

WASTE MANAGEMENT

UEMP supported the preparation of the Waste Management Bill which was signed off by the South African cabinet in July 2007. With support from the Programme, further technical assistance was provided for the work of the Parliament and the final implementation of the Act.

The Waste Management Bill defines the major challenges and goals facing the waste sector, including waste management planning, strategies and interventions into incineration and other waste facilities, at all levels of government, countrywide.

UEMP is particularly providing support for improved service delivery related to wastefill sites, medical waste, and clean-up operations related to old asbestos mines. The Programme is also supporting investigation into the possibilities for incineration of hazardous wastes.

Waste Management eThekweni

HEALTH CARE RISK WASTE POLICY AND STRATEGY

Objectives

- To prepare a health care risk waste management policy and strategy for eThekweni

Contact person

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Time frame

1 year

Funding

R200 000

Background

Health care risk waste (commonly known as medical waste) is often illegally dumped in fields to avoid costly disposal procedures. From here, it is easily discovered and accessed by humans and animals, often resulting in injury. The other common means of disposal is the process of autoclaving, whereby medical waste is incinerated to remove moisture and then buried in the ground. The burning process releases toxic dioxins and fluorides, thus creating an environmental hazard.

With this project, eThekweni Municipality aimed to develop, communicate and enforce a policy ensuring that medical waste is dealt with in an environmentally benign way.

Process

Managers and operators from 60 eThekweni clinics participated in a comprehensive process to develop a strategy and policy document. During the consultation phase, health workers provided input and made presentations specifying best disposal practices. Review workshops engaged provincial departments and stakeholders throughout the medical supply chain, from suppliers to waste dealers.



The strategy focuses on implementing effective check and balances to ensure adequate disposal of medical waste and prevention of injury. It considers the entire supply chain and associated life-cycle of waste, as well as ongoing monitoring, enforcement and awareness.

The project's sixty participating clinics were handed final versions of the report. A follow-up audit function entails ad hoc checking of facilities for compliance, by environmental health practitioners. One draw-back is that the policy doesn't extend to private practices.

Benefits

Most importantly, the new policy will lead to less environmental contamination and help reduce the spread of related diseases. Medical waste will be disposed of more effectively, resulting in reduced toxic emissions from unsafe practices like incineration.

Project manager Siva Chetty says the project helped expose participants to the life-cycle of the medical waste stream, highlighting its manifestations and promoting safe practices. "There is now a clear policy in place that addresses a critical issue and has the potential to save lives."

BALANCED SCORECARD ✱

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?					●
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?				●	●
Total	14				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?				●	
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?					●
3. Did the project have a higher than expected impact on stakeholders?				●	
Total	13				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?				●	
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?					●
Total	14				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?					●
Total	15				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
Total	14				

Waste Management DEAT

REVIEW AND PERMITTING OF WASTE DISPOSAL LANDFILL SITES

Objective

- To review permitted and unpermitted waste disposal sites and implement a permitting strategy.

Contact person

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Timeframe

Project: 5 years
UEM funding: 1 year

Funding

UEM: R500 000
Government: R440 000

Background

The Environmental Conservation Act of 1989 requires waste disposal sites to be permitted. Originally the responsibility lay with the Department of Water Affairs but in 2006 it shifted to the Department of Environmental Affairs and Tourism (DEAT), which subsequently undertook a census to establish the authorisation status of all waste disposal sites.

Process

Gathering information from local municipalities, external consultants completed the study in three phases:

- An initial survey to establish the number of existing waste disposal sites, their functional status (operational or not), and their permit status.
- An assessment of unpermitted sites and prioritisation in terms of their risk to the environment.
- A draft strategy to achieve permitting of 581 unpermitted sites over the next five years.



REVIEW AND PERMITTING OF WASTE DISPOSAL LANDFILL SITES

Outcomes

The study shows that there are numerous smaller (communal), unpermitted sites around the country and identifies a need to 'regionalise' sites into larger, permitted units, to optimise protection of the environment. The strategy was implemented in 2008 and the first 20% of sites will be permitted. Permits specify conditions that reduce the risk of landfill sites contaminating ground water, soil, surface water and promote protection of human health.



BALANCED SCORECARD *

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?				●	
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?					●
Total					14

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?					●
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?					●
3. Did the project have a higher than expected impact on stakeholders?				●	
Total					14

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?				●	
2. To what extent was this project relevant to the targeted beneficiaries?		●			
3. To what extent will this project be replicated sustainably in the future?				●	
Total					8

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher a than expected impact in your organisation?			●		
Total					13

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	
2. To what extent did you project fulfil its aims?				●	
3. Was this project a cost effective response to the problem addressed?			●		
Total					11

Waste Management DEAT ASSESSMENT OF TREATMENT CAPACITY FOR HEALTH-CARE RISK WASTE

Objective

- To assess the national treatment capacity for health-care risk waste.

Contact person

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Time frame

9 months

Funding

R350 000

Background

The national Department of Environmental Affairs and Tourism (DEAT) had received many complaints from waste management companies about a lack of medical waste treatment facilities. A number of cases of illegal dumping of medical waste had also been reported, posing severe health risks to anyone finding it. The Department began an exercise to assess the number and capacity of health care risk waste treatment facilities in the country.

Process

The Department commissioned a consultant to establish the amount of medical waste generated and the treatment capacities of existing plants. With input from the Department of Health, healthcare clinics and permitted treatment plants, the analysis shows that, annually, the country generates 10 000 tons more medical waste than it has the capacity to treat. Two additional incinerators are required to treat this amount of waste.



ASSESSMENT OF TREATMENT CAPACITY FOR HEALTH-CARE RISK WASTE

Benefits

The assessment was completed relatively quickly and clearly illustrated a treatment shortfall that the Department had been unaware of. The Department is exploring ways to fast-track authorisation of new treatment facilities and it is investigating incinerators that have been shut-down due to non-compliance. DEAT has also recently authorised additional plants with a total combined capacity of 8850 tons.

Challenges

Although the consultant faced many logistical challenges while collecting information, the final report is thorough and convincing. However, there is no monitoring and evaluation system in place and the report's data will not be accurate for any length of time. With the HIV/Aids epidemic contributing to growing amounts of medical waste, treatment capacities will need to be re-assessed on a regular basis.



BALANCED SCORECARD *

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?					●
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?					●
Total					15

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?					●
Total					11

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?			●		
2. To what extent was this project relevant to the targeted beneficiaries?					
3. To what extent will this project be replicated sustainably in the future?					
Total					3

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?				●	
Total					14

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?					●
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?					●
Total					15

Waste Management Western Cape **WASTE MANAGEMENT PLANNING GUIDELINE FOR THE CHEMICAL SECTOR**



Objectives

- To implement and support provincial and municipal waste plans.
- To manage chemical waste generated by industry.
- To encourage industry to take responsibility for managing waste.

Contact person

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Time frame

6 months

Funding

R429 399

Background

The national Department of Environmental Affairs and Tourism has developed an Integrated Pollution and Waste Management Policy and a National Waste Management Strategy. Related to this, provinces are required to develop Hazardous Waste Management Plans or Integrated Waste Management Plans. The Provincial Hazardous Waste Management Plan identifies seven priority streams, one of them being: industrial hazardous waste.

The Western Cape Province chose to tackle this stream by starting with the chemical sector. The pharmaceutical and consumer-formulated goods sectors are notably large in the province, and generate waste of a hazardous nature. The sector operates many manufacturing facilities here, and safe and responsible practices can be improved within these sectors. As a result of inappropriate practices at some of the facilities, hazardous waste finds its way into the general waste stream. There is no system in place to separate hazardous waste from generic waste once it has reached a landfill site, and any poor communities living nearby are severely and negatively impacted, especially if the landfill is not managed properly.

