

15.1 *Annexure A*

Annexure A

Risk Reduction Plans

Project Name	Drought Risk Reduction Actions
Problem Statement	The risk profile of the Bergriver Local Municipality indicates drought as a priority disaster risk, measures must be put in place to reduce the risk
Risk Reduction Objective(s)	Indicators for achievement of objectives
Plan and implement physical planning measures to reduce drought disaster risk	<ul style="list-style-type: none"> • Alternative water sources are identified and developed • Water demand is managed • Water is recycled • Invasive alien vegetation is controlled • Indigenous vegetation is planted • Reduction in the salination / saltification and pollution of water resources
Plan and implement engineering & construction measures to reduce drought disaster risk	<ul style="list-style-type: none"> • Strategic water storage and stockpiling is implemented • Desalination plant or facility is established on coast • Maintenance programme to reduce water loss due to leakage is implemented • Maintenance of equipment results in reduced break-downs • Prevention of wastage through water systems upgrading project • Reclamation / recycling of storm water and waste water is implemented
Plan and implement economic measures to reduce drought disaster risk	<ul style="list-style-type: none"> • Procedures and protocols are in place to get government assistance during drought • Fines for over-exploitation of water resources are in place and are enforced • Water is no longer seen as a "cheap" commodity. • Fines for pollution are in place and are enforced • Incentives are in place to encourage the use of recycled water / waste water on sports fields and parks
Plan and implement management & institutional measures to reduce drought disaster risk	<ul style="list-style-type: none"> • Water use is adapted to availability of water • New development and further development of existing areas are linked to and limited by availability of water resources • A management committee is in place to drive drought disaster risk reduction • Active catchment area management is practiced
Plan and implement societal measures to reduce drought disaster risk	<ul style="list-style-type: none"> • Increased public awareness about drought and possible personal coping strategies to reduce the impact of drought

Risk Reduction Project Outputs	Targets/ Target Groups	Locations:
Reduce consumer pressure on water resources	Residential / Communities	Piketberg, Velddrif, Aurora, Porterville
Cooperation between neighbouring farmers and agric unions		Local On Farms Neighbouring farms Agric unions with excess

	Responsible agencies	Timing:
Manage and plan water demand in relation to natural water supply / availability. Identify alternative water sources	DWAF, Agriculture Water Boards	Ongoing
Planting of indigenous trees and plants Address salination and pollution of existing water sources	Farmers Agricultural Unions Municipality Volunteers Private Owners	Ongoing
Strategic water storage and stockpiling	Municipality Farmers Communities	2008-2010
Development of a desalination plant or facility	Municipality	2010
Maintenance programme to reduce water loss due to leakage	Municipality Water Board	2010
Maintenance of water distribution and water system maintenance equipment Prevention of wastage through upgrading of water systems	Municipality Water Boards	Ongoing
Reclamation / recycling of storm water and waste water	Residential Farmers Municipality	Ongoing
Establish procedures and protocols to get government assistance during drought. Legislate, implement and enforce fines for over-exploitation of water resources	Agricultural Unions Municipality	When needed
Address image of water as a "cheap" commodity through progressive pricing strategies.	Municipality	Ongoing
Legislate, implement and enforce fines for water pollution. Set incentives for the use of	Municipality	2010

recycled water / waste water on sports fields and parks. Establish a system to adjust water use to availability of water Establish a system to consider water resources in development approval		
Establish a drought-disaster risk reduction management committee under the Disaster Management Advisory Forum with representation from relevant role players	Disaster Manager	2009
Establish and maintain active catchment-area management Increase storage capacity	Water Boards	Ongoing
Planting of indigenous trees and plants.	Agriculture Municipality Farmers Agric Unions	
Waterwise gardening and farming practices	Agriculture Municipality Farmers Agric Unions	

