:

- Outer perimeter / cordon / public exclusion zone
- Inner perimeter
- Establishing a landing zone
- Staging area
- Incident command post
- Casualty clearing post
- Information point / media liaison
- Communications network
- Access control to incident site and emergency infrastructure

The above elements are described in further detail in the disaster response activities and their action steps.

On-Site Incident Coordination Point

This is an on-scene facility where tactical decision-making and control of inter-disciplinary co-ordination takes place. Also known as Incident Command Post (ICP), On-site JOC / Forward Control or Command Post (FCP).

This is the single point of command for all on-site operations during the response phase of an emergency and will be located at an appropriate location at or near the scene of the emergency, normally within the outer perimeter.

The incident Commanders / Managers from key response agencies will operate under Unified Command to co-ordinate incident operations.

Joint Incident Management Team / Unified Command

One of the main objectives to ensure effective on-scene management of services is to establish a "Unified Incident Management" system. This system allows for a structure whereby overall incident objectives and strategies can be formulated.

In incidents involving multiple jurisdictions, a single jurisdiction with multi-agency involvement, or multiple jurisdictions with multi-agency involvement, unified command allows agencies with different legal, geographic, and functional authorities and responsibilities to work together effectively without affecting individual agency authority, responsibility, or accountability.

In this regard it is important that the representatives be suitably mandated and takes full responsibility and charge of its service at that level.

It will ensure that the agreed upon operational plan and integrated tactical strategies are implemented by making optimum use of available resources.

It is normally structured to facilitate activities in five major functional areas:

- command,
- operations,
- planning,
- logistics, and
- finance and administration.

This organisation should also include the following elements depending on the situation;

- Safety
- Media / public liaison – information
- Liaison – supporting agency / jurisdiction liaison (DisMan well-placed for this)

Depending on the situation the estimated duration of the incident must be established in order to plan the need for the rotation of staff and to plan meals, etc.

Determining the primary role-player for an incident or activity

If a situation occurs where there is no immediate agreement between parties regarding who should be the primary role-player in a specific emergency situation, the DPRRP contains a procedure that should be followed.

Communications

For Provincial communication networks and structures see the main document to which this document is an annexure.

6.1.4 Re-assess

The first very important step after the Joint Incident Management Team has been established is for them to re-assess the situation. During this process, there are three aspects which must be addressed.

Re-assess Resources

The team need to establish:

- present deployment and how effective it is
- possible further immediate, medium and long-term resource needs.

An analysis of special equipment and services and needs must be done at this stage.

When evaluating the mobilising of additional resources the following needs must be taken into account;

- The type of human resources required i.e. skills and type of tasks to be performed.
- What equipment and supplies is required and which must come first (Priorities)
- Who will be responsible for the control of essential supplies
- Which essential services are required and/or should be restored first (Priorities)
- Observe and ensure that supply chain management / logistics are complied with (Accountability)
- Possible invoking of mutual aid arrangements and/or other formalised agreements



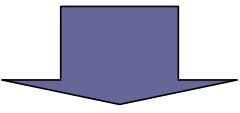
Re-assess Hazard

A thorough analysis of the potential impact of the hazard must be made. In this regard the following should be assessed;

- Present impact
- Potential hazard impact (worst case scenario)
- Also think beyond present situation
- Obtain specialist input
- Consider implementation of risk specific plans

Re-assess Situation

In this regard the following aspects must be carefully analysed and assessed;

<p>Look up - Establish present weather and get prediction for next 24 hours. It is important to look at the impact of the weather may have on the situation and what short and long term – changes may be predicted.</p>	
<p>Look around - Look at the topography and natural environment and establish what effect it would have on the hazard behaviour and impact</p>	
<p>Look down - Look at the built environment, the natural environment and the economical activities and establish how the hazard can possibly affect these activities. It is also important to consider/establish land owner and type of facility – e.g. key points being affected.</p>	

Do a complete evaluation to establish the severity and implications of the problem (direct and indirect implications)

6.1.5 Establish incident management objectives

Once the re-assessment have been completed the team should decide on the incident management objectives, and the following should receive attention;

- Broad statement of intent
- Think strategically
- Determine priorities
- Ensure public protection and secure affected area

It is important that emergency worker and public protection be observed throughout the process of setting objectives.

6.1.6 Plan of action

Once the incident management objectives are complete a well framed and well prepared plan of action is essential for the effective execution of the operation.

To plan effectively the following should be considered;

- Situational analysis (Clearly mapped)
- Resource status and response levels (Accurate recording)
- Think of worst case scenario (Think ahead)
- Plan for all phases (response, relief, recovery, rehabilitation and reconstruction)
- Decide on key objectives and responsibilities
- Consult with external organisations
- Protective actions (Response activities)
- Protective action strategies (Response management strategies)
- Incident Communication planning (Radios, IT , Public and Media)
- Develop alternatives (think beyond the normal)
- Review alternatives
- Decide on plan of action

6.1.7 Implementation

Once a decision has been made on the plan of action the plan must be communicated clearly to all role-players. In this regard, the following should receive particular attention;

- Communicate objectives, responsibilities, timeframes clearly
- Action tasks clearly and to specific services and/or sections
- Motivate staff and support implementation throughout.

6.1.8 Strategic Response Management Structure

Disaster Operations Centre/Joint Operations Centre

The Disaster Operations Centre is an off-site, centralised facility, which is provided by the Provincial or Municipal Disaster Management Centre, where multi-disciplinary co-ordination and strategic decision-making takes place. It is a fully equipped dedicated facility within the Western Cape Provincial Disaster Management Centre.

For the purpose of multidisciplinary strategic management of response and recovery operations, this facility must be capable of accommodating any combination of emergency and essential services representatives, including all relevant role players and stakeholders identified in response and recovery plans.

This facility must be activated when a local, provincial or national disaster occurs or is threatening to occur.

The Disaster Operations Centre may be activated immediately upon receipt of information of a specific type of incident, or may be activated upon request or advice of the joint incident management team(s) at the scene of the incident(s).

Initial Strategic Situation Analysis

Once the initial activation has taken place the following should take place;

- Convene meeting in the JOC
- Review situation on available information
- All possible role-players must be identified and mobilised if not yet present.
- Identify and appoint incident co-ordinator
- Ensure all services required have been activated and are responding to their areas of responsibility
- Compile initial situation report for distribution to all stakeholders, internal and external.
- Establish public notification needs
- Establish public safety advisory needs
- Generate media release for public communication
- Monitor, assess and support services on-scene
- Establish possible resource needs
- Evaluate resources available vs. resources possibly required
- Establish availability of resources, consult database
- Establish possible need for invoking mutual aid agreements and do initial notifications of possible support required
- Monitor, re-assess and adapt strategy

Structures to provide relief

Additional off-site structures may need to be established to provide relief, these could include

- Mass Care centres
- Victim information centres
- Reconciliation areas (where victims and their friends / family can be reunited)
- Data processing centres
- Media briefing facilities

- Counselling facilities
- Animal holding areas

6.1.9 Monitor/Evaluate

The successful implementation and execution of any plan is very dependent on sustained and effective monitoring and evaluation of its effectiveness.

This must be ensured by observing the following principles;

- To constantly receive and evaluate feedback reports from line departments
- To regularly direct requests and ask questions
- To take note of and observe status changes on an on-going basis
- To analyse actions and anticipate problems/changes (be flexible)
- To regularly re-assess the situation and the effectiveness of actions and adapt strategies as circumstances dictate. Repeat process - Schedule meetings at specific agreed regular times.

6.1.10 Close incident & document

Once an incident has been effectively managed and services can return to normal operations, the following actions must be taken;

6.1.11 De- mobilise

Once the response to an incident is completed and there is consensus amongst all role-players that the point has been reached for services to stand-down from the incident and to return to their normal activities, the demobilisation phase is reached.

Ensure that all services have received de-mobilising orders and are reporting to their work stations.

6.1.12 Complete Review (Post Mortem)

After each incident, copies of all messages, reports and incident logs of all services must be submitted to the PDMC for joint analysis and review.

There must be a formal and structured critical review of all actions and all findings and/or areas of concern must be recorded and included in a report with the necessary recommendations and/or corrective actions to improve response in future.

6.1.13 Corrective actions

Corrective action plans must be drawn up and are designed to implement changes that are based on lessons learned and recommendations made from reports and reviews after actual incidents or from training and exercises.

Such actions and recommendations must include time frames and deadlines for implementation.

6.2 Declaration of a state of disaster and disaster classification

It is advisable that the Stellenbosch Municipal Council adopts a formal policy for the declaration of a local state of disaster. Such a policy will replace this section of the plan which provides a general description of issues surrounding the declaration of a state of disaster.

When a disastrous event occurs or is threatening to occur in the area of the municipality, the DMC / Section will determine whether the event is a disaster in terms of the Act, and, if so, the Head of the Centre will immediately

- initiate efforts to assess the magnitude and severity or potential magnitude and severity of the disaster;
- alert Disaster Management role players in the municipal area that may be of assistance in the circumstances;
- initiate the implementation of the disaster response plan or any contingency plans and emergency procedures that may be applicable in the circumstances; and
- inform the National Disaster Management Centre and the Western Cape Provincial Disaster Management Centre via the Cape Winelands District Disaster Management Centre of the disaster and its initial assessment of the magnitude and severity or potential magnitude and severity of the disaster.

When informing the National Centre and the Western Cape Provincial Disaster Management Centre via the Cape Winelands DMC the Stellenbosch Disaster Management Centre may make recommendations regarding the classification of the disaster as may be appropriate.

Irrespective of whether a local state of disaster has been declared or not, the municipality is primarily responsible for the co-ordination and management of local disasters that occur in its area.

Whether or not an emergency situation is determined to exist, municipal and other agencies may take such actions under this plan as may be necessary to protect the lives and property of the inhabitants of the municipality.

Declaration of a local state of disaster: In the event of a local disaster the municipal council may by notice in the provincial gazette declare a local state of disaster if existing legislation and contingency arrangements do not adequately provide for the municipality to deal effectively with the disaster; or other special circumstances warrant the declaration of a local state of disaster.

If a local state of disaster has been declared, the Council may make by-laws or issue directions, or authorise the issue of directions to:

- Assist and protect the public;
- Provide relief to the public;
- Prevent or combat disruption; or
- Deal with the destructive and other effects of the disaster.

7 TESTING AND REVIEW OF THE PLAN

The municipality will regularly review and update its plan, as required by Section 48 of the Disaster Management Act, 2002. The Disaster Management Advisory Forum shall be responsible for the review of the municipal disaster management plan on an annual basis.

Action: The DMAF will implement an annual review of this plan.

8 ANNEXURES

Annexure A: Standard Operating Procedures, Contingency Plans etc.

Annexure B: Key Stakeholders Contact List / Emergency Numbers List for Stellenbosch

Annexure C: Advisory Forum Membership List

Annexures to be developed by the Stellenbosch Disaster Management Centre:

- Disaster Preparedness Plans
- Disaster Risk Reduction Guidelines
- Standard Operating Procedures and Field Operation Guides for each identified hazard
- Assignment of primary and supporting role-players for disaster risks
- Information and communication systems description
- Contact details for the Disaster Operations Centre representatives from the relevant role-players for each hazard.

9 REFERENCE DOCUMENTS

Cape Winelands District Municipality Draft Disaster Management Framework

Cape Winelands District Municipality Community Based Risk Assessment, 2008.

Towards Disaster Management Plans for the Cape Winelands District Municipality (Hazard Identification, Vulnerability Assessment, and Risk Prioritisation), 2005

Sensitising document: Transport of Hazardous Materials in Bulk: Spoornet, Undated.

Agricultural Disaster Risk Management: Agricultural Drought Management Plan, Department of Agriculture, Aug 2007.

Emergency Preparedness and Response Plan, Drakenstein Local Municipality, March 2009.

Contingency Plan, Metrorail Western Cape, October 2008.

Hospital Emergency Plans, Medi-Clinic – Worcester, Paarl

Hospital Emergency Plans, Western Cape Department of Health

Outbreak response team

Education: Principal each school is responsible. Plan per school. Unannounced visits and testing of emergency plans. Schools must have plans for when things go wrong with transport. Organized into circuits.

- a) Constitution of the Republic of South Africa, 1999.
- b) Disaster Management Act, 2002 (Act 57 of 2002)
- c) National Disaster Management Framework, 2005 (Government Notice 654 of April 2005: A Policy Framework for Disaster Risk Management in South Africa)
- d) Fire Brigade Services Act (Act 99 of 1997) as amended.
- e) Fund Raising Act (Act No 107 of 1978) (FRA)
- f) Local Government: Municipal Systems Act, 2000 (Act 32 of 2000).
- g) Major Hazardous Installations Regulations of the Occupational Health and Safety Act
- h) Road Traffic Act
- i) Social Assistance Act, 1992 (Act no 59 of 1992)

10 ANNEXURE A: DISASTER PREPAREDNESS GUIDELINES

NB: New risks and the resulting plans can be completed after the conclusion of the Risk Assessment and added as the plan is reviewed and updated.

Disaster Preparedness Plan: Fire

No	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1.	Inform Fire Services	First person to notice incident	Local authority fire call centre	Immediately	To respond resources
2.	Respond resources	Fire Services Control Centre	Local authority fire call centre	Immediately	To limit impact
3.	For facilities: Activate facility fire teams	Facility manager or as per plan	Facility manager's office	Immediately when the incident is reported	To contain situation
4.	For facilities: Fire team to extinguish small fires	Trained fire team	At the point of incident	ASAP	To prevent / minimize the chance of the fire spreading
5.	For facilities: Evacuate facility	Evacuation teams / SAPS / Fire	At facility	ASAP	To prevent injury/deaths
6.	For facilities: Check the name list of all evacuated people	Trained control team	At specific control points (assembly areas) outside the building / facility	ASAP after evacuation	To ensure everyone is out of the building / facility
7.	Assess Situation	First Responders on scene	At scene	On arrival	To determine needs
8.	Request additional resources	First Responders on scene	From scene through local authority fire call centre	After assessment	To manage situation
9.	Implement appropriate emergency intervention	First responders on scene	At scene	On arrival	To protect life and property and neutralize any impacting hazard
10.	Setup command post	Senior officer on site	Safe area on site	Immediately	To plan and implement correct immediate responses
11.	Establish incident management plan per service	Services on scene	On scene	ASAP	To effect appropriate immediate response and relief actions
12.	Assess impact	Services on scene	On scene	Immediately	To determine future relief and recovery actions
13.	Notify Disaster Management team if major incident	Services on scene / Senior officer on scene	From command post	As soon as required	To facilitate multidisciplinary co-ordination and major incident management support
14.	Crowd and traffic control	SAPS, Traffic, Law Enforcement, Private security if appropriate	Around scene	Immediately	To control people and traffic at the incident

No	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
15.	Assemble joint incident management team	Senior representatives of all services on scene	At appropriate single command post, in case of fire incident preferably at fire command post	Immediately once more than one service working on scene	To ensure multidisciplinary coordination that enables effective response and relief
16.	Design joint incident action plan	Joint incident management team	Command post / FCP	ASAP	To manage situation
17.	Implement joint plan of action	Joint incident management team	On scene	ASAP	To normalize situation
18.	Seek missing people	Search team/ Fire/ EMS/ SAPS	Through the whole building / facility / affected area	ASAP once missing people have been reported	To rescue missing persons
19.	Treat injured people	Trained first aid team/ EMS / Fire	At the first aid post / triage area	Immediately when injury is reported	To treat injuries
20.	Inform next of kin of injured people	Facility manager / SAPS / EMS	At the facility manager / director's office / from scene	Immediately when injury is reported	To inform family members of the conditions of the injured relative and how to reach them
21.	Monitor actions	Joint incident management team	On scene	Ongoing during incident management	To ensure effective planning and execution
22.	Area /Facility clean-up	All services	On site	On completion of rescue/ immediate emergency actions	To prevent further incidents/ environmental impacts
23.	On-site inspection	EMS/ Traffic/ Fire / SAPS forensics	On scene	On completion of emergency actions	To ensure site is safe for use again
24.	Stand down	All services	On scene	Once site is declared safe	To normalize services operations
25.	De- brief	All role-players	Pre-determined venue	Within one week	To evaluate actions and improve future response
26.	Update plans and procedures	All role-players	At service HQ	ASAP	Effective service delivery

10.1 Disaster Preparedness Plan: Flooding

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1	Notify response teams (Municipal engineering, SAPS, Fire & Rescue, EMS, Dept. Water Affairs, SAWS)	Local Authority	24 Hour Call centre	Immediately	To activate response teams
2	Activate response teams	District Disaster Management and Services Standby Teams	From locations/ standby positions	Immediately	To assess impact and actions required
3	Identify affected and damaged area	District Disaster Management and Services Standby Teams	In affected area	Immediately	To determine the extent of the damage in order to assess the affected area
4	Determine impact	District Disaster Management and Services Standby Teams	At affected area	Immediately	To determine the actions and level of response required
5	Implement appropriate emergency intervention	First responders on scene	At scene	On arrival	To protect life and property and neutralize any impacting hazard
6	Activate JOC	Head of DMC and senior management of all services / jurisdictions involved.	DMC or alternative	Immediately if major flooding incident	To plan strategically and coordinate multidisciplinary response, relief and rehabilitation
7	Assess information	All services	JOC	Immediately	To plan actions
8	Design plan of action	DM Co-ordination Team / JOC Team	JOC	After assessment	To facilitate response and relief
9	Implement response actions	District Disaster Management Team, SANDF, SAPS, EMS	Affected area	ASAP	To prevent injury / mortality and to provide basic needs / services
10	Provide relief	Relevant Stakeholders	At affected area / relief center	After assessment	To minimize impact
11	Mopping up	Relevant Stakeholders	Affected area	ASAP	To normalize community
12	Assess possibility of further flooding	District Disaster Management Team, SAWS	Entire area	Immediately	To minimize and/or prevent further disruption / damage
13	Issue early warning to areas vulnerable to further flooding	District Disaster Management Team, SAWS	Vulnerable areas	Immediately	To minimize and/or prevent further disruption / damage
14	Institute recovery measures	PDMC, Treasury, Relevant Departments	JOC	Once situation is under control	To restore normal activities in area

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
15	Road closures	Municipality / Prov Traffic	On Site	ASAP	To prevent loss of life and property
16	Communication with population of affected areas	Municipality / Media / Disaster Management / SAPS	On-site media liaison point / Media Centre close to JOC	ASAP	To prevent loss of life and property though public communication
17	Arrange temporary accommodation	Municipality / Social services/ NGO's	Available venues	When needed	To provide temporary accommodation – emergency shelter
18	Organize medical search parties	EMS / Fire & Rescue	On site	ASAP if people reported missing / unaccounted for	To treat medical cases
19	Flood management	Department of Water Affairs	On site and downstream	ASAP	To manage the effects of the flood
20	Rapid initial impact assessment	Municipal engineer and Provincial roads engineer	In affected area	Once flooding has subsided, if infrastructure damage suspected	To establish impact and immediate required repair to infrastructure as well as assistance required from province / national
21	Priorities, plan and implement emergency repairs to infrastructure	Infrastructure owner	Areas with damaged infrastructure	ASAP – depending on prioritization and available resources	To restore critical and essential services
22	Verification of impact assessment	Province / NDMC / Contracted impact assessment team	Areas with damaged infrastructure	ASAP after rapid initial impact assessment	To quantify and verify infrastructure damage and repair / replacement cost in monetary terms

10.2 Disaster Preparedness Plan: Earthquake

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1	Notification and activation	Any person observing impact	LA 24 hour control center	ASAP	To activate response teams
2	Activate response teams	LA 24 hour control center	LA 24 hour control center	ASAP	To assess and determine needs
3	Activate DMC JOC	DMC	DMC or appropriate alternative	ASAP	To co-ordinate actions
4	Assess and establish the extent of the earthquake	Survivors and emergency services	In area	ASAP	To determine needs and strategies
5	Collate info	JOC Team	JOC	ASAP	To determine priorities
6	Determine evacuation needs	JOC Team	At affected areas	ASAP	To provide relief to affected people
7	Establish plan of action	JOC Team	JOC	After initial assessment	To provide relief to affected people
8	Arrange accommodation for evacuees	JOC Team	Identified halls and mass care centers	ASAP	To provide relief to affected people
9	Treat injured people	EMS, Hospital and clinic staff	First Aid posts, hospital and clinics	ASAP	To treat injuries and prevent fatalities
10	Arrange search and rescue	JOC Team	In identified areas	ASAP	To rescue trapped people and animals
11	Arrange trauma counselling	JOC Team	Affected areas	ASAP	To assist all traumatized people
12	Monitor and re-assess	JOC Team	Affected areas	Asfter initial assessment and planning	To evaluate actions
13	Adapt planning	JOC Team	JOC	ASAP	To facilitate normalization
14	Arrange an infrastructure impact / damage assessment	JOC Team	Affected areas	ASAP	To create a report of damaged infrastructure and determine needs
15	Establish a central call center	Local authority	Affected area	As needed	To address shelter / housing needs
16	Set up satellite operation centers	Appointed site commanders	On site / in areas as required	As needed	To coordinate response
17	Determine short, medium and long term needs	JOC Team	JOC	ASAP	To plan service restoration
18	Develop reconstruction and redevelopment plans and strategies	JOC Team	JOC	ASAP	To normalize and resettle area

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
19	Implement reconstruction program	JOC Team	Affected areas	After initial emergency response	To normalize and resettle area
20	Monitor actions	JOC Team	JOC	Ongoing	To ensure effective planning
21	Area cleanup	All services	Affected areas	On completion of rescue/ immediate emergency actions	To prevent further incidents/ environmental impacts
22	On-site inspection	All services	Affected areas	On completion of emergency actions	To ensure area is safe for use again
23	Stand down	All services	Deployment points	Once area is declared safe	To normalize services operations
24	De- brief	All role-players	Pre-determined venue	Within one week	To evaluate actions and improve future response
25	Update plans and procedures	All role-players	DMC	ASAP	Effective service delivery

10.3 Disaster Preparedness Plan: Infrastructure Failure

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1.	Notify service	Any person observing failure	LA 24 hour control center	ASAP	To activate response teams
2.	Activate response teams	Service control centers	Service control centers	ASAP	To restore service
3.	Assess situation	Response teams	At site of failure	On arrival	To determine needs
4.	Request additional resources	Response teams	Service control center	ASAP	To facilitate rapid restoration of service
5.	Determine plan of action	Service management with other involved parties	At site	ASAP	To co-ordinate response
6.	Secure area	SAPS, local and provincial traffic	At site	ASAP	To protect workers and public
7.	Implement plan	Services responsible	At site	ASAP	To restore services
8.	Monitor actions	Service management, Service control centers	On scene, Service Control Centre	On going	Ensure effective planning
9.	Area / Road cleanup	All services	On site	On completion of rescue/ immediate emergency actions	To prevent further incidents/ environmental impacts
10.	On-site inspection	EMS/ Traffic/ Fire/ SAPS forensics	On scene	On completion of emergency actions	To ensure site is safe for use again
11.	Stand down	All services	On scene	Once site is declared safe	To normalize services operations
12.	De- brief	All role-players	Pre-determined venue	Within one week	To evaluate actions and improve future response
13.	Update plans and procedures	All role-players	At services' HQ	ASAP	Effective service delivery
14.	<u>Specific contingencies:</u>				
15.	No water: Make use of reserve tanks	Technicians	Hospitals	ASAP	Water is vital in the effective functioning of hospitals
16.	No electricity: make use of generators	Technicians	In the area of the incident	ASAP	To rectify the situation
17.	Identify sewage system failure	Technicians	Hospitals	ASAP	To prevent pollution
18.	No refuse removal: contact the municipality	Hospital manager	Hospitals	ASAP	Refuse needs to be removed as they can pose as health risks

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
19.	Roads and RDP houses must be repaired and maintained	Individuals	In the area of the incident	ASAP	Fix the problem area
20.	Dam overflow: Contact department of water affairs	Individuals	In the area of the incident	ASAP	Prevent the loss of water

10.4 Disaster Preparedness Plan: Transport Incidents

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1.	Notify Control Centre	Public / Official witnessing incident	At LA 24-hour Control Centre	ASAP	To trigger Response
2.	Contact Fire, Traffic Services, SAPS and EMS	LA Control Centre	LA Control Centre	ASAP	To limit effects of incident
3.	Notify response teams	Service Control Centers	Service Control Centers	ASAP	To control / normalize traffic, see to people involved
4.	Assess and set up command post	Incident Management Team	On scene	On Arrival	To plan response and relief
5.	Activate additional response	Services	On scene	After initial assessment	To ensure effective response actions and resources
6.	Determine action plan	Incident Management Team	On scene	ASAP	To implement integrated response actions
7.	Execute action plan	Response teams	On scene	ASAP	To prevent or limit loss of life and property
8.	Monitor actions	Incident Management Team	On scene	On going	Ensure effective planning
9.	Area cleanup	All services	On site	On completion of rescue/ immediate emergency actions	To prevent further incidents/ environmental impacts
10.	On-site inspection	EMS/ Traffic/ Fire/ SAPS forensics	On scene	On completion of emergency actions	To ensure site is safe for use again
11.	Stand down	All services	On scene	Once site is declared safe	To normalize services operations
12.	De- brief	All role-players	Pre-determined venue	Within one week	To evaluate actions and improve future response
13.	Update plans and procedures	All role-players	At service HQ	ASAP	Effective service delivery

10.5 Disaster Preparedness Plan: Hazardous Materials Incidents

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
1	Notify Fire Dept. / SAPS	Member of public or official observing incident 1st person on scene (10111/112/10177/ 021 887 4446)	On site - safe distance from incident	ASAP	To action response
2	Notify Hazmat team and Fire/ Local, Prove Traffic/ EMS / SAPS / Transnet	Emergency call center / Fire dispatcher	Call center	ASAP	To activate response
3	Identify type of hazmat	Responding agencies / Hazmat technician	On site	ASAP	To determine appropriate response
4	Identification of affected area	Responding agencies / Hazmat technician	On site	ASAP	To determine appropriate response
5	Assess and set up on-site command center	Hazmat team	On site	Immediately	Co-ordination
6	Removal of hazardous material	Hazmat team e.g. within the fire department or contractor	On site	ASAP	To increase the safety of the area
7	In case of rail, notify Transnet	Fire dispatcher	Call center	ASAP	To activate response
8	Assess the situation	Hazmat crew	On site (at a safe distance)	Once on scene	To facilitate plan of action, and assess situation
9	Saving of lives	Hazmat crew /primary respondent	On site	ASAP	To save lives
10	Secure the area	Traffic/ SAPS / Spornet	On site	Once on scene	Personnel and public and environmental safety
11	Evacuation	SAPS / Fire / Traffic	On site	Immediately once determined necessary	To protect life
12	Command vehicle / Establish incident management team	Fire dept. dispatcher / Fire Dept. / senior fire officer on duty	On site	Once area layout is established	To facilitate coordination / draw up a plan of action
13	Deploy contaminant specialist	Spornet or transport company	On site	After area is secured	To ensure correct measures are taken
14	Stopping leakage, if any	Hazmat crew	On site	ASAP	To stop further leakage
15	Containment of spill	Hazmat crew	On site	ASAP	To contain spill

	What must be done	Who must do it	Where it must be done	When it must be done	Why it must be done
16	Activate cleanup specialist	Command vehicle / incident management team	On site	If extent of incident requires it	To clean up properly
17	Notify DWAF	Command vehicle / incident management team	Command vehicle / incident management team	ASAP	To analyses water quality
18	Notify and caution downstream Water users association / Agricultural unions/ Local / District and Neighbouring Municipalities	Command vehicle / incident management team	From site (via control centers)	Once nature of spill confirmed	To prevent usage of affected water
19	Notify DEA	Command vehicle / incident management team	From site (via control centers)	Once nature of spill confirmed	Analyze water quality
20	Notify Cape Nature	Command vehicle / incident management team	From site (via control centers)	Once nature of spill confirmed	Analyze water quality
21	Re-assessment	Command vehicle / incident management team	On site	Regularly during incident management	To determine effectiveness and appropriateness of current response
22	Mobilize cleanup specialist. If rail – Transnet recovery unit	Command vehicle / incident management team	On site	If extent of incident requires it	Final cleanup
23	Incident stand down	Command vehicle / incident management team	On site	Once situation normalized and under control	To close incident and restore normal operations
24	On site Debriefing	Command vehicle / incident management team	On site	After stand-down	Compilation of detailed incident report.
25	Final De-briefing	Incident Management Team	Appropriate meeting venue	Within 1 week of incident	To learn from mistakes, update plans
26	Follow up testing of soil and water	DEA	In situ, follow ups after the incident	As required	Follow up studies

ANNEXURE B: DISASTER RISK REDUCTION GUIDELINE

10.6 Disaster Risk Project Proposals: Fire

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Build fire stations
	2 Plan and provide for buffer zone between residential and vegetation areas
	3 Plan and provide access roads for fire trucks in informal settlements
	4 Plan to prevent Illegal electricity connections in informal settlements
	5 Plan fire services in line with new development needs
	6 Ensure that development of dwellings does not take place before adequate bulk services are provided
	7 Encourage and facilitate Integrated catchment management planning
Engineering & Construction Measures	8 Ensure compliance with fire regulations and by-laws
	9 Install fire alarms in buildings
	10 Plan and provide fire escape routes and doors
	11 Plan and provide fire breaks in high risk vegetation areas
	12 Provide suitable roads as evacuation routes in informal settlements
	13 Provide informal areas with fire-resistant materials
	14 Plan and develop fire early warning systems
	15 Provide additional fire hydrants
	16 Research and upgrading / improvement of firefighting equipment/ trucks/ hydrants
	17 Provide fire hydrants in informal settlements
	18 Install watch towers, fire breaks, fire extinguishers in forestry areas
	19 Improve the quality and provide appropriate of firefighting equipment at all levels
	20 Ensure that fire hydrant water supply is sufficient in higher lying areas
Economic Measures	21 Provide for capital projects in municipal budget
	22 Provide funds for upgrading of fire equipment
	23 Fines for illegal electrical connections

Risk Reduction Category	Risk Reduction Project Proposals
	24 Implement program to decrease high risk housing
	25 Authorities to develop a project to make fire extinguishers more affordable for every household, as well as a means of making the maintenance thereof less expensive
	26 Rural areas property rebates for areas under conservation
	27 Action plans in place
	28 Reaction plan in place
Management & Institutional Measures	29 Train fire marshals for commercial/industrial complexes
	30 Appoint / train appropriate staff
	31 Conduct fire and evacuation drills
	32 Ensure evacuation doors are unlocked
	33 Running of programs for prevention of arson
	34 Maintenance program for fire extinguishing equipment
	35 Identify and procure appropriate equipment
	36 Structured and sustained fire-prevention inspections
	37 Cleaning of undergrowth around buildings
	38 Train and deploy fire fighting volunteers at fire stations and road works
	39 Identifying high risk fire areas (hotspots)
	40 Identify safer alternatives for cooking and lighting i.e. stoves, lamps etc.
	41 Ensure correct storage of combustible materials
	42 Develop and implement maintenance programs for of access routes in high risk fire areas
	43 Train and develop fire response teams
	44 Training at all levels to improve the implementation of incident command system as a standard operating procedure
	45 Develop a management policy for the sale of paraffin
46 Establish and support Fire Protection Association	
47 Develop area fire management plans	

Risk Reduction Category	Risk Reduction Project Proposals
	48 Refrain from using recycling cardboard containers for recycling of paper
	49 Revisit policy for evicting shack dweller
	50 Maintenance programme
Societal Measures	51 Develop fire evacuation procedures for commercial/industrial complexes
	52 Declare non-smoking areas
	53 Prohibit fires in high risk areas
	54 Conduct fire hazard awareness programs
	55 Conduct community awareness programs in communities
	56 Implement community based programs for the proper care/maintenance of electrical equipment
	57 Include fire prevention education in school curriculum
	58 Include disaster risk management in school curriculum
59 Implement fire education, fire risk awareness, recruitment of volunteer fire fighters, social responsibility, ownership system e.g. hydrants	

10.7 Disaster Risk Project Proposals: HazMat Incidents

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Zoning for HMI's (Building codes)
	2 Proactive hazmat classification of installations
	3 Proper planning into the placement of factories and plants
	4 Manage development around HMI's
	5 Limit population figures around HMI's
	6 Enforcement and evaluation of risk assessment for major hazardous installations
	7 Enforcement and evaluation of EIA's for HMI's
	8 Enforcement of proper labeling of chemicals and poisons (labels)
	9 Monitoring and restricting and managing routes for hazmat materials in transit (railways/roads)
	10 Safe packaging and storage to prevention of leakage and seepage of hazmat and poisons
	11 Specific parking areas for hazmat vehicles along the roadside
	12 Increased hazmat capabilities allocated to areas on main routes where hazmat freight vehicle parking areas are to be found
Engineering Construction Measures	13 Enforcement of Construction needs to be determined by type of particulates being used and stored
	14 Identification of Containment sites and measures
Economic Measures	15 Fines for non-compliance
	16 Awards to compliant companies
	17 Fines for not having correct signage when transporting hazmat
	18 Fines for not having correct paperwork when transporting hazmat
	19 Spiller pays fine structure for hazmat spillage, and enforcement thereof
	20 Polluter pays
Management & Institutional Measures	22 Compliance with storage and handling specifications
	23 Annual compliance certificate for hazmat/lpg coupled with an inspection, using of approved/certified service providers

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

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

10.8 Disaster Risk Project Proposals: Flooding

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 The enforcement of Environmental Impact Assessment with all development projects (EIA)
	2 Plan for the Upgrading of existing infrastructure to cope with new developments.
	3 Identification and plotting of vacant high risk flood areas for future reference and avoid human settlements in such areas
	4 Avoid development and settling of communities along rivers and within the floodline
	5 Apply and update Zoning regulations regularly
	6 Identify alternate suitable venues/facilities for emergency services
	7 Apply Low intensity land use in 1:100 flood line areas
	8 Study and understand the impact of climate change on development
	9 Signage
	10 Asset management
	11 Maintenance
Engineering & Construction Measures	12 Study EIA to inform construction and building measures
	13 Identifiable flood measuring and early warning systems
	14 Plan and Build retention dams to reduce risk of flooding
	15 Restore and maintain water catchment areas
	16 Build retaining walls to protect buildings
	17 Improve and upgrade storm water reticulation systems regularly
	18 Develop and maintain Early warning systems
	19 Develop and maintain sustained cleaning programs for rivers and dams
	20 Plan bigger capacity dams to regulate flow of water
	21 Implement programs and measures to prevent erosion
	22 Plan and erect Visible warning signs in low lying areas
Economic Measures	23 Provide for disaster relief funds

Risk Reduction Category	Risk Reduction Project Proposals
	24 Adequate provision for the for maintenance of storm water systems
	25 Farmers developing areas for agricultural use in flood prone areas should pay increases insurance on crops in those areas
Management & Institutional Measures	26 Plan for the support for affected communities
	27 Develop and maintain flood Emergency response teams
	28 Develop and supervise Maintenance programs
	29 Ensure that SOP for disasters are developed and maintained
	30 Facilitate Strategic planning of resources to cover all areas during emergencies
	31 Plan and ensure Strategic distribution of disaster management resources across area
	32 Ensure the provision of Emergency flood kits
	33 Mutual aid agreements to be established for relief and response
	34 More command center vehicles
	35 Quality assessments
Societal Measures	37 Develop Awareness training and workshops in high risk areas
	38 Develop and inform communities of response actions to early warning systems
	39 Ensure Coordination and cooperation with NGO's
	40 Community awareness
	41 Early warning systems

10.9 Disaster Risk Project Proposals: Earthquake

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Identify earthquake prone areas/geological faults are
	2 Development of suitable Building codes (enforcement thereof)
	3 Develop Zoning codes for high risk areas
	4 Limit development in high risk areas
Engineering Construction Measures &	5 Approval of Single storey buildings in prone areas only
	6 Enforcement Area specific building methods/codes
	7 Design strong/earthquake resistant infrastructure/services
Economic Measures	8 Disaster relief funds from National Government
	9 Household insurance (act of god)
	10 MOU's with suppliers of emergency materials / supplies
	11 Incentives for compliance with building codes.
Management Institutional Measures &	12 Develop institutional capacity for management of incidents
	13 Good response support services (police, fire department etc.)
	14 Development of Good evacuation plans
	15 Plan for relocation of people in prone areas
	16 Development and training for Mass casualty response team
	17 Development and communication of Recovery plans and strategies
	18 Identify Effective communication systems other than cell phones or radios
	19 Investigate and plan for Air evacuation system
	20 Development and training of Search and rescue teams and strategies
21 Identify mass care facilities outside possible affected areas	

Risk Reduction Category	Risk Reduction Project Proposals
	22 Develop mass care strategy
	23 Develop strategy and process for public notification and to inform communities about the risk
	24 Develop Mutual aid agreements and MOU's for identified tasks
	25 Plan and develop strategies and procedures for Trauma counselling
	26 Plan for emergency responders management and care
	27 Strict enforcement of building codes in identified earthquake prone areas
Societal Measures	28 Education on warning systems
	29 Awareness raising (how to act /react)
	30 Develop self-reliant communities/emergency preparedness
	31 Inclusion of programs in schools in earthquake prone areas

10.10 Disaster Risk Project Proposals: Infrastructure Failure

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Perform composite risk assessments prior to developing services.
	2 Research and development of alternative energy sources other than electricity e.g. generators
	3 Research of effective and correct waste removal and storage
	4 Development of standards and quality assurance of RDP houses
	5 Development and enforcement of min standards for service delivery
	6 Standardizing on a planning horizon at least 50 years
	7 Monitoring and responding to farmers altering river courses
	8 Planning of user -friendly public transport services
Engineering Construction Measures &	9 Applying min standards for all services
	10 Structured maintenance programs for service infrastructure
	11 Safe-guarding of essential service infrastructure
	12 Maintain the integrity of dams, dam walls etc.
	13 Proper assessment of building material and architectural plans
	14 Preventative maintenance and upgrading of equipment/facilities
Economic Measures	15 Fines for exceeding limits
	16 Improve ineffective systems lead to loss of revenue
	17 Fines for transgressions i.e. littering/dumping
	18 More effective road restrictions and toll fees should be implemented

Risk Reduction Category	Risk Reduction Project Proposals
	<p>19 Corrupt service providers to be blacklisted</p> <p>20 More structured bulk service infrastructure contributions to be implemented</p> <p>21 Budgetary provision for sustained infrastructure maintenance to be made</p> <p>22 More effective basic service rates contribution by all users to be implemented</p>
Management Institutional Measures	<p>23 Buildings should have ISO 14001 accreditation in terms of water usage</p> <p>24 Mitigation/emergency measures/strategies should be in place in the event of sewage system failure</p> <p>25 Structured and sustained maintenance programs for service infrastructure</p> <p>26 Design and development of emergency measures in the event of service failure(Departmental emergency plans)</p> <p>27 Safe public transport systems to be implemented</p> <p>28 Design/upgrade bulk services before development</p> <p>29 Structured asset management with regards to infrastructure development and maintenance</p> <p>30 Emergency procedure development for all service disruptions</p> <p>31 Enforcement of Energy saving laws at all levels</p> <p>32 Defining and development of early warning system linked to management plan</p> <p>33 Monitoring of community responsibility w.r.t. feedback on structure service and quality</p> <p>34 Enforcing water conservation measures and/or by-laws</p> <p>35 Dedicated government supervision and quality assurance on all contracts</p> <p>36 Appointment of competent individuals to manage and monitor</p> <p>37 Ensure aid agreements and supplier agreements in case of specific infrastructure failure</p>

Risk Reduction Category	Risk Reduction Project Proposals
Societal Measures	38 Community awareness in terms of water usage and economic use of services
	39 Transport management i.e. "lift clubs" to reduce road traffic
	40 Advocacy campaign i.t.o saving measures (electricity)
	41 Structured and sustained training and education (correct use of infrastructure)

10.11 Disaster Risk Project Proposals: Transport Incidents

Risk Reduction Category	Risk Reduction Project Proposals
Physical Planning Measures	1 Plan alternative routes/road capacity required for increase in traffic
	2 Research and planning of safe sites for airports
	3 Research and planning of public transport safety measures
	4 Incorporate pedestrian safety into new developments
	5 Plan for increased, improved and effective infrastructure with regard to public transport
	6 Plan and ensure correct placement of railway crossings and pedestrian crossings
Engineering Construction Measures &	7 Planning and design of safe railway crossings
	8 Determining need and planning of pedestrian crossings
	9 Effective management of time delay in traffic lights change
	10 Make use of traffic circles to slow down traffic
	11 Construction of speed bumps in residential areas
	12 Setting standards and updating aviation standards
	13 Design and implement bicycle lane for cyclists
	14 More effective traffic light programming for peak and off peak times
	15 Enforce exhaust emissions standards
	16 Plan for effective bus lanes as well as heavy vehicle lanes on major routes
	17 Ensure constant maintenance of all transport infrastructure
Economic Measures	18 Decrease in public transport travelling cost to promote public transport and decrease road traffic

Risk Reduction Category	Risk Reduction Project Proposals
	19 More effective management and processing of fines for all traffic offenders
	20 Introduce cost effective and time effective rail transport for commuters and freight to reduce road transport
Management & Institutional Measures	21 Design and implement Points demerit system for transgressors
	22 Identification and enforcement of alternate route for heavy duty vehicles
	23 Develop good institutional capacity and programs to promote transport safety
	24 Develop good infrastructure and capacity to facilitate effective law enforcement
	25 Capacity and structured audits for licensing
	26 Train and implement more scholar patrols
	27 Promote use of reflective bands for children
	28 Implement capacity to manage register for traffic offenders
	29 More advanced and affordable skills development programs for professional drivers
	30 More structured and vigilant testing/monitoring of licensed drivers and vehicles
	31 Use accredited contractors and building materials for road construction
	32 Enforcement of clear road signs/warnings and markings during construction periods
	33 Implement and manage structured general road maintenance programs
	34 Implement restriction measures to control heavy vehicles' times and routes
35 Design and implement traffic management plans	
36 Learner license and driver training programs in schools for development of young responsible drivers	

Risk Reduction Category	Risk Reduction Project Proposals	
	37	Develop a system whereby intoxicated pedestrians are effectively removed from busy roadways and prosecuted
	38	Permit system
Societal Measures	39	Discourage aggression/ road-rage
	40	Promote alternative transport
	41	Structured education on road safety
	42	Structured program to increase awareness of pedestrians

11 ANNEXURE C: KEY STAKEHOLDERS CONTACT LIST / EMERGENCY NUMBERS LIST FOR STELLENBOSCH

STELLENBOSCH MUNICIPALITY						
NAME	DEPARTMENT	DESIGNATION	TEL	FAX	CELL	Email
Geraldine Mettler Hannelie Lategan	Corporate Services	Municipal Manager PA of MM	021-808 8025 021-808 8025	021-808 8026 021-808 8026		municipal.manager@stellenbosch.gov.za hannelie.lategan@stellenbosch.gov.za
Gerald Esau Leanne Pedro Cllr. Quintin Smit	Community & Protection	Director PA Portfolio Councillor	021-808 8437 021 808 8437		082 474 4268 073 608 1867	gerald.esau@stellenbosch.gov.za Comm.Temp@stellenbosch.gov.za quintin.smit@stellenbosch.gov.za
Wayne Smith Bertie Brandsen	Fire Brigade Services Fire Brigade Services	Chief Fire Officer Head: Fire Safety	021-808 8888 021 808 8881	021-883 3200	0714437337 084 516 5752	wayne.smith@stellenbosch.gov.za Bertie.brandsen@stellenbosch.gov.za
Shezayd Seigels	Disaster Management	Head: Disaster Management	021-808 8888	0865746470	082 050 4834	shezayd.seigels@stellenbosch.gov.za
Janine Waldis Ayanda Royi Lizelle Stroebel	Municipal Traffic Municipal Traffic Municipal Traffic	Manager Head: Admin Operations Head: Law Enforcement	021-808 8813 021-808-8800 021-808-800	021-808 8809 021-808 8809 021-808 8809	0823248354 084773206 0829271010	janine.waldis@stellenbosch.gov.za ayanda.royi@stellenbosch.gov.za lizelle.stroebel@stellenbosch.gov.za
Neville Langenhoven Cedric Thorpe	Law Enforcement Law Enforcement	Manager: Law Enforcement Head: Law Enforcement	021-808-8447 021-808 8937	021-808 8182	0845065060 0823815555	neville.langenhoven@stellenbosch.gov.za cedric.thorpe@stellenbosch.gov.za
Deon Louw Sylvia Pretorius Dries Van Taak	Engineering Services	Director (Acting) Admin Manager: Water/sewage	021-808 8023 021-808 8023 021-808 8218	021-883 9874	0788019628 076 412 4482	Deon.louw@stellenbosch.gov.za Sylvia.pretorius@stellenbosch.gov.za dries.vantaak@stellenbosch.gov.za
Johannes Coetzee Saliem Hadier		Manager: Electricity Manager: Solid Waste Head: Roads and Storm water	021-808 8770 021-808 8241	021-883 9874 021-883 9874	082 826 5587 072 655 4870	johannes.coetzee@stellenbosch.gov.za saliem.hadier@stellenbosch.gov.za
Johan Fullard			021-808-8023	021-883 9874	0728292779	johan.fullard@stellenbosch.gov.za
Ms Erica Ferreira	Insurance claims		021-808 8510			Erika.Ferreira@stellenbosch.gov.za
Thabiso Mfeya Piet Smit Charlotte Lamorh Lester Van Stavel Johru Robyn	Municipal Housing & Property Management Municipal Housing: rentals Municipal New Housing Municipal Informal Housing	Director Manager Manager Manager Manager	021-808 8757 021-808 8757 021-808-8762 021-808-8762		0723895650 084 506 5065 079 772 0230 0824427709 0835600816	thabiso.mfeya@stellenbosch.gov.za Piet.smit@stellenbosch.gov.za charlotte.lamorh@stellenbosch.gov.za lester.vanstavel@stellenbosch.gov.za jophru.robyn@stellenbosch.gov.za
Marius Wust Rochelle Nichols	Finance	Director Bolton's PA	021-808 8528 021-808 8528	021-808 8574 021-808 8574		marius.wust@stellenbosch.gov.za rochelle.nichols@stellenbosch.gov.za

Comment [LD1]: New Municipal Manger

Comment [LD2]: New PA to Director

Comment [LD3]: New entry

Comment [LD4]: New Acting Director

Comment [LD5]: New entry

Comment [LD6]: New entry

Comment [LD7]: New entry

NAME	DEPARTMENT	DESIGNATION	TEL	FAX	CELL	EMAIL
Dupré Lombaard	Planning, Property	Director	021-808 8676			dupre.lombaard@stellenbosch.gov.za
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Mr Shaun Minnies Ms Janine Bauers Mr Roy Veldtsman	Cape Winelands District Municipality	Disaster Management	086 126 5263 (021) 888-5163		082 779 9823 072 440 1996 082 770 0848	shaun@capewinelands.gov.za Janine@capewinelands.gov.za rcv@lando.co.za
H.D Boock Mrs Teresa Davids Mr Fabian Van Wyk Mr Marius Engelbrecht		Health Services	021-888 5828	021-887 9365	082 413 4480 083 959 4810 082 375 7663 072 122 5680	hein@capewinelands.gov.za teresa@capewinelands.gov.za
Mr Derick Damons	Groot Drakenstein	Chief: Fire and Disaster Management Officer			082 415 9342	Derick.damons@draketsien.gov.za
Ms Denise Johnson Mr David McFarlen	PAWC: Primary Health - STB STB Ambulance		021- 883 3445		072 432 0798 082 464 1509	Denise.johnson@westerncape.gov.za
Mr Daniel Solomons Mr Neville Hendricks		Chaplin			082 686 3205 083 392 0532	daniel2004@telkomsa.net
Mr Garth Van Zyl	EMR - Medicare		021- 876 4316		074 363 7744	garth@medicare-emr.co.za
Mrs Allison Smith	Department of Social Development & Social Relief Services				083 628 7100	Allison.Smith2@westerncape.gov.za
Mr Schalk Carstens Ms Jacqui Pandaram	PDMC				083 273 1372 076 079 1395	SchalkWillem.Carstens@westerncape.gov.za jacqueline.pandaram@westerncape.gov.za
Ms Levona Van Aarde Mr Wilfred Pietersen	Red Cross: Co-ordinator		(021) 797-5360		079 895 1994 082 896 8422	

Comment [LD8]: New entries

Comment [LD9]: New entries

Comment [LD10]: New entries

Comment [LD11]: New entry

Comment [LD12]: New entries

Comment [LD13]: New entries

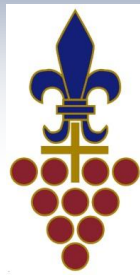
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Comment [LD16]: New entries

Comment [LD17]: New entries

NAME	DEPARTMENT	DESIGNATION	TEL	FAX	CELL	EMAIL
Mr P Williams	Stellenbosch Centre for the Disabled		(021) 887-8688			
	ABBA		(021) 883-8030			
	Child Welfare		(021) 887-2816			
DS Van Zyl					082 871 3155	
Mr Godfrey Martin					083 229 3849	
Ds Daniel Bock	Raad vir Kerklike Samewerking				076 042 5073	
Mr Viljoen Van der Walt	University Stellenbosch: USB					
Mr Angelo Achmardt			(021) 808 9111		084 546 2685	
Mr Danie Keet	Eikestad News		(021) 887-2840		082 453 4350	danie.keet@media24.com



Stellenbosch Municipality

INTEGRATED CONTINGENCY PLAN Communicable Diseases - Measles

March 2017



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1. INTRODUCTION

2. OBJECTIVE

To describe the managerial and administrative arrangements, to be implemented to ensure co-ordination of the identified stakeholders in responding to any large scale disruptions brought about by any communicable disease i.e. Measles.

To establish mechanisms to ensure an integrated response to any occurrence within the jurisdiction of Greater Stellenbosch in order to manage the activities of government and minimise disruption and panic.

3. INSTITUTIONAL CAPACITY

No single department or role-players will be able to reduce the occurrence through an individual effort, and therefore a collaborative effort will be required which can ideally be coordinated by a body with wide representation from those actors that can play a role in the unnecessary reduction in movement.

4. ACTIVATION OF THE PLAN

This plan is not only a response plan. It also incorporates risk reduction elements and is therefore not a plan that will be activated in a reactive manner. The plan serves to unify and enhance the individual role-players and organisations acting under their own authority in response to electrical interruption or total blackout.

Implementation of the plan will require extensive co-operation, collaboration and information-sharing across disciplines, as well as between the government and private sector at all levels.

5. BACKGROUND

Stellenbosch experienced a measles outbreak which origin was traced to Paul Roos Boys High.

The Department of Health in collaboration with the Department of Education and Stellenbosch Municipality immediately alerted residence via all mediums of notification and started with an Immunisation Campaign on the 3rd of February 2017.

The target group for immunisation is all under 5 years old children under direct supervision of Clinical Nurse Practitioners and with administrative functions (writing up the names of all immunised) and keeping record of stock used, informing the community where to go for immunisation.

6. VACCINE – PREVENTABLE DISEASES

A high index of suspicion should be maintained for new cases countrywide.

Any suspected measles case should have a serum sample collected and sent to the NICD for confirmatory testing, together with a completed case investigation form (available from NICD website under Measles FAQs:

www.nicd.ac.za/assets/files/Measles%20Rubella%20case%20investigation%20form%20Mar%202014.pdf).

The measles vaccine history should be indicated on the case investigation form. Measles vaccines are routinely given as two doses, at 9 months and 18 months of age. Measles vaccines are safe and highly effective at preventing measles.

If a dose has been missed, it is never too late to catch up measles vaccination.

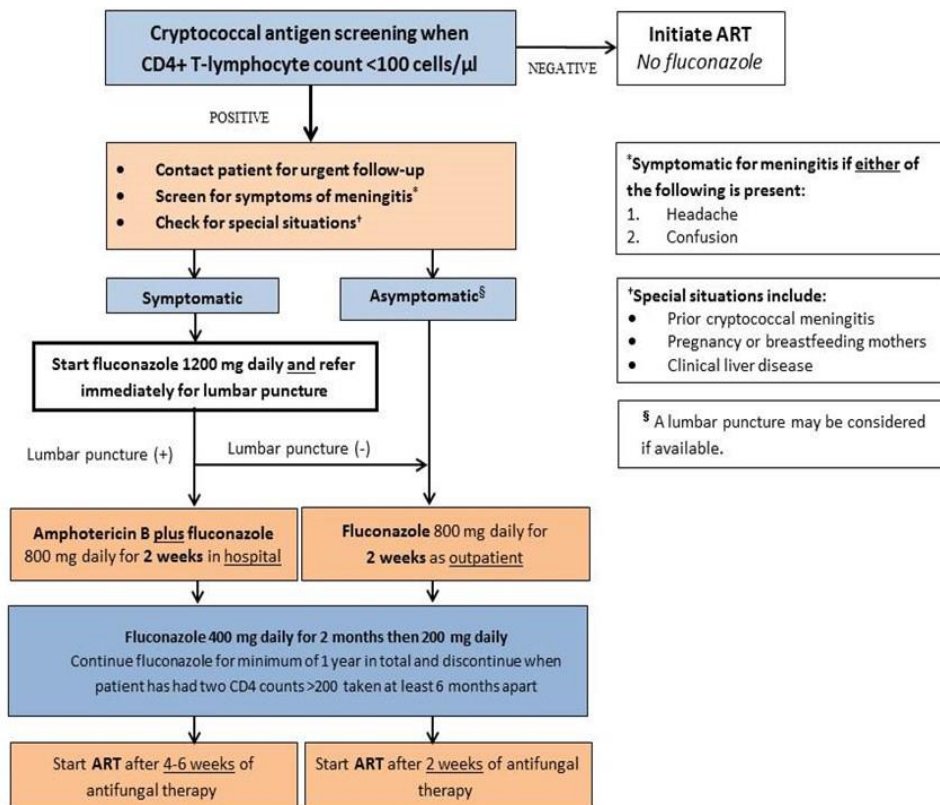


Figure 1. Algorithm for clinical management of disseminated cryptococcal disease

7. The Western Cape Department of Health

The Western Cape Department of Health (Communicable Disease Control) circulated information to all sectors as part of their awareness and information campaign.

Herewith a few snippets (please read in detail)

7.1 Influenza

- Data from the two influenza surveillance programs i.e. 1. Influenza like Illness (ILI) at primary healthcare clinics and Viral Watch sites and Severe Respiratory illness (SARI) which monitors severe diseases in hospitalized patients.

- **Viral Watch:** Influenza A (H3N2) was detected in 3 patients who had recently returned from Europe. In addition 14 specimens were collected at the time of entry into South Africa from abroad; influenza A (H1N1) pdm09 was detected in one, A (H3N2) in five, and influenza B in two of these travellers.
- **Influenza Vaccinations**
 - Recommended composition of influenza virus vaccine for use in the southern hemisphere influenza season is indicated in the Communiqué
 - Timing of influenza vaccination – it is recommended that people be vaccinated as soon as vaccine becomes available. Healthcare workers are encouraged to discuss influenza vaccination with their patients (especially the high risk patients)

7.2 Measles

- Successful control of the outbreak was achieved through targeted population in the affected areas.
- Suspected measles cases must be reported, case investigation form completed and blood samples collected and sent to the NHLS-NICD for testing.

ANNEXURE 1

FIRE & RESCUE and DISASTER MANAGEMENT

Staffing Component

- Immediate access to a JOC (Joint Operation's Centre).

a. Fire and Rescue Services

Staff

- Total staff component as per shifts (16) available in case of full power outage
- Additional staff can be recruited, if and when required.

Vehicles

- 6 x Heavy duty vehicles
- 1 x light duty vehicle
- 2 x Rescue vehicles
- 1 x search and rescue trailer

b. Disaster Management

Staff

- Permanent component of two (2) officials.
- Temporary staff (3) through the EPWP programme

Vehicles

- 1 x light duty vehicle
- 1 x trailer
- 2 x water tankers

ANNEXURE 2

CONTACT NUMBERS IN CASE OF AN EMERGENCY

Stellenbosch Medi-Clinic Emergency Unit will be available for ALL hour emergencies including for any medical advice or referrals. The 24 hour no for Stellenbosch Medi Clinic is:

ALL HOURS EMERGENCIES: (021) 886 9999

In the event of a patient having to be transported to a medical facility then ER 24 Ambulance Services or Metro Ambulance Service will be contacted to transport the patient to Stellenbosch Medi-Clinic or Stellenbosch Provincial Hospital.

ORGANISATION	REGION	CONTACT NUMBER
Traffic Services	Stellenbosch	(021) 808 8811
	Provincial	(021) 931 1646
Stellenbosch Fire	Control Centre	(021) 808 8888
SAPS	Stellenbosch	(021) 809 5000
	Klapmuts	(021) 875 5555
	Groot Drakenstein	(021) 874 8000
	Franschhoek	(021) 876 8060
Metro Control	Control Room	(021) 937 0300
Metro Ambulance Control	Control Room	(021) 937 0500
ER 24 Ambulance Service		084 124
Provincial Hospital	Stellenbosch Casualty Dept.	(021) 887 0310
Provincial Hospital	Paarl Casualty Dept.	(021) 872 1711
Medi-Clinic	Stellenbosch	(021) 883 8571
		(021) 886 9999
	Paarl Vergelegen	(021) 807 8000
		(021) 850 9000
Strand Private Hospital		(021) 854 7663
AMS Helicopter Service		(021) 937 0300
Disaster Management	Control Centre	(021) 597 5000

If you are aware of any suspected or confirmed case, please contact:

Primary Health Care Manager
Stellenbosch Sub-District
Cape Winelands District
WESTERN CAPE GOVERNMENT HEALTH

Attention: Sr. Denise Johnson
Stellenbosch Hospital Admin Building|Merriman Avenue | Stellenbosch |
Tel: +27 21 808 6108
Fax2mail: 0862632700
E-mail: Denise.Johnson@westerncape.gov.za
Website: www.westerncape.gov.za

Or

villyenm@nicd.ac.za.
epidemic.preparedness@westerncape.gov.za
Website: www.westerncape.gov.za

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WHO-AFRO: OUTBREAKS AND EMERGENCIES

The Weekly WHO Outbreak and Emergencies Bulletin focuses on selected public health emergencies occurring in the WHO African region. The African Region WHO Health Emergencies Programme is currently monitoring 41 events, 33 infectious diseases outbreaks and 8 humanitarian crises.

- 6 http://www.afro.who.int/en/clusters-a-programmes/who/outbreaks-and-other-emergencies-updates.html?utm_source=Newsweaver&utm_medium=email&utm_term=sign+up&utm_content=Tag%3AWHE%2FHIM+Outbreaks+Weekly&utm_campaign=WHO+AFRO+-+Outbreaks+and+Emergencies+Bulletin+-+Week+15

1 VACCINE PREVENTABLE DISEASES

a Measles in Gauteng and Western Cape Provinces: an update

As of 19 April 2017, 52 measles cases have been detected in South Africa since the start of the year as part of an outbreak in Western Cape Province (n=31) and a cluster in Gauteng Province (n=16). In addition there have been three cases from North West Province, one from Eastern Cape Province and one from Mpumalanga Province (Figure 1). The measles strain detected is type D8, with slight differences between the Western Cape and Gauteng D8 strains, suggesting at least two separate importations.

In the Western Cape Province, the first case was detected on 16 January 2017 and the last measles case for the province was detected on 14 March 2017 (Figure 2). Most of the affected cases were aged 15-19 years, with unknown measles vaccination history. The outbreak in the Western Cape Province has been contained by a vigorous vaccination campaign, with more than 450 000 children vaccinated. The vaccination campaign targeted children under 15 years of age in the affected sub-districts and under 5 years of age in the rest of the province.

In Gauteng Province, the 16 measles cases were detected in the City of Johannesburg, Ekurhuleni

and City of Tshwane districts. The date of onset of disease for the first case was on 12 January 2017, and 07 April 2017 for the last reported case to date (Figure 3). Ten of the cases were linked to one family. Most cases were unvaccinated primary school children. Measles vaccination of contacts included schools in affected sub-districts. A provincial-wide measles campaign in Gauteng Province is planned to take place in May 2017.

Heightened awareness should be maintained for measles cases nationally. Any suspected case requires laboratory testing for confirmation. Children's vaccination cards should be checked to ensure measles vaccinations are up to date. Measles is targeted for elimination and every suspected case requires notification and investigation.

Source: Division of Public Health Surveillance and Response; and Centre for Vaccines and Immunology, NICD-NHLS (melindas@nicd.ac.za); Western Cape Department of Health; Gauteng Department of Health; National Department of Health

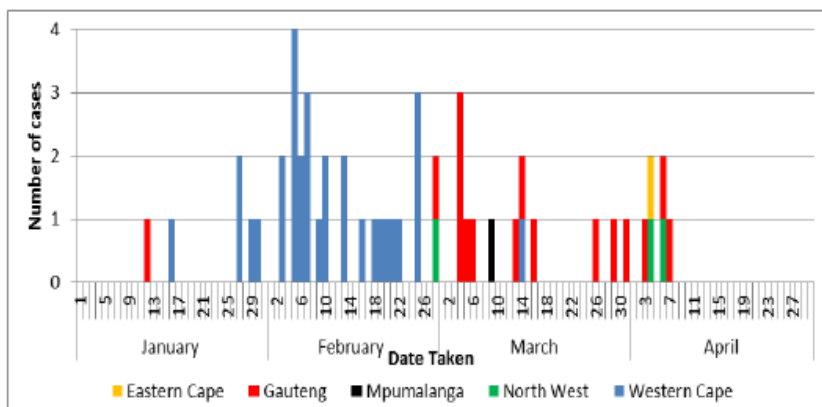


Fig 1. Laboratory confirmed measles cases in South Africa, 1 January–19 April 2017 (n=52).

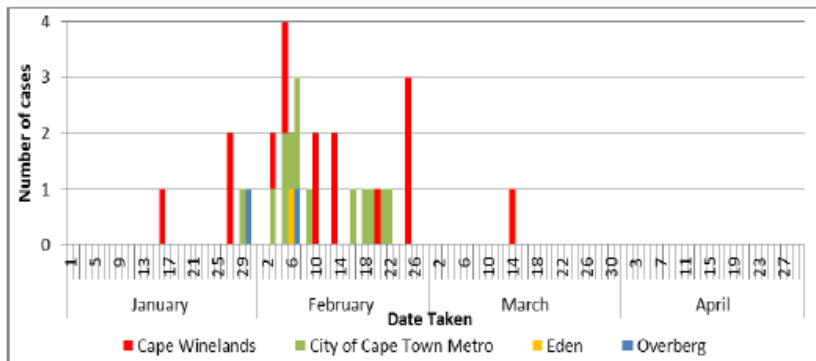


Fig 2. Laboratory confirmed measles cases in Western Cape Province, by district, 1 January–19 April 2017 (n=31).

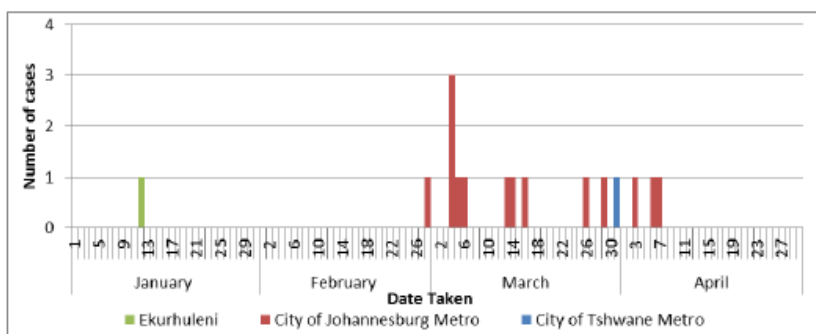


Fig 3. Laboratory confirmed measles cases in Gauteng Province, by district, 1 January–19 April 2017 (n=16).

2 SEASONAL DISEASES

a Malaria in South Africa, 2017

During the 2016/2017 malaria season in South Africa (SA), a total of 9478 malaria cases has been reported, of which 5150 were imported cases, with most originating from Mozambique. For the 2015/2016 corresponding period, there were 6375 malaria cases, of which 4742 were imported. The total number of deaths for 2016/2017 was 76, compared to 58 deaths last year. An increase in the

number of cases have been reported in southern Africa, including in Namibia and Botswana, probably as a result of the recent increase in rainfall, temperature and humidity.

In SA, for 2017, the majority of the cases have been confirmed in Limpopo Province, with 1648 cases and 3 deaths. An outbreak was reported in

Thabazimbi and Lephalale in the western Waterberg district of Limpopo Province (Communique, March 2017). No further cases have been reported due to local transmission in the Thabazimbi and Lephalale regions since 22 March 2017.

Malaria transmission is ongoing in SA and neighbouring countries. Travellers should take appropriate precautions and report promptly to their nearest health facility or doctor for early diagnosis and treatment if they suspect that they may have contracted malaria.

25 April 2017 is World Malaria Day



Source: Division of Public Health Surveillance and Response; Centre for Emerging, Zoonotic and Parasitic Diseases; NICD-NHLS (johnf@nicd.ac.za); Malaria Directorate, National Department of Health

b Influenza and respiratory syncytial virus, 2017

The 2017 influenza season has not yet started. In 2016, the season started in week 19 (week starting 9 May). However the 2017 respiratory syncytial virus (RSV) season started in week 7 (week starting

13 February) when detection rates in both the pneumonia and influenza-like-illness (ILI) surveillance programmes rose above 10%. Detection rates have continued to rise (Figure 4).

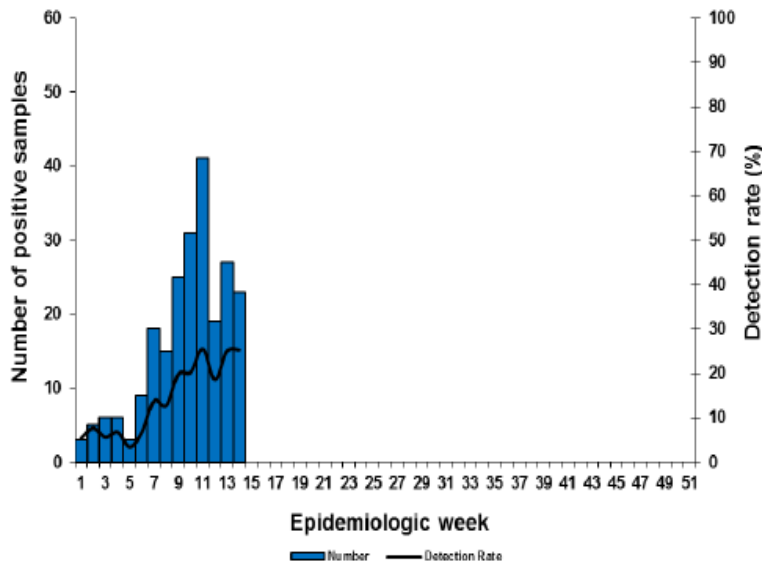


Fig 4. RSV detections and detection rates per week from pneumonia and ILI surveillance at public health clinics 2017

Influenza vaccine is available. Influenza vaccination, which provides protection against at least three strains of influenza each season, remains the most effective measure to prevent influenza and influenza-related complications. Although the season has not started, individuals at risk of severe disease due to influenza and influenza-related complications, especially pregnant

women, HIV-infected individuals and those who are vulnerable due to pre-existing illnesses or risk factors, are advised to obtain vaccination as soon as possible.

Source: Centre for Respiratory Diseases and Meningitis, NICD-NHLS; (cheryl@nicd.ac.za)

3 ZOOBOTIC AND VECTOR-BORNE DISEASES

a Crimean-Congo haemorrhagic fever

A total of four cases of Crimean-Congo haemorrhagic fever (CCHF) was confirmed in South Africa for 2017 to date. The cases were reported from the Western Cape (n=1), Free State (n=2) and the Northern Cape (n=1) provinces. All of the cases involved farmers with known tick bite exposures. Three of the cases recovered, and there was one death reported.

The CCHF virus is a tick-borne disease, transmitted particularly by 'bontpoot' ticks (*Hyalomma* spp.). Historically human CCHF cases have been reported

from throughout the country, but the majority of cases were from the Northern Cape, Free State and North West Provinces.

Further more information on CCHF can be found at www.nicd.ac.za.

Source: Centre for Emerging, Zoonotic and Parasitic Diseases, NICD-NHLS; (januszp@nicd.ac.za)

b Rabies

No further human rabies cases have been confirmed in South Africa to date. One human rabies case was diagnosed in a 5-year-old boy from the Eastern Cape Province, who did not present for rabies prophylaxis following a dog bite in January 2017. The patient died in early March 2017

(Communique, March 2017).

A total of 436 human rabies cases has been laboratory confirmed from SA since 1983, with an average of 9 to 10 cases reported annually in the past decade (Figure 5).

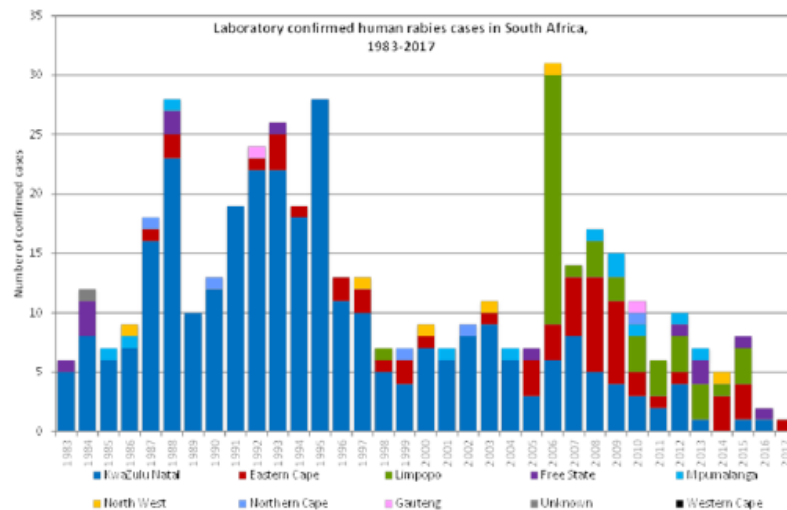


Fig 5. Laboratory confirmed human rabies cases in South Africa from 1983 to date, per province.

All provinces are affected by rabies but most dog rabies, which is associated with the public health burden of rabies, occurs in the Eastern Cape, Free State, KwaZulu-Natal, Limpopo and Mpumalanga Provinces. KwaZulu-Natal has effectively reduced the incidence of dog rabies in the past decade from approximately five hundred to under 50 cases (source: Allerton Provincial Veterinary Laboratory, APVL). From 10 March 2017 to 19 April 2017, animal rabies cases were reported from the North West, Northern Cape, Limpopo and Mpumalanga provinces (data source: Agriculture Research Council – Onderstepoort Veterinary Institute). These included cases of rabies in cattle (n=2),

jackal (n=4) and domestic dogs (n=2). Cases of dog and bovine rabies were also reported from KwaZulu-Natal and the Eastern Cape provinces during this period (source: APVL).

For more information on rabies post-exposure prophylaxis for humans, please visit www.nicd.ac.za

Source: Centre for Emerging, Zoonotic and Parasitic Diseases, NICD-NHLS; (januszp@nicd.ac.za); Onderstepoort Veterinary Institute

4 SURVEILLANCE FOR ANTIMICROBIAL RESISTANCE

a Carbapenemase-resistant Enterobacteriaceae—a monthly update

The Antimicrobial Resistance Laboratory and Culture Collection (AMRL-CC) of the Centre for Healthcare-associated infections, Antimicrobial Resistance and Mycoses (CHARM) at the NICD has been testing referred isolates of suspected carbapenemase-producing Enterobacteriaceae (CPE) for the presence of selected carbapenemases. CPE have become a threat to healthcare and patient safety worldwide by compromising empiric antibiotic therapeutic choices and increasing morbidity, hospital costs and the risk of death. We are receiving clinically significant isolates from all specimen types based on antimicrobial susceptibility testing criteria for molecular confirmation. For March 2017, a total of 114 Enterobacteriaceae isolates was received. One hundred and two isolates were screened, 92 of which expressed the carbapenemases that were screened for. Five isolates expressed multiple carbapenemases (four isolates expressed two carbapenemases: NDM and OXA-48 & variants, n=2; VIM and OXA-48 and variants, n=2 and one isolate expressed three carbapenemases: NDM, VIM and OXA-48 and variants, n=1) (Table 1). The majority of the screened isolates were *Klebsiella pneumoniae* (81) followed by *Escherichia coli* (8).

It is important to note that these figures do not represent the current burden of CPEs in South Africa. However our data reveal the presence of carbapenemases in Enterobacteriaceae isolates from various specimen types, nationally. As a first step CPE surveillance is required to determine the extent of the problem in order to restrain the emergence and spread of resistance. The AMRL-CC is currently running a surveillance programme at national sentinel sites for CPE infections in patients with bacteraemia which provides representative data. This significant data will inform public health policy and highlight priorities for action. Controlling the spread and limiting the impact of CPEs in South Africa requires intensive efforts in both the public and private healthcare sectors going forward. NHLS and private laboratories are encouraged to submit suspected CPE isolates based on antimicrobial susceptibility testing (AST) criteria to AMRL-CC, NICD/NHLS. Please telephone (011) 555 0342/44 or email: olgap@nicd.ac.za; for queries or further information.

Source: Centre for Opportunistic, Tropical and Hospital Infections, NICD-NHLS; (olgap@nicd.ac.za)

Table 1. Enterobacteriaceae by CPE enzyme type for January-February 2017 and March 2017 at the AMRL-CC, CHARM, NICD.

Organism	NDM		OXA-48 & Variants		VIM		KPC	
	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017	Jan-Feb 2017	Mar 2017
<i>Citrobacter freundii</i>	2	1	6	1	-	1	-	-
<i>Enterobacter aerogenes</i>	-	-	-	3	-	-	-	-
<i>Enterobacter cloacae</i>	3	1	23	2	-	-	-	2
<i>Escherichia coli</i>	4	2	12	4	-	-	-	-
<i>Klebsiella oxytoca</i>	-	-	1	1	-	-	-	-
<i>Klebsiella pneumoniae</i>	35	19	119	58	3	2	-	-
<i>Proteus mirabilis</i>	-	-	1	1	-	-	-	-
Total	44	23	162	70	3	3	0	2

NDM: New Delhi metallo-beta-lactamase; OXA: oxacillinase; VIM: Verona integron-encoded metallo-beta-lactamase; KPC: *Klebsiella pneumoniae* carbapenemase.

5 BEYOND OUR BORDERS

The 'Beyond our Borders' column focuses on selected and current international diseases that may affect South Africans travelling abroad. Numbers correspond to Figure 6 on page 10.

1. Lassa Fever: Nigeria, Benin, Togo, Burkina Faso, Sierra Leone

Lassa fever is endemic in Nigeria and other West African countries. Outbreaks have occurred almost every year in different parts of the region, with yearly peaks observed between December and February.

The Lassa fever outbreak in Nigeria is still active in 13 states. Two hundred and eighty-three suspected cases have been reported since the onset of the outbreak in December 2016 with 93 confirmed and six probable cases. There have been 46 deaths (40 confirmed and six probable) and the case fatality rate for confirmed/probable cases is 46.5%. The Nigeria Centre for Disease Control (NCDC) is coordinating the response in affected states and has re-distributed ribavirin to affected states for management of confirmed cases.

In Benin, the outbreak of Lassa fever started on 12 February 2017 in Tchaourou district, Borgou Province, close to the border with Nigeria and with an established epidemiological link with the ongoing Lassa fever outbreak in Nigeria. On 23 February 2017, another suspected case from L'Atacora Province was reported. Both cases died, giving a case fatality rate of 100%.

In Togo, Lassa fever was confirmed on 23 February 2017, with the case having established epidemiological linkage to Benin. A total of 12 suspected cases was subsequently reported, seven confirmed. Four of the confirmed cases died (case fatality rate of 57%). The cases originated from Oti and Kpendjal districts.

In Burkina Faso, the Ministry of Health of Burkina Faso notified WHO of a confirmed Lassa fever case on 26 February 2017. The case originated from Ouargaye district, central eastern part of Burkina Faso. No other cases reported have been reported.

Sierra Leone began reporting of Lassa fever on 28 December 2016. The outbreak situation escalated in the months of February and March 2017 when a cluster of 24 cases was reported and investigated. All four confirmed cases died giving a case fatality rate of 100%. The outbreak has since subsided.

2. Yellow Fever: Brazil

Since 1 January 2017, Brazil, Colombia, Ecuador, Peru, Bolivia, and Suriname have reported suspected and confirmed yellow fever cases.

In Brazil, there have been 2210 reported cases (604 confirmed, 1054 discarded, and 552 suspected under investigation), including 302 deaths (202 confirmed, 52 discarded, and 48 under investigation). The case fatality rate (CFR) is 33% among confirmed cases.

Cases were reported in 342 municipalities, while the confirmed cases were distributed among 103 municipalities in 5 states (Espírito Santo, Minas Gerais, Pará, Rio de Janeiro and São Paulo).

With regard to the confirmed fatal cases and their probable site of infection, 148 were in Minas Gerais, 4 in São Paulo, 43 in Espírito Santo, 4 in Pará, and 3 in Rio de Janeiro. In descending order, the CFR among suspected and confirmed cases by state is 100% in Pará, 80% in São Paulo, 34% in Minas Gerais, 29% in Espírito Santo and 27% in Rio de Janeiro.

The newest fatal case in Rio de Janeiro was confirmed by Brazil Health Authorities on 20 April 2017 when a 61-year-old male from Maricá, one of the municipalities in metropolitan Rio de Janeiro, died from yellow fever. After confirmation of the new death, the Regional Secretary of Health sent medical teams to Maricá to strengthen the vaccination campaign.

In the state of Minas Gerais, there is a downward trend with the date of symptom onset of the last reported case is 06 March 2017.

3. Malaria: Botswana and Namibia

The recent heavy rains in most parts of Botswana resulted in an increase of malaria. In February 2017, Botswana had recorded 7627 cases of malaria and seven deaths. About 60% of these cases are from Okavango District but the country has also recorded sporadic cases from non-endemic malaria districts in southern Botswana.

Malaria transmission in Botswana runs from October to early May. Annually, in preparation for this season, the Ministry of Health and Wellness conducts integrated vector control interventions, public education, community mobilisation and capacity building. Drug and commodity availability are also ensured. In addition, due to early warnings of above average rainfall, the ministry has intensified its efforts to prepare for a possible outbreak.

In Namibia, at least 6500 cases of malaria have been reported in the northern regions of the country, where an outbreak is ongoing since January 2017. Kavango East and Kavango West recorded 3881 cases, Zambezi recorded 546 and Ohangwena recorded 490 cases. In the two Kavango regions, 13 people died of malaria, while in Ohangwena nine people died.

Namibia has previously been hailed for doing relatively well in the fight against malaria. Less than 3000 cases and only 10 deaths were reported at the close of 2013 and the concerted scientific efforts by the Ministry of Health and Social Services led to a reduction in malaria cases by over 90% in 2012.

Regional teams supported by the national malaria programme's technical staff are currently deployed in the regions to perform active outbreak response and strategies involve teams being deployed at village level for early diagnosis and treatment as well as appropriate vector control to suppress the vector mosquito population.

4. Cholera: Mozambique, Zimbabwe, Malawi and Zambia

After heavy rains, the cholera outbreak in parts of Mozambique has infected more than 1200 people, killing two in March 2017. The disease has already spread from the capital Maputo to another three of Mozambique's 13 provinces since the start of 2017. One of the deaths this month occurred in Maputo, while the other fatality was recorded in the north-western province of Tete.

In Zimbabwe, the government is on high alert following the death of two people in Manicaland Province from suspected cholera. Manicaland borders the province of Manica in Mozambique, where cases of cholera have also been reported. There has also been a confirmed cholera case in Chiredzi, while three suspected cases were recorded in Chipinge in March 2017. Of the three

people suspected to have contracted the disease in Chipinge, two were contacts of the index case in Chiredzi and have since died.

In Malawi, the outbreak began on 11 March 2017, and a total of 14 cases with no deaths has been reported. The Nsanje district of Malawi shares borders with Mozambique and the initial cluster of cases have epidemiological linkages with Villa Nova, Tete Province in Mozambique. However, Malawi has been experiencing recurrent outbreaks of cholera, especially in the southern region, which is prone to both floods and droughts; both conditions favor propagation of cholera infection. In addition, the continuous cross-border activities between Malawi and Mozambique also contribute to the transmission of cholera.

In Zambia, cholera has broken out in two districts of northern Zambia, with 70 people hospitalized. No deaths have been recorded so far. A total of 23 new cases was reported in Chiengi district, mostly from an illegal fishing camp, bringing the cumulative total to 54, while a cumulative total of 16 cases has been recorded in Mpulungu district. Health promotion campaigns are currently underway in the two districts to alert residents on preventive measures.

5. Typhoid: Zimbabwe

The Zimbabwean health ministry says at least 10 people have died, and more than 1800 have been infected with the disease since the outbreak began in October 2016. Most of these suspected infections were in Harare, and 30% were pre-school age children. The disease is spreading quite rapidly with a recent report that almost 100 people contracted the disease in the space of one week.

6. Chikungunya: Nepal

Since December 2016 nearly a dozen chikungunya virus (CHIKV) positive cases have been found among suspected cases in Kathmandu. This shows that CHIKV may have been co-circulating with dengue virus (DENV) during the dengue outbreak in November 2016 in Nepal.

CHIKV was then perhaps vastly underestimated by physicians, because the *Aedes* mosquito, a vector for both DENV and CHIKV, is uncommon during the winter season and only one CHIKV case was then reported in Nepal.

7. Meningococcal meningitis: Nigeria

A total of 33 people (out of 116 suspected cases) have died from the cerebrospinal meningitis (CSM) in Niger state, Nigeria. Nine persons died from type C meningitis while the remaining 24 died of types A and B.

The disease is being contained in Magama, Agwara, Rijau, Kontagora local government areas and the suspected cases in Suleja and Paiko were persons in transit from Sokoto.

The state has embarked on a sensitisation and awareness campaign to educate the people on preventive measures and now has fewer cases reported daily as a result. Vaccination would commence immediately once the state receives the type C meningitis vaccines from international communities.

Source: Division of Public Health Surveillance and Response, NICD-NHLS, from Promed (www.promed.org) and the World Health Organization (www.who.int)



Fig 6. Current outbreaks that may have implications for travellers. Numbers correspond to text above. The red dot is the approximate location of the outbreak or event

APPENDIX 8
Winter Readiness and Preparedness Planning

WINTER READINESS AND PREPAREDNESS PLANNING - 2017

1. PURPOSE OF REPORT

The emergency services comprising of fire operations, fire prevention and disaster management sections, to be able to deal with the challenges that could be encountered during the coming winter season.

2. BACKGROUND

Disaster risk reduction encompasses the concepts of prevention, mitigation and preparedness, which are viewed as developmental activities minimizing the likelihood of disastrous occurrences by reducing the vulnerability of those at risk.

The National Disaster Management Framework of 2005 requires each organ of state to ensure preparedness actions to ensure that their winter preparedness is in place to ensure effective response to emergency incidents during the winter season.

Bad weather, strong winds and horrific conditions of dwellings especially in informal areas of Greater Stellenbosch contributed to the distribution of sand bags, flood kits and blankets as a preventative to assist these households.

3. DISCUSSION

Although Disaster Management focus on Stellenbosch as a whole, the Department took pro-active measures in identified hot spots affected by high winds and prone to flooding i.e. Langrug, Franschoek, Kylemore, Klapmuts, Kayamandi, Vlottenburg and Jamestown.

Pro-active measures to mitigate flooding in especially informal settlements are in place, which includes re-location of structures, awareness campaigns, improved storm water infrastructure, early warnings, cleaning of rivers, etc.

4. FUNCTIONAL RESPONSIBILITY CHART

Disaster Management co-ordinates the multi-disciplinary rapid response team 24-hrs. Despite the preparedness, the unit would like to point out that flooding may still occur and cannot completely be prevented as rainfall often exceeds the capacity of the storm water system.

Residents are urged to report incidents to their Ward Councillors, who will forward the information to the Control Room for processing and other emergency related incidents to the relevant departments.

P= Primary	S= Supporting	C= Coordinating
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FUNCTION	COMMUNITY RECOVERY & MITIGATION	PUBLIC SAFETY	SEARCH & RESCUE	RESOURCE SUPPORT	FIRE FIGHTING	COMMUNICATION	MASS CARE/ HOUSING
Fire Department			P		P	S	
Engineering Department				P			
Disaster Management	C			C		S	C
Informal Human Settlement / Housing Department							P
Community Develop				S			S
Traffic Services		P					
Law Enforcement		P				S	
Communications						P	

5. 24 Hour Emergency contact numbers

Inspections and/or incidents reported are immediately attended to by the relevant line functions.

Emergency Centre	Control room operator	021-808 8888
Operational Heads	Head: Fire operations	082 647 7587
Head: Disaster Management	Ms Shezayd Seigels	082 050 4834
Chief: Fire and Disaster	Mr Wayne Smith	071 443 7337

6. MUNICIPAL FUNCTIONARIES

6.1 Fire and Rescue Services

This section will attend to emergency and non-emergency incidents, inspections and educational programs in the WC024 area.

Personnel on duty daily	14
Personnel on standby	3
Personnel available	20
Vehicles available	2 x rescue 6 x heavy fire fighting 2 x light 4 x sedans
Equipment available	2 x Portable pumps, other mopping up equipment 1 x canoe 1 x wetrok
Resources	Continuous liaison with Engineering services to provide sand and sandbags to enable fire fighters to fill up sandbags to be used in mitigating the effects of flooding.

6.2 Fire Prevention

This section takes a proactive approach in reducing the potential hazards and risks of fire through inspections and enforcement codes, standards and regulations which are designed to provide preventative measures to reduce the start and spread of fire.

Personnel on duty daily	3
Personnel on standby	0
Vehicles	2

6.3 Disaster Management

The response and recovery division is comprised of a mix group of personnel dedicated to carrying out and coordinating all disaster assistance components. These include, but are not limited, hazard mitigation, public assistance, emergency response. This division is task with monitoring the Stellenbosch area for incidents that present a severe enough danger to constitute a disaster or an emergency on either a local or district level.

Personnel on duty daily	2
Personnel on standby	1
Vehicles	1
Resources	Emergency Flood and Fire kits

6.4 Municipal Social Development

This Department provides temporary assistance for those who are forced to leave their shelters due to flood or fire or other emergencies. The assistance includes food, lodging, clothing and emotional support. Community development is activated and task with these functions.

Personnel on duty daily	3
Personnel on standby	1
Vehicles	1
Resources	Blankets Emergency food parcels

6.5 Emergency broadcast

In the unlikely event of an impending flooding or emergency that warrants immediate evacuation, the community can be notified through the followings means:

- Loud hailing
- Matie FM
- Sirens from emergency vehicles
- Bulk Sms

6.6 Community emergency preparedness

Through the involvement of the Chaplaincy of the Western Cape, the resident local chaplain has actively rallied the community to assist in providing logistical support during emergency operations.

They are also known as the “Friends of the Fire Services” and they will:

- Provide administrative assistance.
- Collect and coordinate emergency food and stock supplies.
- Assist with dissemination of information.
- See to the well-being of emergency workers.

APPENDIX

Winter Readiness Response Program

APPENDIX 1
Winter Readiness Response Program

Mandate	Initiatives	Available Resources	Responsible Person
<p style="text-align: center;">Roads & Stormwater</p>	<p>During the year, the Municipality's stormwater systems are maintained by dedicated operational (in-house) teams. Targeted clearing and cleaning of water course had commenced in February where additional resources (external contractors) were procured to assist with the clearing operations.</p> <p><i>In an effort to improve storm-water drainage and prevent localized flooding, our storm-water systems are constantly upgraded.</i></p> <p>During the current financial year, major water courses were cleared, catch pit inlet structures were upgraded to improve drainage, and eroded portions of the Eerste and Krom River banks were stabilized with gabion boxes to prevent river bank subsidence and flooding.</p> <p><i>To date, most of the stormwater infrastructure, within the municipal area, has been cleared.</i></p> <p><i>During periods of heavy rainfall, all operational and maintenance staff is assigned to storm-water control and flood prevention.</i></p> <p><i>During these times, periodic checks are carried out on areas that are prone to flooding and our operational team's clear blockages as these occur, to ensure the effective drainage of storm water.</i></p>	<p>External Contractors</p> <p>Standby teams</p> <p>Associated materials/ equipment</p>	<p>Johan Fullard</p>
<p style="text-align: center;">Electrical Services</p>	<p>Critical Service supply.</p>	<p>Standby teams</p> <p>Associated materials/ equipment</p> <p>Service providers will be available</p> <p>Backup generators will be used, should the need arise during power outage.</p>	<p>Nombulelo Zwane</p> <p>Lourens de Lange</p>
<p style="text-align: center;">Critical services / Supply / Infrastructure</p>	<p>Water supply</p> <p>Sanitation System maintenance</p>	<p>Standby team</p> <p>Associated materials/ equipment</p>	<p>Esias de Jager</p>

Mandate	Initiatives	Available Resources	Responsible Person
Urban & Greening	<p>Protection of wildlife and environmental pollution.</p> <p>Removal of dead trees posing a potential fire risk</p> <p>River & catchment management (flow obstructions, increase run-off & increase river flow peaks)</p>	<p>Standby team</p> <p>Associated materials/ equipment</p>	Leon Lourens
Parks & Rivers	<p>The department has embarked on</p> <ul style="list-style-type: none"> - Clearing/cleaning rivers & river banks (debris, alien invasive plants, excessive reeds, etc.) - River & catchment management (flow obstructions, increase run-off & increase river flow peaks) <p>The Department will assist with removal of stumps and fallen trees or branches in rivers during winter and windy season</p>	<p>Standby team</p> <p>Associated materials/ equipment</p>	Nazeemah Moehamad
Waste Management	Waste collection / removal	<p>Standby team</p> <p>Associated materials/ equipment</p>	Clayton Hendricks
Disaster Management	<p>Access to Info- Uninformed community by engaging and targeting especially schools, crèches, spaza shops and community forums</p> <p>Recruit and training groups in the area to assist DM during an occurrence/disaster/ programs.</p>	<p>Standby teams</p> <p>Emergency flood kits are held in stock for distribution, if and when required.</p>	<p>Shezayd Seigels</p> <p>Wiseman Ndamase</p> <p>Wayne Smith</p>

20 April 2017

DROUGHT 90 DAY ACTION PLAN- STELLENBOSCH MUNICIPALITY

1. INTRODUCTION

- a. BACKGROUND ON EXISTING WATER RESOURCES WESTERN CAPE.
- b. WATER DEMAND AND FUTURE PROJECTIONS
- c. BACKGROUND ON EXISTING WATER RESOURCES IN STELLENBOSCH MUNICIPALITY (SM).
- d. WATER SUPPLY TO STELLENBOSCH MUNICIPALITY.
- e. STATUS QUO: WESTERN CAPE WATER SITUATION OPERATIONAL MEETING (19 April 2017)

2. STRATEGIES :

a. WATER SERVICES

- i. WATER RESTRICTIONS
- ii. WATER CONSERVATION AND DEMAND MANAGEMENT
- iii. WATER SUPPLY AND ALTERNATIVE SOURCES
- iv. OTHER ACTIONS

b. SPATIAL PLANNING, HERITAGE & ENVIRONMENT

- i. INVASIVE ALIEN PLANTS (IAP)

c. FIRE AND DISASTER MANAGEMENT, COMMUNITY AND PROTECTION SERVICES

d. COMMUNICATION

e. PUBLIC PARTICIPATION UNIT, STRATEGIC & CORPORATE SERVICES

f. WAR ON LEAKS.

3. 90 DAY STRATEGY SUMMARY

4. MINUTES OF STEERING COMMITTEE MEETING

5. Pamphlet

Abbreviations

WCWSS	Western Cape Water Supply System
SM	Stellenbosch Municipality
DWS	Department of Water and Sanitation
ML/day	Mega litres per day
WCWDM	Water Conservation and Demand Management
WPW	Water Purification Works
CoCT	City of Cape Town
DMA	Demand Management Area
GLS	Guestyn, Loubser and Streicher Consultant Eng
Mm ³ /a	Million cubic meters per year
ML/day	Million litres per day
PRV	Pressure Reducing Valve
FM	Flow Meter
MDG	Municipal Disaster Grants
PDG	Provincial Disaster Grants
MDRG	Municipal Disaster Recovery Grants

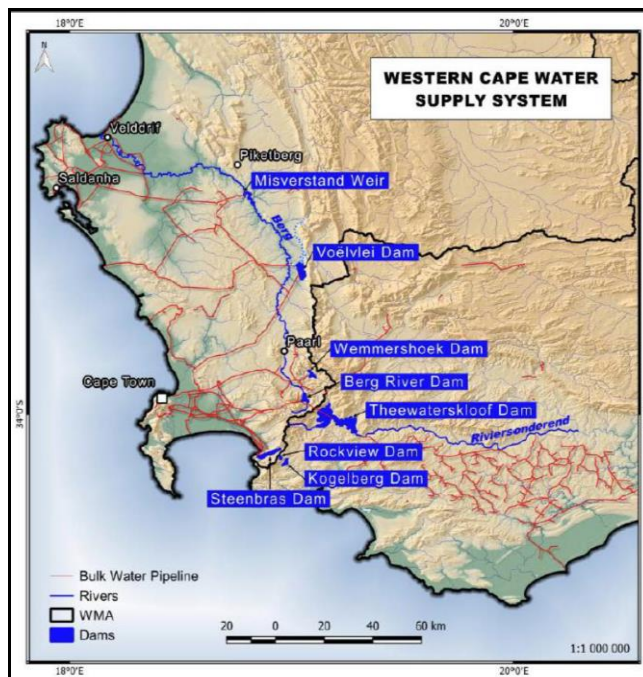
DROUGHT PLAN

INTRODUCTION

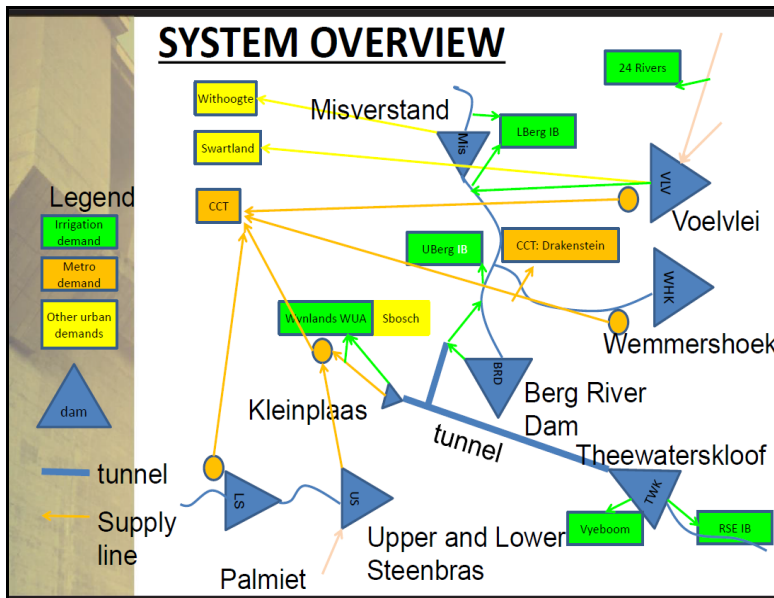
BACKGROUND ON EXISTING WATER RESOURCES WESTERN CAPE.

SM has basically 3 sources of water in WCWSS, DWS and own sources. The figure below indicates the Western Cape Water Supply System (WCWSS) and the major storage dams. SM has a legal agreement with the WCWSS to supply water through various water connections to SM with a network of bulk water distribution network.

The WCWSS dams that directly influence the water supply to SM are Wemmershoek, Theewaterskloof/Bergrivier and Steenbras upper & lower dams. From own sources it is the Paradyskloof 1 & 2 dams.

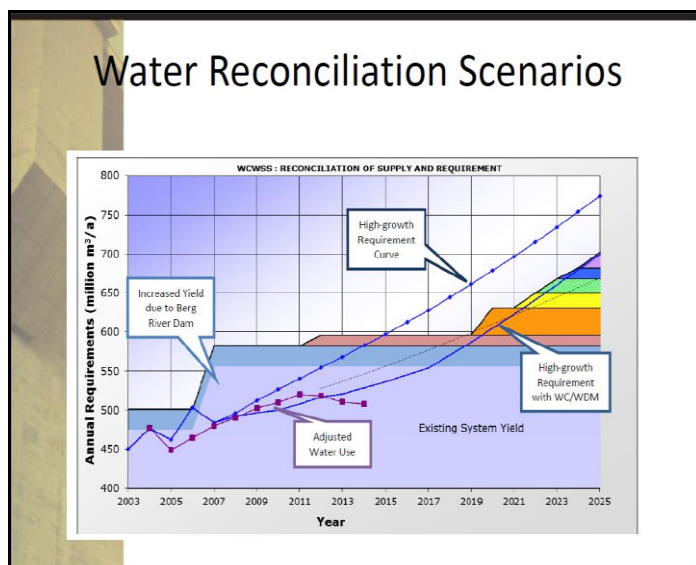


The illustration below indicates the system diagrammatically. To note the tunnel connection between the Theewaterskloof and Bergrivier dams.



WATER DEMAND AND FUTURE PROJECTIONS

The figure below indicates the different reconciliation Scenarios for water demand in the Western Cape. The addition of the Bergriver dam is indicated below and plays an important role to the augmentation of the Theewaterskloof tunnel to SM as well as the augmentation to Voelvlei dam through the Bergriver. The High Growth scenario without WCWDM shows a deficit in available water. With proper WCWDM implemented, the available water supply will be more than the projected demand.



Current Week Dam Water Levels				
Major dams	Storage			
	MI	%	%	%
	Capacity	17/4/17	Last week	2016
Berg River	130 010	34.1	34.8	22.8
Steenbras Lower	33 517	33.4	34.1	36.9
Steenbras Upper	31 767	49.6	51.1	58.4
Theewaterskloof	480 188	18.7	20.0	31.0
Voëlsvlei	164 095	21.1	21.8	18.7
Wemmershoek	58 644	35.9	36.0	48.2
Total Stored MI	898 221	216 806	225 976	268 470
% Storage		24.1	25.2	29.9

BACKGROUND ON EXISTING WATER RESOURCES IN STELLENBOSCH MUNICIPALITY (SM)

SM falls within the Berg Management Area and covers areas such as Stellenbosch, Franschhoek, Klapmuts, Lanquedoc, Johannesdal, Kylemore, Pniel, Great Drakenstein, Wemmershoek, La Motte, De Novo, Muldersvlei, Elsenburg, Koelenhof, Vlottenburg, Lynedoch, Raithby and Jamestown. SM, like all other WSAs countrywide, faces a series of challenges namely:

WATER SUPPLY TO STELLENBOSCH MUNICIPALITY.

The Stellenbosch area is supplied with raw water from mainly two sources, namely the Eerste River and the Western Cape Water Supply System. Water from the Eerste River in the Jonkershoek Valley is diverted by means of a weir and a gravity pipeline to two off-channel storage dams in Idas Valley. The registered abstraction from this source is 7.224 Mm³/a. This source is estimated in the 1/100 year drought analysis not to supply less than 6Ml/day. This combined with the two Idasvalley dams will form the most important source of water for Stellenbosch town. The current levels of the two dams are 60%. This will be sufficient for at about 3 months of supply to Stellenbosch.

During the summer water is being drawn from the WCWSS. This is obtained by a pipeline leading from the Stellenboschberg Tunnel outlet to the Paradyskloof WTWs. A volume of 3 Mm³/a is available from this source.

Franschhoek which includes the smaller settlements of Groendal, La Motte, Wemmershoek and Robertsvlei is currently supplied with water from local sources in the catchments of the Mount Rochelle Nature Reserve and Perdekloof and with water purchased from the Wemmershoek Dam. The licensed abstraction from the perennial streams in the Mount Rochelle Nature Reserve is 0.221 M m³/a, from the Perdekloof Weir 0.577 M m³/a and from the Du Toits River 0.104 M m³/a.

In general, boreholes exist in certain areas but are not in use and their condition is unknown.

Dwarsrivier:

Pniel, Kylemore, Lanquedoc, Johannesdal and Groot Drakenstein receive treated water from the Wemmershoek Scheme. The local sources, which is currently not in use, include the Pniel Mountain stream (0.053 M m³/a), Pniel Spring (0.025 M m³/a), and the Pniel Kloof Street Borehole (0.079 M m³/a).

Klapmuts is supplied with treated water from the Wemmershoek Dam, which forms part of the WCWSS.

The Bergrivierdam is close by and is currently not use to supply water to an existing WPW.

STATUS QUO: WESTERN CAPE WATER SITUATION OPERATIONAL MEETING (19 April 2017)**FURTHER WATER SAVING MEASURES - (LEVEL 3(B) WATER RESTRICTIONS)**

According to the latest statistics, dam levels under control of City of Cape Town and Department of Water & Sanitation have dropped to 40 % as of today, 24 January 2017. Stellenbosch Municipality intends to take tougher action against consumers who contravene the water restrictions w.e.f. 1 February 2017.

Many Stellenboschers are going above and beyond the call of duty to reduce their water consumption, but others have seemingly opted to ignore all of the conservation efforts.

Our proposed plan is to conduct increased area visits during day time, patrols during night time, installation of water restriction devices if usage on properties continues to transgress, and focus strongly on education and awareness. The Directorate will be working together with our Law Enforcement Officers, Department: Communication, Water Warriors, Councillors and all officials of Stellenbosch Municipality in a drive to save water.

Water supply and sustainability is long-term, but the reality is that we are in a drought situation. Although we are following our water conservation policy, reduced consumption is not negotiable. However, the National Government (DWS) remains responsible for water resource management nationally. The Directorate: Infrastructure Services is also engaging with government stakeholders (Department: Water Affairs) regarding assistance with water conservation.

Stellenbosch Municipality will continue to drive the established conservation programmes, such as to ensure that water losses are kept as low as possible, educate and clamp down on water wasters.

These steps below form part of our contingency plan to ensure a sufficient water supply until the winter rains arrive.

Dwarsrivier:

Pniel, Kylemore, Lanquedoc, Johannesdal and Groot Drakenstein receive treated water from the Wemmershoek Scheme. The Wemmershoek scheme consists of the Wemmershoek dam, Wemmershoek WPW and Wemmershoek distribution system to the above mentioned areas.

The level of the Wemmershoek dam is currently at 35%. The CoCT implemented a strategy to keep the level of this dam as high as possible and use this source sparingly to ensure that the water supply to

the Dwarsrivier, Franschoek, Klapmuts, Paarl and other users are not at risk. This means that the risk that these areas will run out of water is not considered as a threat.

Stellenbosch town.

The first sources that supplies the Stellenbosch area with raw water is the Eerste River System. Water from the Eerste River in the Jonkershoek Valley that is diverted to the two off-channel storage dams in Idas Valley. With the current levels of the dams at about 60% and continuously been augmented with water from the Jonkershoek system, the dam levels are kept constant.

There exists a transfer scheme to transfer water from the Idas Valley system to Paradyskloof and back. Should there occur a water interruption from either the two sources, the scheme can be used to transfer water to the other side.

The second source is from the WCWSS. This is obtained by a pipeline leading from the Stellenboschberg Tunnel outlet to the Paradyskloof WPWs. This source is the Theewaterskloof dam. This source will be fed from a transfer scheme to keep water available to Paradyskloof through the tunnel inlet.

WATER RESTRICTIONS

Stellenbosch Municipality implemented Level 1 water restrictions from the 1st of November 2015 to achieve a 10% water consumption decrease. This was due to low supply dam levels and low rainfall figures during the rainy season. This was followed with the implementation of Level 2 restrictions from March 2016 due to extreme heat conditions and even lower supply dam levels in Stellenbosch and City of Cape Town. The Level 2 restrictions included the increased tariffs for water consumption to achieve a 20% savings on the water consumption.

In Stellenbosch more stringent water restrictions in line with a level 3 water restrictions are imposed with effect from 1 December 2016 due to the lower than the norm dam levels. Water restrictions in line with Level 3B are currently under review that includes on the spot fines for transgressions of the water restrictions.

Water Restrictions Level 3(B) will be implemented by the Directorate: Infrastructure Services (Department: Water Services) in line with CoCT along with the Directorate: Safety and Security. Plans will be finalized for firmer enforcement as well as an awareness campaign in our endeavour to save water.

According to Stellenbosch Municipality water savings and restrictions must be seen as necessary in the light of the decreased supply dam levels, specific for the Western Cape. Stellenbosch Municipal also implemented these water restrictions in line with City of Cape Town implemented water restrictions.

City of Cape Town is planning to obtain Council's approval to introduce Level 4 Restrictions from 1 June 2017, with the tariff kicking in on 1 July 2017. They are requesting Drakenstein and Stellenbosch Municipalities to follow suit if possible.

OTHER ACTIONS

- A visual media campaign reflecting that is dam levels etc. on Electronic Sign Boards.
- Communication about implemented water restrictions in line with levels 3B of what CoCT and communication about our own water restriction initiatives.
- The highest water consumers identified and contact about their high consumptions.
- The publication of articles in all forms of social media.
- Compilation of Water Services Development Plan- legislation.
- Water Services Development Plan - Audit Report completed at the end of October 2016.
- Indigent Household Leak Repair (War on Leaks) and Meter Replacement Project
- Water Meter/Water Consumption Audit Project.
- Revenue Enhancement

WAR ON LEAKS PROGRAM- PUBLIC PARTICIPATION UNIT (Strategic & Corporate Services).

House to house information project.

WATER CONSERVATION AND DEMAND MANAGEMENT

As you are aware, the Western Cape is facing a severe drought and we have appointment consultants review the 10 year Water Conservation and Water Demand Management Strategy for Stellenbosch Municipality and include a number of short to medium term interventions to reduce potable water losses. These include domestic leak repairs, meter replacement, meter audits, billing database corrections and water loss reduction including pressure management etc. To date a meter audit in Klapmuts has been undertaken along with domestic leak repairs and meter replacement to 150 properties in Klapmuts, Lanquedoc and Kayamandi. These interventions have proven to be successful and the outcomes will be presented to the municipality in due course.

A meter audit is currently being out rolled in the Dwarsrivier area based on the results from the Klapmuts project.

Domestic leak repairs and meter replacement will continue and a more effective holistic approach will be implemented with water pressure management along with other solutions in the fight against water losses. Pressure management is an effective method to reduce network pressures on a large scale and reduce leakage especially at night in areas where pressures exceed 3-4 bars. GLS has identified, using their network models of the Stellenbosch reticulation network, a number of pressure management opportunities where pressures are as high as 8-9 bars and an excessive number of pipe bursts are recorded. The application of pressure management at these locations will require the rezoning of the network to create new pressure zones/DMA's. In order to implement this installation of new pressure reducing valves, flow meters and new zone boundary valves are required as detailed in the proposals by GLS.

We have prepared a PRV/Flow Meter Chamber design and cost estimate for the Klapmuts Merchant Street PRV/FM chamber. This is one of the opportunities identified by GLS and represents a typical scenario. Two more opportunities have been identified in Franschoek.

Stellenbosch Municipality is currently contracted with Ikapa Reticulation and Flow under contract no. B/SM 31/16 STELLENBOSCH – HOUSEHOLD LEAK REPAIR AND WATER METER REPLACEMENT on a Rates Tender for domestic leak repairs and household meter replacement.

We are in the process to request a deviation on an existing contract with Exio due to the drought and emergency actions needed. Exio is currently constructing the Paradyskloof down feeder pipe line. It is proposed that a deviation be approved on this contract for the PRV / FM Chamber installations. Hatch will carry out the construction monitoring and inspections.

INVASIVE ALIEN PLANTS (IAP)

Invasive alien plants (IAP) are plant species that have been introduced, either intentionally or unintentionally, to South Africa. They can reproduce rapidly in their new environments and tend to out-compete indigenous plants. Invasive alien species pose the biggest threat to biodiversity after direct habitat destruction.

IAPs can significantly alter the composition, structure and functionality of ecosystems. As a result, they degrade the productive potential of the land; intensify the damage caused by veld fires and flooding, increase soil erosion, and impact on water run-off, the health of rivers and estuaries.

The National Environmental Management Biodiversity Act, 10 of 2004, Section 76, states that all organs of state are required to draw up an invasive and alien monitoring, control and eradication plan for the land under their control. The Stellenbosch Municipality: Alien Invasive Plants Management Plan was prepared in response to this obligation and brought before Council during February 2017. This plan was approved under condition that it is advertised from public comment. This was done and the plan will again serve before Council in May 2017 for final approval.

WATER SUPPLY AND ALTERNATIVE SOURCES

The following is a summarised table of the existing water sources in the different areas and alternative water supply in emergency situations.

Note: An existing tender BSM 19/17 at Parks can be of use to test existing boreholes and to them serviceable if needed.

Water system allocation	Emergency 1 st Proposal to provide water	Emergency 2nd Proposal to provide Water (not likely to reach this situation)
Stellenbosch	Paradyskloof 1&2, Idasvalley WPW	
	The existing Transfer scheme from Idasvalley WPW to Paradyskloof system can be used to supply water to the Paradyskloof system and vice versa.	The existing Transfer scheme from Idasvalley WPW to Paradyskloof system can be used to supply water to the Paradyskloof system vice versa.
Franschhoek		Existing pump scheme exists from Du Toitskloof river, but is not an operative source. It is equipped with diesel generator and pipework installed to work through the existing filters at Franschhoek
	Wemmershoek dam is currently 35% full and the risk to run out of water is confirmed by CoCT is very slim.	There was a borehole that supplied water to the area before but is not in working order. A tender is in place with Parks department that can be used to investigate the existing boreholes.
Dwars River	Wemmershoek dam is currently 35% full and the risk to run out of water is confirmed by CoCT is very slim.	There was a borehole that supplied water to the area before but is not in working order. A tender BSM19/17 is in place with Parks department that can be used to investigate the existing boreholes.
	Existing of old boreholes/fountain but not in use. The yield currently unknown due to the drought conditions.	
Klapmuts	Wemmershoek dam is currently 35% full and the risk to run out of water is confirmed by CoCT is very slim.	The closest source will be Idasvalley dams. Tankers can be used to supply water from the dams.
Raithby	If the Theewaterskloof source dries up, the existing Transfer scheme from Steenbras to Raithby can supply water to Raithby.	There was a borehole that supplied water to the area before but is not in working order. A tender is in place with Parks department that can be used to investigate the existing boreholes.
Faure	If the Theewaterskloof source dries up, the existing Transfer scheme from Steenbras can supply water to Faure. There was a borehole that supplied water to the area before but is not in working order.	The closest source will be Ida valley dams. Tankers can be used to supply water from the dams.
Polkadraai	Polkadraai can be supplemented from the Faure system.	The closest source will be Ida valley dams. Tankers can be used to supply water from the dams.
Koelenhof	Wemmershoek dam is currently 30% full. Water tankers will be needed if the Wemmershoek supply is cut off.	The closest source will be Idas valley dams. tankers can be used to supply water from the dams.
Muldersvlei	Wemmershoek dam is currently 35% full and the risk to run out of water is confirmed by CoCT is very slim.	The closest source will be Ida valley dams. Tankers can be used to supply water from the dams.
Croydon	If the Theewaterskloof source dries up, the existing Transfer scheme from Steenbras can supply water to Faure. There was a borehole that supplied water to the area before but is not in working order.	The closest source will be Ida valley dams. Tankers can be used to supply water from the dams.
Helderberg	If the Theewaterskloof source dries up, the existing Transfer scheme from Steenbras can supply water to Faure. There was a borehole that supplied water to the area before but is not in working order.	The closest source will be Idas valley dams. tankers can be used to supply water from the dams.
Meerlust	Wemmershoek dam is currently 35% full and the risk to run out of water is confirmed by CoCT is very slim.	There was a borehole that supplied water to the area before but is not in working order. The closest source will be Ida valley dams. Tankers can be used to supply water from the dams.

FIRE AND DISASTER MANAGEMENT

COMMUNITY AND PROTECTION SERVICES

Background

The Disaster management section do take cognisance of the current drought situation and the subsequent water scarcity currently experienced within the Western Cape and especially in the Stellenbosch municipal area of jurisdiction.

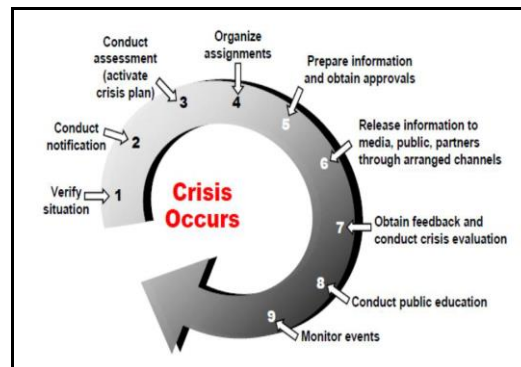
Although the situation has not formally been declared a disaster by our municipal council, the effects of the drought are apparent and cannot be underestimated and can be devastating and widespread as reflected under the definition of a disaster being;

“A progressive or sudden, widespread or localized, natural or human-caused occurrence which causes or threatens to cause death, injury or disease, damage to property, infrastructure or the environment; or disruption of a community; and is of a magnitude that exceeds the ability of those affected to cope using only their own resources”.

Primary function

The primary role of disaster management is therefore that of coordination and to put measures (as depicted in the graph below) in place in collaboration with the relevant line functionaries aimed at –

- Preventing or reducing the risks of disasters or impending disasters
- Mitigating the severity or consequence of disasters and emergency preparedness
- A rapid and effective response to disasters and
- Post disaster recovery and rehabilitation.



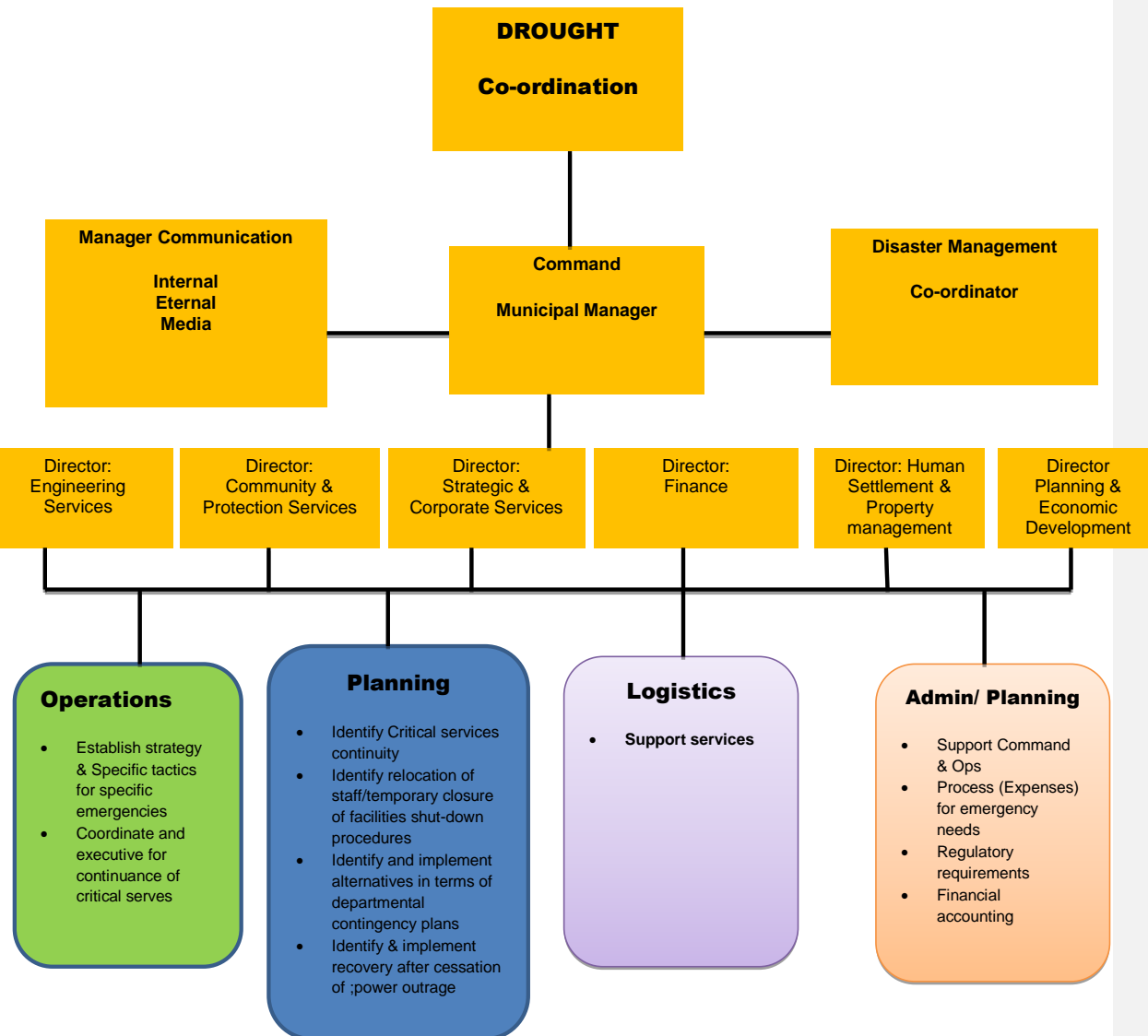
Water Steering Committee

Consistent with our mandate and within provisions 44(b)(i), (c), (f) and (j) of the Disaster management act, a Water Steering Committee has been introduced to meet bi monthly with its aim to monitor the water resources and realign our strategies and contingencies in accordance with the prevailing circumstances in order to conserve available water resources.

High level Coordination

In addition and when it is deemed necessary, the municipal manager can call a Joint Operating Committee together, under the auspices of disaster management, which will then coordinate further. If the drought situation exceeds the municipality's ability to deal with it on its own, a disaster can then be declared in terms of the act.

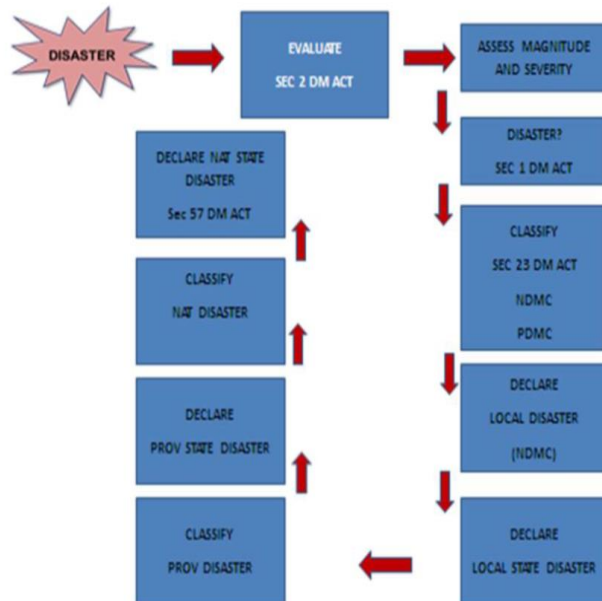
High level graph:



Declared State of Disaster

In the event of a local disaster, the council of a municipality, having primary responsibility for the co-ordination and management of the disaster, may, by notice in the Provincial Gazette, declare a local state of disaster in terms of section 55 (1) of the Act. If a local state of disaster has been declared, the municipal council may make by-laws or issue directions to prevent an escalation of the disaster, or to alleviate, contain and minimise the effects of the disaster amongst others.

Flow chart: Declaration of disaster



Forms of financial assistance during declared disasters.

- Municipal Disaster Grants [MDG]: in cases of emergencies for disaster relief in favour of municipalities
- Provincial Disaster Grants [PDG]: in cases of emergencies for disaster relief in cases of sector departments
- Municipal Disaster Recovery Grants [MDRG]: for longer-term reconstruction and rehabilitation in favour of municipalities – introduced during 2013
- Sector Conditional Grants: for longer-term reconstruction and rehabilitation in favour of sector departments.

EVERY DROP COUNTS! WATER IS LIFE! THE WORLD IS IN YOUR HANDS! SLOW THE FLOW!

REDUCE YOUR USE! SAVE WATER TO SECURE YOUR FUTURE

A. RESIDENTS

Our plan is to increase area visits during day time , Law Enforcement patrols during night time (22h00 – 03h00), issue warning letters, install water restriction devices if users on properties continues to transgress, and focus strongly on education and awareness. We'll work together with our Law Enforcement Officers, Department: Communication, Water Warriors and Councillors.

Should the new water restrictions Level 3(B) be adopted by Council, the notice will be distributed to all consumers via their municipal accounts, published in the local newspapers and on www.stellenbosch.gov.za

Consumers must be encouraged to inform gardeners and housekeepers of the current water restrictions i.e. not to water gardens with a hosepipe or sprinkler system, not to wash cars or wash hard surface areas, not to do dishes under running water run etc.

The Department Water Services is continuously applying pressure control to all areas to limit water leaks.

Warning letters will be issued to transgressors. Should any transgressions continue, water restrictors will be implemented at these properties and the cost will be recovered from the transgressors.

B. INFORMAL SETTLEMENTS

An undertaking from the Deputy Mayor, Clr Jindela was given that car washes in the Informal Settlements will be visited by himself to shut continuous running water off. Informal car wash business will be informed to use buckets to wash cars.

Awareness re water restrictions to be increased in the Informal Settlements and residents to be encouraged to report water leaks, wastage and illegal use.

Contractors servicing more than 1000 toilets at the ablution facilities in Kayamandi and Langrug have been requested to be more attentive to leaking taps/ toilets and to ensure that repairs to these facilities are done immediately. Replacements as a result of defect taps/toilets will be replaced with water efficient parts and technology.

The Department Water Services is continuously applying water pressure control to all areas to limit water leaks.

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C. INDIGENTS

The programme to install Water demand management devices (restrictors) at indigent properties is an on-going project and a further R1.74 million has been allocated in the 2016/17 financial year towards this projects. Usage is capped to a maximum of 12 kl water per month (400 litres per day) per household. All leaks at these properties are attended to in our endeavour to save water.

The Department Water Services is continuously applying water pressure control to all areas to limit water leaks.

Indigents to be made aware of the water restrictions and be encouraged to report any water leaks / wastage. / Illegal use.

Replacements as a result of defect taps/toilet/pipes/meters will be replaced with water efficient parts and technology.

D. BUSINESS

Business consumers to be encouraged to inform employees of the current water restrictions. Businesses will be encouraged to use recycled water and also to repair all leaks to taps and toilets. Defect taps/toilets to be replaced with water efficient parts and technology.

Increased area visits during day time , Law Enforcement patrols during night time (22h00 – 03h00), issuing of warning letters, install water restriction devices if users on properties continues to transgress, and focusing strongly on education and awareness will be implemented . We'll work together with our Law Enforcement Officers, Department: Communication, Water Warriors and Councillors.

The Department Water Services is continuously applying water pressure control to all areas to limit water leaks.

E. UNIVERSITY OF STELLENBOSCH

Stellenbosch Municipality does not have any control over the irrigation water of the University as the supply is fed from the river. The Directorate will however request the University to rather irrigate before 09h00 and after 16h00. The University will also be requested to create an awareness to save water amongst their students

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REDUCE YOUR USE! SAVE WATER TO SECURE YOUR FUTURE

F. MUNICIPAL BUILDINGS & SPORTS FIELDS

Buildings Maintenance & Facilities (Property Management) will be requested to ensure that all leaking taps/toilets at municipal buildings and housing stock (flats/houses) are repaired/ replaced with water efficient fittings/technology.

Community Services must apply for exemption to water sports fields and must adhere to the times as per the exemption approval.

Municipal gardens to be watered manually and no new landscaping to be established.

The Department Water Services is continuously applying water pressure control to all areas to limit water leaks.

Residents/employees to be made aware of the water restrictions and be encouraged to report any water leaks / wastage / illegal use.

G. HOSPITALS/ SCHOOLS/GOVERNMENT BUILDINGS/CRÈCHES/COMMUNITY CENTRES/ CHURCHES

Awareness campaign to be extended to hospitals, clinics, crèches, schools, government building (SAPS, Magistrate court etc.) and churches.

Communication to provide hospitals/schools/government buildings/churches with posters obtained from DWS.

Taps/toilets at these buildings to be leak-free.

H. BOREHOLES

All owners of boreholes must register at the Directorate: Infrastructure Services' database by means of a Borehole registration form which will clearly stipulate conditions for using a borehole. Signage with a unique number and municipal decal will be issued once registered. Approval will only be granted once inspection has been conducted to confirm that a borehole is on the property. A register of borehole owners will be maintained.

Applications can be forwarded to water.restrictions@ Stellenbosch.gov.za

EVERY DROP COUNTS! WATER IS LIFE! THE WORLD IS IN YOUR HANDS! SLOW THE FLOW!

REDUCE YOUR USE! SAVE WATER TO SECURE YOUR FUTURE

I. CONSUMERS USING ALTERNATIVE WATER RESOURCES (RECYCLED WATER / RAIN HARVESTING)

Users of recycled water must adhere to watering times as per the notice (before 09h00 and after 16h00) and must clearly indicate that the property is using recycled water. Signage must be displayed and clearly visible.

J. ILLEGAL WATER CONNECTIONS

To be investigated and disconnected immediately

K. PROACTIVE WATER SAVING INITIATIVES

Detect and repair water leaks. Response times to attend to burst pipes and leaks will be improved. Encourage consumers to make use of alternative water sources to water gardens

L. AWARENESS CAMPAIGN

An awareness campaign to be initiated by Corporate Services (Communication). Posters to be obtained from the Department of Water Affairs and posted at all municipal buildings/schools/crèches/ clinics/ government buildings/churches.

Mobile electronic billboards can be placed at strategic places where consumers can be made aware of the current water restrictions (status of dams/ water saving tips)

Use social and local media to promote awareness. The local radio station Maties FM to be approached to assist with awareness campaign.

Encourage Residents to become Water Ambassadors for Stellenbosch Municipality

Compile Water Saving Tips and distribute via social media and media.

The community, Law Enforcement and Water Warriors will be encouraged to report all transgressions to 021 808 8215/021 808 8953 or water.restrictions@ Stellenbosch.gov.za. The contact details to report transgressions and water restriction related enquiries must be communicated as part of the Awareness campaign.

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90 DAY STRATEGY ACTION SUMMARY

LOCAL PRACTICAL ACTION LIST

1. Keep the levels of Paradyskloof 1 & 2 to Maximum levels and prioritise the water from Jonkershoek to the dams.
2. More aggressive action to the transgressions of water restrictions. By-laws to be in place.
3. Implementation of more pressure management installations to minimise water consumption, night flows, physical water losses and bursting of water mains. Approve the deviation report of the existing contract with Exeo to construct this immediately. (Refer to the figure illustrating the influence of WCWDM).
4. Install real-time monitoring instrumentation on all water supply lines to enable immediate actions on increased flows due to leaks, misuse and enable 24 hr. water management.
5. Expand the drought information efforts to schools with the use of Emergency Services.
6. Expand the War on Leaks program currently in Klapmuts and Dwarsrivier to Kayamandi.
7. Increase all forms of social media coverage of the drought situation.
8. Prioritise the inspection of all old ground and surface water sources to be used as a last outcome to supply water.
9. Water Services have a workshop with WCWSS, DWS and consultants to revisit the Water Resources study in the light of changing climate, population growth, water allocations and consumptions.
10. Water Steering Committee: Have coordinating meetings for SM twice a month coordinated by Disaster management as given in this document.
11. Align all drought actions with those of CoCT.
12. Realise the importance of removing all alien plants and trees. If possible prioritise and expand this project.
13. Investigate the availability of water tankers/water transport to areas that could run dry.
14. Drought Coordination: Disaster management/Councillors identify water distribution points in communities. Refer to the High level Graph from Disaster management included in the document.
15. Personnel must be identified to control the water distribution at these distribution points.