Process

Fortunately, the province has a good history of working with the chemical sector and is familiar with many of the players involved. Initial activities included engaging with the private sector through industry associations, manufacturing facili-

ties, and supporting industries to this sector, to gain a better understanding of the industry. A presentation was held at the Chamber of Commerce to help bring members on board and familiarise them with the programme. The project team also held an initial workshop to share ideas with stakeholders and to agree upon a consultation process.

An appointed consultant interviewed stakeholders and staff from the industry - across the entire manufacturing process, from raw materials to waste disposal. Findings were compiled into a status quo report for the sector, informing the Department and stakeholders of generic issues and concerns in the sector. These included: problems on the factory floor; a lack of knowledge about facility planning; inadequate chemical inventories to identify types and ages of products; inadequate management and use of material safety data sheets to describe chemicals; inadequate waste management practices.

This report was assimilated into a guideline and a generic plan. The guideline serves to inform the chemical sector how to achieve waste management compliance in its manufacturing processes. It also shows the sector how to go about developing facilities' plans at a plant-level. The generic plan gives examples of what a facility's Integrated Waste Management Plan (IWMP) may look like and shows the sector how to develop such plans and check-lists. A typical IWMP is informed by a status quo assessment, a needs and gap analysis to formulated achievable goals, objectives and targets. These targets would be achieved through re-

alistic intervention strategies to improve the efficiencies of operational processes and bring about improved integrated waste management at the facilities. The industry waste management plan would also consider human resources and budget requirements, with buy-in from top management to implement facility- specific strategies and activities.

A second stakeholder workshop was held to present the report findings, the guideline and the generic industry waste management plan. In preparation for the National Environment Management Waste Bill, the sector was asked to produce facility waste management plans. Although there is no deadline in place, plant managers will benefit from working with the guidelines and plans as the new legislation will require either all or targeted industrial facilities or sectors to have IWMPs in place.

Benefits and outcomes

The guideline provides the industry with a blueprint for waste management planning and helps companies to prepare for the new waste legislation. By approaching waste from the raw material stage, the guideline will help minimise industry costs throughout the waste management

process. The use of alternative, less hazardous raw materials is encouraged and the province hopes to share the guideline with all industry players in the future.

The project has improved the chemical sector's knowledge around waste and, importantly, it has highlighted the direction of public policy. With more adequate reporting of types and quantities of waste, the sector's impact on the environment and humans can be minimised.

The Project Manager, Gottlieb Arendse, expects improved compliance with legislation by industry due to improved relationships that have been built between industry representatives and officials that have been empowered in this process, through acquiring a better understanding of industry's operations and issues.

Challenges included a lack of provincial in-house expertise, as well as the time and human resources required to visit all the plant facilities. According to Arendse, "this is the first time waste issues have been addressed in the chemical sector and, although only about half of the sector's members participated, we have the key players on board. The project has been very successful in sending the message that industry needs to act responsibly and incur the costs of properly managing its waste."



BALANCED SCORECARD *

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?			●		
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?					●
Total	13				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?			●		
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?					●
Total	13				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?			●		
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?			●		
Total	11				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?					●
3. Did the project have higher than expected impact in your organisation?				●	
Total	14				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?				●	●
2. To what extent did you project fulfil its aims?				●	●
3. Was this project a cost effective response to the problem addressed?				●	●
Total	12				



Waste Management Western Cape **HOUSEHOLD HAZARDOUS WASTE COLLECTION DAY**

Objectives

- To raise awareness about household hazardous waste, its treatment and disposal.
- To provide a viable option to separate household hazardous waste from general household waste
- To collect, separate, safely treat and dispose of household hazardous waste.

Contact person

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Time frame

5 months

Funding

UEMP: R200 000
Government: R65 000

Background

Household waste materials are often illegally dumped in open spaces, streams and sewer systems, allowed to evaporate or sent to municipal solid waste landfills that are not licensed to receive hazardous waste. Without proper treatment and disposal, these products have the potential, even in low concentrations, to negatively affect human health and environment health due to their toxicological, chemical and physical characteristics.

Removal of hazardous waste from the general waste stream is critical to reducing its negative impact and exposure to urban and rural populations, particularly the poor and those referred to as door-to-door salvagers or landfill scavengers, who eke out a living in unhealthy and hazardous situations. This project aimed to raise public awareness and implement a waste disposal pilot of household hazardous waste, thereby assisting to achieve the goals and objectives of a broader hazardous waste management plan for the province and provide municipalities with an option and method of safely disposing household hazardous waste.

Process

Preparation began with the search for an ideal municipality with which to partner the pilot. Selection criteria included: sound infrastructure, willingness to participate and proximity

to a hazardous waste disposal site. Options included Malmesbury and Hermanus but Stellenbosch was the final choice due to favourable logistics and proximity to the Vissershoeck hazardous waste disposal facility.

Considerable time and effort was spent on getting interested parties on board, such as private companies, chemical and paint industries, lighting industries, waste disposal companies and a section 21 company (ROSE Foundation) that manages recycled oil and lubricants and which provided free assistance. The intention was to identify synergies with these organisations and encourage producers to shoulder some of the responsibility for disposal of their products.

Preparation for the event entailed finding a venue, setting up infrastructure, and developing promotional materials such as flyers, banners and pole-mounted posters. Flyers listed hazardous household waste items such as fluorescent light bulbs, batteries, paints and solvents, electronics, oils and chemicals. Radio and local media were used to market the event and invite people to attend and drop-off all their household hazardous waste (except medical).

De Braak, an open space in Stellenbosch CBD, was selected as the event site as it is well-known locally, central, convenient and the open area is suitably sized to host the anticipated volumes of traffic. Hazardous waste disposal company Enviroserve was appointed to handle collection and disposal on the day.

Waste Management Western Cape
HOUSEHOLD HAZARDOUS
WASTE COLLECTION DAY

The event ran from 7am – 6pm on a Saturday morning, beginning with public addresses from DANIDA, provincial and municipal authorities. Stalls carried educational materials, with pamphlets explaining various forms of waste, while a special stall for children offered face painting and information tailored for young ages. This is the first time such a project has been run and staff made sure that people were assisted with the collection and separation of waste into closed containers.

Impacts and lessons

Stellenbosch is an outdoor-orientated community and the Saturday morning slot may not have been the ideal time for the event, yet the day turned out busier than expected, with an enthusiastic and curious stream of people attending. As a pilot, the project offers many lessons and pointers to help streamline a provincial roll-out, namely:

- Allocate more time to promote the event and use municipal accounts as a communication medium.
- Ensure political and private sector buy-in, and encourage producer responsibility.
- Locate the event centrally and consider transport factors like large, specialised vehicles.
- Gather sufficient expertise, especially around issues like chemical compatibilities.
- Encourage active involvement from the community and consider the local lifestyle when event-planning, to ensure a reasonable response.
- Locate the event where it can benefit from through-traffic (by shoppers, for example) and provide plenty of information and promotional material to optimise awareness-raising.
- Ensure that query-answering services are set-up to handle calls for help or information after the event.



BALANCED SCORECARD *

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?					●
2. Did you have adequate funding for your project?			●		
3. Did you have adequate technical expertise to implement your project?					●
Total					13

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?					●
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?				●	
3. Did the project have a higher than expected impact on stakeholders?					●
Total					14

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?			●		
2. To what extent was this project relevant to the targeted beneficiaries?					●
3. To what extent will this project be replicated sustainably in the future?				●	
Total					12

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?					●
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?				●	
Total					13

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?					●
2. To what extent did you project fulfil its aims?					●
3. Was this project a cost effective response to the problem addressed?				●	
Total					14



Waste Management Western Cape **PRIORITY HOUSEHOLD WASTE STREAM**

Objectives

- To explore options for separating household hazardous waste from the general waste stream.
- To determine related feasibilities develop an action plan.

Contact persons

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Time frame

4 months

Funding

R 467 000

Background

The national Department of Environmental Affairs and Tourism has developed an Integrated Pollution and Waste Management Policy and a National Waste Management Strategy. Related to this, provinces are required to develop Hazardous Waste Management Plans or Integrated Waste Management Plans. These plans identify seven priority streams, one of them being: household hazardous waste.

Currently, household hazardous waste is combined with general waste and dumped at landfills. Although a single household's hazardous waste may be relatively small, the combined hazardous waste of Cape Town's three million residents creates serious problems. Detergents, battery fluid, kitchen and bathroom waste, paints, oils and medicines are leached and leaked into the ground at landfill sites, affecting the quality of ground water. This waste is also potentially dangerous to scavenging humans and animals.

This project aimed to: find ways of separating household hazardous waste; examine the costs of various options; and determine viabilities for the municipality.

Process

The process was largely a desktop exercise undertaken by external consultants. Key components of the study included:

- Reviewing international best practice for household waste separation
- Identifying the infrastructure required to support a waste separation system (such as material recovery facilities)
- Identifying existing practices and recycling facilities at local municipalities
- Determined the types of waste that can be recycled
- Determining the type of transport required to move waste to drop-off centres
- Calculating the cost of transporting waste to separation facilities
- Determining the feasibility and financial implications of separation and collection at retail outlets, petrol stations and hazardous waste collection days.
- Incorporating current systems and organisations like The Rose Foundation.



Waste Management Western Cape
PRIORITY HOUSEHOLD WASTE STREAM

A final report ranks the options in terms of practicality and feasibility criteria. This was workshopped at a provincial waste management forum where municipalities identified ways of collaborating and assisting each other. The group has identified actions that can be implemented and revised the provincial Integrated Waste Plan in accordance with the report findings. A hazardous waste collection day pilot project has been completed and interventions are on-going.

Benefits and outcomes

Separation and collection options are now clearly documented although additional fine-scale costing is required. The working document presents 16 options for separating and disposing of household hazardous waste. Examples include: separation of waste by the household and municipal transport to a sorting station for further separation; or household transport of waste to a disposal site or buyback centre. Household waste collection days and recycling plants are important components in many options.

Challenges

The project presents a first step in challenging the status quo and exploring hazardous waste separation options. Challenges to further action include: the low profile of hazardous waste; lack of awareness and education among households; lack of hazardous waste disposal sites; lack of adequate recycling facilities and recycling management.



BALANCED SCORECARD *

1 – inadequate, 2 – needs improvement, 3 – adequate, 4 – good, 5 – excellent

INPUT	1	2	3	4	5
1. Did you have adequate internal resources to implement your project?			●		
2. Did you have adequate funding for your project?					●
3. Did you have adequate technical expertise to implement your project?					●
Total	13				

EXTERNAL	1	2	3	4	5
1. To what extent did the project impact on vertical national - provincial - municipal linkages?				●	
2. To what extent did this project improve linkages (horizontal) with similar UEMP partners?			●		
3. Did the project have a higher than expected impact on stakeholders?			●		
Total	10				

UEMP VISION & GOALS	1	2	3	4	5
1. To what degree did your project have a focus on poverty reduction?				●	
2. To what extent was this project relevant to the targeted beneficiaries?				●	
3. To what extent will this project be replicated sustainably in the future?			●		
Total	11				

INTERNAL	1	2	3	4	5
1. Did you have adequate support from management to implement this project?			●		
2. To what extent did the project link with other priorities of the organisation?				●	
3. Did the project have higher than expected impact in your organisation?			●		
Total	10				

OUTPUT	1	2	3	4	5
1. To what extent did your project have tangible benefits?		●			
2. To what extent did you project fulfil its aims?			●		
3. Was this project a cost effective response to the problem addressed?			●		
Total	8				