Project Name	Health Disaster Risk Reduction	
Problem Statement	The risk profile of the Bergriver Local Municipality indicates Health as a priority disaster risk, measures must be put in place to reduce the risk	
Risk Reduction Objective(s)	Indicators for achievement of objectives	
Implement Physical Planning Measures to reduce health disaster risk	Well developed water and sanitation systems development plan Informed Community	
Implement Engineering & Construction Measures to reduce health disaster risk	Developed water and sanitation systems	
Implement Economic Measures to reduce health disaster risk	Poverty Alleviation, job creation	
Implement Management & Institutional Measures to reduce health disaster risk	Involvement of NGO's, churches, municipalities, departments, schools	
Implement Societal Measures to reduce health disaster risk	Socio-Economic Profile Studies	
Risk Reduction Project Outputs	Targets/ Target Groups	Locations:
Adequate ventilation holes in buildings – air	Public Buildings Residential Households	Municipal Towns and farms Industrial Buildings
Accessibility of buildings for patients		
Availability of rehabilitation centres, clinics, hospitals		
Economic upliftment, raising standards		
Awareness actions		
Major Activities	Responsible agencies	Timing:
Avoid contact during disease outbreaks		
Distribution of condoms		
Support families affected by disease who cannot produce income		
Education in HIV/Aids and TB prevention		
Costs	Budget Estimates:	Sources of Finance:

Project Name	Severe Weather Disaster Risk Reduction Actions	
Problem Statement	The risk profile of the Bergriver Local Municipality indicates severe weather as a priority disaster risk, measures must be put in place to reduce the risk	
Risk Reduction Objective(s)	Indicators for achievement of objectives	
Implement Physical Planning Measures to reduce severe weather disaster risk	Building is not allowed within 100 year flood lines Building or development is not allowed below spring-tide high-water mark Erosion-mitigation is part of planning and development business processes	
Implement Engineering & Construction. Measures to reduce severe weather disaster risk	Engineering measures are in place to combat ground Erosion New buildings conform to safety regulations Adequate storm water pipes and drainage systems are in place	
Implement Economic Measures to reduce severe weather disaster risk	Annual budgets include provision for response to flooding and other storm-related contingencies	
Implement Management & Institutional Measures to reduce severe weather disaster risk	Regular inspection of drainage systems is performed Buildings and houses under construction are inspected for compliance with building regulations Severe weather response plan is in place	
Implement Societal Measures to reduce severe weather disaster risk	Land-use management measures are in place to combat ground erosion Community awareness of severe weather disaster management plans is evident Community awareness of responsibility for own safety is Evident Community awareness of need for personal insurance against risk is evident	
Risk Reduction Project Outputs	Targets/ Target Groups	Locations:
Implement building restrictions on land below 100 year flood line Limit erosion Encourage ground coverage to limit top-soil loss	Town planning	
Install "dolosse" to limit ground erosion Install and maintain storm water pipes and drainage systems to a minimum level	Towns Farms Dams	Piketberg Porterville Aurora Velddrif
Budget planning for flood response	Municipality	

Regular inspection of drainage systems is performed	Town Planning	
Frequent inspection of buildings and houses under construction for compliance with building regulations	Technical Department	
Compile severe weather response plan and procedures	Disaster Manager	
Include erosion control in land-use planning and management protocols Advocate for adequate personal insurance against risk Exercises		
Major Activities	Responsible agencies	Timing:
Identify risk erosion areas	Technical	2009
Identify water and sanitation problem areas	Technical	2008
Identify Stormwater problem areas	Technical	2009
Install and maintain storm water pipes and drainage systems to a minimum level	Technical	Ongoing
Compile 100 year floodline map	Disaster Manager	2009
Costs	Budget Estimates:	Sources of Finance:

Project Name	Hazardous Materials Disaster Risk Reduction Actions	
Problem Statement	The risk profile of the Bergriver Local Municipality indicates hazmat as a priority disaster risk, measures must be put in place to reduce the risk	
Risk Reduction Objective(s)	Indicators for achievement of objectives	
Implement Physical Planning Measures to reduce hazardous materials disaster risk	HazMat transport vehicles comply with specifications Access to residential areas are limited for HazMat transport vehicles Safe storage of HazMat materials Material safety datasheets Movement of HazMat materials are limited to specific time Periods HazMat transport vehicles are crewed with driver and relief driver HazMat waste is managed within legal specifications HazMat vehicles are marked clearly	
Implement Engineering & Construction Measures to reduce hazardous materials disaster risk	Correct containers are used for HazMat	
Implement Economic Measures to reduce hazardous materials disaster risk	Maximum volumes for storage and transport of HazMat are adhered to. Regular inspections of HazMat transport vehicles Fines Punitive measures are in place to ensure legal compliance by HazMat transporters Contractors are held liable for negligence	
Implement Management & Institutional Measures to reduce hazardous materials disaster risk	Escorts for HazMat transport vehicles Traffic management Safety committees Application / implementation of legislation Reduced speed limit for HazMat transport vehicles in high accident zones.	
Implement Societal Measures to reduce hazardous materials disaster risk	Response plans are in place for any HazMat transport Vehicles Public advisories and information Awareness of Hazmat system	
Risk Reduction Project Outputs	Targets/ Target Groups	Locations:
Develop Response Plans	Disaster Manager	Bergrivier
Inspect Hazmat Vehicles	Traffic	Piketberg
Get hold of Koeberg Hazmat Response Plans	Disaster Manager	Bergrivier
Major Activities	Responsible agencies	Timing:
Find Koeberg Hazmat Response Plans	Disaster manager	2008
Inspect Hazmat Vehicles	Traffic	Ongoing
Costs	Budget Estimates:	Sources of Finance:

Project Name	Fire Disaster Risk Reduction Actions
Problem Statement	The risk profile of the Bergriver Local Municipality indicates drought as a priority disaster risk, measures must be put in place to reduce the risk
Risk Reduction Objective(s)	Indicators for achievement of objectives
Implement Physical Planning Measures to reduce fire disaster risk	Fire breaks and fire tracks Fire fighting equipment / placements / fire plans Firefighting signs / signage Ongoing maintenance of firefighting equipment Training of firefighting role players and involved parties Awareness raising regarding fire danger Water in residential areas Designated, signposted and clearly demarcated fireplaces Cleaning of road reserves Approval of building plans according to specifications ID High Risk areas Volunteers – personal protective equipment (PPE), including protective clothing , training Sufficient fire safety measures in place in buildings, e.g. hose reels, fire extinguishers, etc. Equipment must be in working condition
Implement Engineering & Construction Measures to reduce fire disaster risk	Fire breaks and fire tracks Services available for various contingencies Building regulations are applied Visibility at strategic positions Equipment serviceable and appropriate Ongoing inspection of older and historic buildings Water supply close to fireplaces Walls around high risk areas Buildings to comply with specifications and regulations Correct building materials Placement of control measures (fire plans and information signs)
Implement Economic Measures to reduce fire disaster risk	Building approval through physical inspection Insurance premium loading iro competent preventive measures Contribution from municipality for putting in place equipment and fire plans Improve living standards through job opportunities Building plan fines Fines for starting fires Ongoing contribution by authorities Fines for negligence Quicker control Incentives and recognition for work done well and equipment being in place

Implement Management & Institutional Measures to reduce fire disaster risk	<p>Communication plan between municipality and public, agric. unions and companies Placement of fire equipment / Vehicles and resources and linking with surrounding plans Liaison with and service organisations e.g. hospitals, clinics, etc Fire breaks / Training - No fire zone Insurance Fire service Fire prevention teams Training of teams Appropriate, enforceable legislation Workable fire plan Correct training and pooling of resources Inspections on buildings, farms, factories to ensure compliance with legislation Action plans and contingency plans in place Regular fire exercises</p>	
Implement Societal Measures to reduce fire disaster risk	<p>Volunteers Training in fire and fire exercises Traffic management in case of fire Community involvement. Churches, Schools, Social insititutions Availability of appropriate terrain and emergency accommodation Education Fire training and awareness and guidance for community Awareness – schools, information boards</p>	
Risk Reduction Project Outputs	Targets/ Target Groups	Locations:
Maintain fire breaks and implement prescribed burning	Farmers Municipality	Municipal area Municipal property
Fire prevention education Schools programme	Disaster Manager	Towns
Major Activities	Responsible agencies	Timing:
Costs	Budget Estimates:	Sources of Finance: