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REPORT OF COURSE TRA-38

HEALTH CARE WASTE MANAGEMENT

Presented by the



**Basel Convention Regional Centre
Pretoria**
for English-speaking African countries

Basel Convention
*the world environmental
agreement on wastes*

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in partnerships
with



22 – 25 November 2005
BCRC Training Room, CSIR, Pretoria
SOUTH AFRICA

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ABBREVIATIONS

BCRC	Basel Convention Regional Centre
HCF	Healthcare Facility
HCW	Healthcare Waste
HCWM	Healthcare Waste Management
HZW	Hazardous Waste
HZWM	Hazardous Waste Management
JSI	John Snow Incorporated
MMIS	Making Medical Injections Safer
SA	South Africa
UNIDO	United Nations Industrial Development Organization

1. EXECUTIVE SUMMARY

The course on Healthcare Waste Management was held from 22-25 November 2005, in Pretoria, South Africa. This is a commercial course that is a joint venture between the Pretoria Basel Convention Regional Centre (BCRC), John Snow Inc (JSI) and United Nations Industrial Development Organization (UNIDO). The training programme is targeted at government officials, healthcare personnel, communities, non-governmental organizations and industry.

The programme attracted about 31 trainees from various institutions; 1 from Sudan, 4 from Mozambique, 26 from South Africa (5 from Eastern Cape Province, 13 from Western Cape Province, 5 from KwaZulu Natal Province and 3 BCRC internship students). The participation expenses of 22 trainees from the Provinces were paid for by JSI. UNIDO paid for participation of the 4 trainees from Mozambique and 1 from Sudan.

1.1 The objectives of the course are as follows:

- Provide and present appropriate material on technical, policy, legal and management issues to trainees;
- Improve general healthcare waste management skills and capacity of the trainees; and
- Stimulate awareness and understanding of environmentally sound management of healthcare waste.

These objectives were all achieved as indicated by 95% of the trainees. At the conclusion of the course programme, both the BCRC and JSI have been able to assess and build on the lessons learnt to be able to:

- Further implement Healthcare Waste Management Training Programmes in the South African Provinces and neighbouring countries.
- Develop and implement training programmes for various stakeholders involved in Healthcare Waste Management both in Healthcare Facilities and the Communities.
- Establish a sound relationship between the government and private companies involved in healthcare waste management.

1.2 Background to the training course

The Pretoria BCRC is one of the thirteen regional centres in the world, and this institution assist in capacitating 21 English Speaking African Countries, including Mozambique (Portuguese speaking, and member of the Commonwealth Countries). This Centre recognizes the need for promotion of training and technology transfer activities in this region, and has therefore developed and presented technical and awareness raising courses on Hazardous Waste Management.

Further to this the stakeholder countries have identified proper management of HCW as a challenge that needs urgent attention. Subsequently, the BCRC has developed and is implementing training and awareness-raising programmes as an effort to alleviate this situation. In addition to this, BCRC is undertaking a joint venture with JSI Making Medical Injection Safer (MMIS) Project which shares the same aspirations regarding proper HCWM for protection of environmental and human health.

1.3 Structure of the training programme

This was a four-day training programme comprised of technical sessions, group work sessions on general overview on hazardous waste management, healthcare waste management, including Occupational Health & Safety issues in HCFs, Communication Tools in Public Health Management and a site visit to the Hatherley landfill site and Pretoria Academic Hospital.

The training programme was an interactive one and it involved presentations by trainers, plenary, group discussions and site visits. At the end of the programme, the trainees were given an opportunity to evaluate the course and each was awarded with a certificate of participation, co-signed by the BCRC and JSI Directors, Dr John Mbogoma and Dr Rose Mulumba respectively.

1.4 Emerging issues for the future

Based on the outcome of the course and the lessons that have been learnt, the following are the emerging issues for future consideration by the BCRC / JSI partnership

1.4.1 Duration of Course

About 57.8% of the trainees indicated that the course duration was adequate, 32% indicated that it was too long and 10.2% said it was too short. In the light of these comments, the course duration could be about 3 days, entailing 2 days of plenary sessions, group discussions and 1 day for site visits.

1.4.2 Development of Specialized courses

Upon examination of evaluations, the trainees indicated that BCRC / JSI should develop specialized training courses and / or awareness raising programmes for various target groups in the Healthcare Facilities.

1.4.3 Site visits

The undertaking of site visits is very important as it helps reinforce lessons learnt from the presentations. As part of the trainees' assignment they were assigned to observe practices in the facilities visited and compare with experiences presented in the presentation sessions.

The trainees were pleased with the visits to the Pretoria Academic Hospital and Hatherley General Waste Landfill site. They indicated that they would be happier, if they had visited a site that either treats or dispose of Healthcare Waste.

1.4.4 Participation of Government officials from other Provinces

The trainees indicated that it would be useful to have the training and / or awareness raising programmes held in the provinces and neighbouring countries for wide coverage and more people are trained. They also indicated the need for training of managers to ensure sustainability and financial support.

1.4.5 Organization of the Report

This report is organized as follows:

Chapter 2: Introduction:

2.1 Course Objectives

2.2 The Trainers

Chapter 3: Introductory / Presentation sessions:

- 3.1 Trainees' expectations**
- 3.2 Overview of the sessions of the programme**

Chapter 4: Evaluation of the course and its implications

- 4.1 Categories of Trainees**
- 4.2 Job Relevance of Training Programme Contents and usefulness of the course**
- 4.3 Achievement of Course Objectives**
- 4.4 Duration of the course programme**

Chapter 5: Conclusions:

- 5.1 Meeting the objectives of the course**
- 5.2 issues of concern for future considerations raised by trainees**

Chapter 6: Recommendations

- 6.1 Duration of the Course**
- 6.2 Case studies**
- 6.3 Site visits**
- 6.4 Development of Specialized Courses**
- 6.5 Inclusion of Provinces**

2. INTRODUCTION

Dr Mbogoma, BCRC Executive Director welcomed the trainees and trainers, thanked partners (UNIDO and JSI), made opening remarks and introduced the course programme. He briefed the trainees on the Basel Convention, other MEAs, role of the BCRC and its partnership with JSI MMIS.

He then presented the training course purpose and objectives as outlined below:

2.1 Training course objectives

The objectives of this training course were amongst others to:

- Provide and present appropriate material on technical, policy, legal and management issues to the trainees;
- Improve general hazardous waste management skills and capacity of the trainees; and
- Stimulate hazardous waste awareness of the trainees.

2.2 The Trainers

The trainers from the JSI (Ms Bronwyn Pearce and Dr Francis Hyera) presented the modules covering Communication Tools for Public Health Management as well as healthcare waste management respectively. Ms Nomphele Daniel from BCRC covered general overview on Hazardous Waste Management and the link with Healthcare Waste. The course material was designed taking into consideration South African and neighboring African countries specific issues in terms of healthcare waste management.

3. INTRODUCTORY / PRESENTATION SESSIONS

This summary outlines the overview of the sessions of the training programme.

3.1 Trainees' expectations

At the commencement of the training programme the trainees were allowed to indicate their expectations from the course. Their expectations were categorized into 3 groups viz:

- Waste & Environmental Management
- Infection Control / Prevention
- Occupational Health & Safety

Waste Management

- *To be able to implement a HCWM Project.*
- *Gain knowledge on waste & environmental management for public protection and future generations.*
- *Gain knowledge on proper HCW treatment technologies, especially incineration and other non-incineration technologies.*
- *Gain knowledge on HCWM, e.g. containerization, storage, color-coded segregation, transport, treatment & disposal.*
- *Knowledge on proper management of HCW in a rural setup.*
- *Knowledge on proper HCWM in developing countries with limited budget, learn about cost-effective means. Gain knowledge on proper management of HCW generated from Home-Based Care as well as "elderly care".*
- *Gain knowledge to be able train others in HCWM.*
- *Gain knowledge in order to facilitate good work relations within the HCF.*
- *To be able to develop waste management plan for HCF and complement where there are ongoing programs.*
- *To be able define roles & responsibility of individuals / personnel in the HCFs.*
- *To understand the national regulatory framework pertaining to HCWM.*
- *Get a bigger picture on HCWM in SA & the world.*
- *Learn about new trends for HCWM practices.*
- *Impacts of HCWM on consumers of the Health Care Services.*
- *To be able to develop evaluation tool for assessing waste management practices in own institution.*
- *To obtain knowledge on proper color coding for effective HCW segregation.*

Infection Control

- ***To gain knowledge in order effective Infection Control program. Gain experience on proper Infection Control principles and share information with colleagues from neighboring countries.***

Occupational Health & Safety

- ***Learn about Occupational Health & Safety Issues In a HCF.***

3.2 Overview of the sessions of the programme

Module 1: Overview of Hazardous Waste Management & Link with HCWM

Purpose

The aim of this module was to introduce the subject of Hazardous Waste Management, definition and classification of Healthcare waste as a hazardous waste-stream.

Contents

This module defines and outlines national and international classification of waste. This module also mentions importance of proper identification of the properties of HZW, chemicals and the environment, proper management of HZW from point of generation to disposal, international and national regulatory framework governing HZWM.

The reasons why hazardous wastes are of international concern and the magnitude of the problem associated with mismanagement of these kinds of wastes are also explained. The module further defines hazardous waste, its types sources, the concept of waste management, the waste management hierarchy as well as the reasons for poor waste management.

Expected outcomes

At the end of this module, trainees are expected to have an understanding of what hazardous waste is, problems associated with its mismanagement. Also, the trainees are expected to understand the link between HCW and hazardous waste.

Module 2: Introduction to Infection Prevention and Control

Purpose

The purpose of this module is to equip the trainees with background information on principles of infection control / prevention. This module also indicates that injection safety is an integral component of infection control / prevention and is supported by procedures like: hand hygiene, waste management and house-keeping.

Contents

The issues presented in the module cover the following:

- Definition of hospital acquired infections;
- Definition of infection prevention and control;
- Definition of injection safety;
- Modes of disease transmission;
- Relationship between infection prevention / control and injection safety.

Expected Outcomes

The trainees should have an understanding of infection control / prevention principles and its relationship with injection safety.

Module 3: Overview of Healthcare Waste Management

Purpose

This module gives knowledge on identification, classification, categories and sources of healthcare wastes. The emphasis of this module is on amongst others:

- Effects of HCW mismanagement on environment and human health;
- Proper process of HCWM and hepatitis B & C infectious waste;
- Development of HCWM plan; and
- Communication among staff members on HCW related problems.

Expected Outcomes

On conclusion, the trainees should be aware of the issues related Healthcare Waste, risks associated with its mismanagement.

Module 4: Importance of Healthcare waste segregation and color coding

Purpose

This module introduces the importance of specific color coding in order to ensure proper waste segregation.

Contents

This module outlines the importance or benefits of proper waste segregation, which includes:

- Reduction of HCRW which accounts for about 10-25% of the wastes generated from a Healthcare Facility. This further minimizes treatment and disposal costs.

The segregation system must be:

- Simple to implement for staff
- Safe, ensuring that no infectious waste gets in contact with domestic waste
- Supervised to ensure the procedures are respected
- Standard for all Healthcare Facilities in the country.

Expected Outcomes

At the end of this module, the trainees would be in a position to understand the importance of managing chemicals properly as they pose a potential threat to environment and health.

Module 5: Healthcare Waste Collection & Transport

Purpose

This module provides information on Waste Collection concept and various kinds of waste collection systems based on availability of facilities.

Contents

This module addresses the procedures for implementing a collection system, as well as optimizing use of transport.

Implementation of collection system

- Waste volumes of facilities to be served

- Assess disposal capacity of new and existing facilities
- Schedule trips and list resources
- Monitoring and supervision

Optimizing use of transport:

- Shared use of vehicles;
- Efficient transport management.

Expected Outcomes

This module enables the trainee to know the procedures for collection and transport of healthcare wastes.

Module 6: Healthcare Waste Treatment & Disposal

Purpose

This module outlines the aims of treatment and disposal of healthcare waste in a way that ensures the reduction of risks to human health and environment.

Contents

This section covers amongst others:

- Treatment and disposal options for waste
- Open burning, incineration and alternatives e.g. wet thermal treatment, microwave irradiation, screw feed technology and disinfection.
- Land disposal methods for different waste categories

Expected Outcomes

On completion of this module, the trainees will be able to:

- **Understand treatment and disposal technologies as well as advantages and disadvantages thereof.**
- **Select appropriate treatment or disposal methods for HCW waste types and be able to understand environmentally sound treatment and disposal of healthcare wastes.**

Module 7: Communication tools for better Public Health Management

Purpose

This module provides the trainees with information on behaviour change as a result communication in public health management.

Contents

This module outlines mentions actions and / or program strategies to be put in place in order to have a positive behaviour change. The possible program strategies include amongst others:

- Policies, legislation, norms, guidelines
- Technologies, logistics, supplies
- Capacity building (training, supervision etc)
- Service delivery
- Communication and advocacy
- Monitoring and evaluation

This module also gives guidance on designing the program strategy.

Expected Outcomes

In this module the trainees would be able to understand positive behaviour change associated with communication in Public Health Management.

Module 8: Results of Waste Management assessments in Africa, 2003 (Case Studies)

Purpose

This module provides information on status of HCWM in the Africa region.

Contents

This module mentions status on HCWM in the region. Information is provided on:

- HCFs in various regional countries having challenges in managing HCW in an environmentally sound manner;
- current activities to address the challenges in relation to HCWM;

- lessons to be learnt in managing waste in an environmentally sound manner with minimal available resources.

Expected Outcome

On completion of this module, the trainees will be able to understand the construction and maintenance of an engineered landfill site, which poses no harm to the environment.

Module 9: Legislation pertaining to Healthcare Waste Management

Purpose

This module imparts knowledge on the international agreements and principles governing public health, environmental health and waste management.

Contents

These international agreements and principles should be taken into consideration when developing national legislation pertaining to Healthcare Waste Management. The National legislation forms a basis for improvement of HCWM in the country and it entails law, policy document and technical guidelines. These specify specific treatment for different wastes, segregation, collection, storage, handling, transport, disposal, responsibilities as well as training requirements. Of importance, the international agreements discussed in this module are:

- Basel Convention;
- Polluter Pays Principle;
- Precautionary Principle;
- Duty of Care Principle; and
- Proximity Principle

Expected Outcome

At the end of this module, the trainees will:

- Know the rationale for legislation, national goals and key steps to be put in place to achieve these goals;
- Know responsibilities of public health authorities, national environmental bodies, managers in HCFs, small producers of HCW and HCWM Industry.

Module 10: Workers' Health, Safety & Emergencies

Purpose

This module provides information on Worker's health and safety principles that should be adhered to in the HCFs.

Contents

This module makes an outline on Health and Safety principles that should be observed in the HCFs and these include amongst others:

- Proper training
- Personal protective clothing and equipment
- Effective Occupational health program which includes immunization, post exposure prophylaxis, medical surveillance
- Personal Hygiene

Expected Outcomes

- On completion of this module, the trainees will have gained knowledge on:**
- **Health and safety measure to be applied in the facilities and that staff should be trained to be able to protect themselves and others**
 - **Safe management practices; program for response to emergencies, reporting of incidents and training programs for various target groups.**

Module 11: Waste management related costs

Purpose

This module outlines the Principles of Costing, Methods of Financing and also provides a checklist for cost reduction.

Contents

The module outlines the principles of costing with a focus on Polluter Pays Principle, Waste minimization, segregation and recycling appropriate sizing of waste management systems anticipation of future trends. Costs are categorized into internal (costs of supplies and labour) and external (paid to service providers). Methods of financing are described as public, private and healthcare facility funding of investment.

Expected Outcomes

On completion of this module, trainees should understand the cost benefits associated with proper management of waste from the point of generation to disposal.

Module 12: Principles of Supply Management

Purpose

This module introduces logistics management and its purposes.

Contents

- The module describes components of logistics cycle, role of the Logistics Management Information System, design of functional Logistics Management Information System. This module also outlines the importance of Logistics Monitoring, Evaluation and Supervision.

Expected Outcome

At the end of this module, the trainees should appreciate the importance of good logistics as this ensures continued availability of supplies and equipments, thereby affecting positive outcome of services and therefore meeting customer needs. This also ensures that appropriate containers are used for specific kinds of wastes.

4. EVALUATION OF THE WHOLE COURSE AND ITS IMPLICATIONS

4.1 Categories of Trainees

Category	Tick
National Government	3.6%
Provincial Government	14.3%
Local Government	21.4%
Private company	14.3%
NGO	7.1%
Academic/Research Institution	0%
Medical facility	28.6%
Professional Body	0%
Any other : Parastatal (1), IGO (1), Supplier (1)	10.7%

4.2 Job Relevance of Training Programme Contents and usefulness of the course

Judging from the comments by the trainees, 71.4% indicated that the course had a job relevance. Moreover the trainees indicated the course could be extended to other provinces. The trainees further indicated that the training should also be provided to various target groups in the HCF.

At commencement of the training programme, the trainees were given an opportunity to mention their expectations from the programme. These were categorized into 3 viz:

- Waste & Environmental Management
- Infection Control / Prevention
- Occupational Health & Safety

During verbal evaluation session the consolidated report of the trainees' expectation was presented, the trainees indicated that these expectations were met.

4.3 Achievement of course objectives

The objectives of the course were spelled out as follows:

To:

- Provide and present appropriate material on technical, policy, legal and management issues to the trainees;
- Improve general healthcare waste management skills and capacity of the trainees; and
- Stimulate awareness and understanding of environmentally sound management of healthcare waste.

Objective	Degree of achievement		
	Yes	Partly	No
Objective 1:			
Provide and present appropriate material on technical, policy, legal and management issues to trainees	89%	11%	
Objective 2:			
Improve general HCWM skills and capacity of the trainees	97%	3%	
Objective 3:			
Stimulate awareness and understanding of environmentally sound management of healthcare waste.	95%	5%	

5.2 Issues of concern and interest for future considerations raised by the trainees.

These issues were as follows:

- The 4-day course was found to be too long by some trainees, other found too short.
- More South African case studies were sought, in order to learn from experiences of others. Also, the course must highlight in-depth information on South Africa's legislation governing HCWM.
- Healthcare Waste Treatment and Disposal site visits were seen to be important, in order to reinforce lessons learnt from the presentations.
- Possibilities for development of specialized courses to cater for the advanced needs, and to suit needs of other target groups in the Healthcare Facilities were seen to be important.
- Importance of hosting the course at other provinces was seen to be essential so as to cover a wider scope and sharing of information with other institutions in similar situations.

6. RECOMMENDATIONS

Based on the analysis of the outcome of the training course recommendations are suggested as follows:

6.1 Duration of the Course

The duration of the course should be 3 days and / or this could be adjusted according to the needs of various stakeholders.

6.2 Case studies

BCRC / JSI have to research case studies covering various aspects of Healthcare Waste Management, particularly those pertaining to South African situation. This could be done in collaboration with academic or research institutions.

6.3 Site visits

Suitable sites which could be visited as part of the training programme have to be established. Emphasis should be on those that are near the training place and if more than one site is visited, the sites should not very far from each other.

6.4 Development of Advanced / Specialized Course

Advanced / Specialized courses should be developed to meet the needs of various target groups in the Healthcare Facilities. It is also important that an awareness raising programme emphasizing benefits of managing HCW in an environmentally sound manner be developed for senior managers. This will ensure their commitment, support and sustainability of the programme.

6.5 Inclusion of Provinces

It is recommended that BCRC / JSI implement the Healthcare Waste Management Training Programmes for the various target groups in the healthcare facilities in the Provinces. This will ensure a wide coverage of information dissemination among the stakeholders.

ANNEX 1

LIST OF PARTICIPANTS

LIST OF PARTICIPANTS

HEALTHCARE WASTE MANAGEMENT COURSE

DATES: 22-25/11/2005

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ANNEX 2

TRAINING COURSE PROGRAMME



**Basel Convention Regional Centre
Pretoria**

for English-speaking African countries

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agreement on wastes*

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Draft Programme 4:

**Course Programme
Health Care Waste Management Training, BCRC Pretoria
22 - 25 November 2005
Venue: BCRC Pretoria, CSIR Pretoria**

TIME	ACTIVITY	PRESENTER
Day 1 : Tuesday 22 Nov 2005		
08.30 - 09.00	Registration	
09.00 - 09.30	Introduction to BCRC and its Roles and Responsibilities	Dr John Mbogoma
09.30 - 10.00	Introduction to MMIS and its Roles and Responsibilities	Dr Rose Mulumba
10.00 - 10.15	The Link Between JSI - MMIS and BCRC	Dr John Mbogoma & Dr Francis Hyera
10.15 - 10.30	TEA	
10.30 - 11.00	General Overview of Hazardous Waste Management	Ms Nomphele Daniel
11.00 - 11.15	Introduction to Infection Prevention and Control	Ms Bronwyn Pearce
11.15 - 11.30	Discussions	
11.30 - 12.00	Overview of Healthcare Waste Management	Dr Francis Hyera
12.00 - 12.15	Discussions	
12.15 - 12.45	Health Waste Management Treatment and Disposal Methods	Dr Francis Hyera
12.45 - 13.00	Discussions	
13.00 - 14.00	LUNCH	
14.00 - 14.30	Waste Collection and Transport	Dr Francis Hyera
14.30 - 14.40	Discussions	
14.40 - 15.10	Importance of Healthcare Waste Segregation/Separation and Colour Coding	Dr Francis Hyera
15.10 - 15.15	Discussions	
15.15 - 15.30	TEA	
15.30 - 16.00	Overview of Hazardous Waste Management and Link with HCWM.	Dr Francis Hyera
16.00 - 16.10	Discussions	
16.10 - 16.40	Waste Collection and Transport	Dr Francis Hyera
16.40 - 17.10	Discussions, Questions, Clarification on the visits.	
17.10 - 17.30	Group Assignment for the Visits.	Dr Francis Hyera
17.30	END DAY ONE	

Day 2: Wednesday 23 November 2005		
Pretoria Academic Hospital site visit & HCW Disposal site visit		
17.00	END DAY TWO	
Day 3: Thursday 24 November 2005		
08.00 - 8.30	Review of day two visits - group presentations and discussions	Ms Bronwyn Pearce & Ms Nomphele Daniel
08.30 - 09.00	Communication tools for Better Public Health Management.	Ms Bronwyn Pearce
09.00 - 09.10	Discussion	
09.10 - 09.40	Results of Waste Management Assessment in Africa 2003	Dr Francis Hyera?
09.40 - 09.50	Discussions	
09.50 - 10.20	Waste water management	Dr Francis Hyera
10.20 - 10.30	Discussion	
10.30 - 11.00	TEA	
11.00 - 11.30	All participants mention HCW problems from their environments/ countries. All problems will be prioritized & grouped under different scenarios under the facilitator.	Mr Zama
11.30 - 13.00	Groups discussion per scenario & come up with solutions including a business plan.	Mr Zama
13.00 - 14.00	LUNCH	
14.00 - 15.00	Groups discussion per scenario & come up with solutions including a business plan.	Mr Zama
15.00 - 15.30	Group presentation & discussion on solutions and business plan.	
15.30 - 15.45	TEA	
15.45 - 16.15	Group presentation & discussion on solutions and business plan.	Mr Zama
16.15 - 16.45	Concerns towards Incineration study	
16.45 - 17.00	Discussions	
17.00	END DAY THREE	

Day 4: Friday 25 November 2005		
08.30 - 08.30	Legislation on Health Waste Disposal	Mr Zama
08.30 - 08.40	Discussion	
09.40 - 09.10	Worker's health and safety and emergencies	Dr Francis Hyera
09.10 - 09.20	Discussion	
09.20 - 09.50	Waste management related cost	Dr Francis Hyera
09.50 - 10.00	Discussion	
10.00 - 10.15	TEA	
10.15 - 11.00	Principles of Supply management	Dr Francis Hyera
11.00 - 11.15	Discussion	
11.15 - 11.45	Training of HCW on Healthcare Waste Management	Dr Francis Hyera
11.45 - 12.00	Discussion	
12.00 - 12.30	Course Evaluation	Ms Nomphele Daniel
12.30 - 13.00	COURSE CLOSURE	Dr John Mbogoma

ANNEX 3

**COURSE EVALUATION BY
TRAINEES**



COURSE EVALUATION

COURSE: HEALTHCARE WASTE MANAGEMENT

VENUE: BCRC TRAINING ROOM, CSIR, PRETORIA, SOUTH AFRICA

DATES: 22-25 NOVEMBER 2005

This is the response to a questionnaire provided to the trainees who attended the above-mentioned training course. The aim of this evaluation questionnaire is to assess, whether the course objectives were met, and identify areas that would need improvement and / or revision. About 27 trainees responded to the evaluation questionnaire.

1. The trainees belong to the following categories of institutions:

Category	Tick
National Government	3.6%
Provincial Govt	14.3%
Local Govt	21.4%
Private company	14.3%
NGO	7.1%
Academic/Research Institution	0%
Medical facility	28.6%
Professional body/Association	0%
Any other: Parastatal (1), IGO (1), Supplier (1)	10.7%

2. Job Relevance of Training Programme Contents

Very relevant	19	Relevant	8	Not Relevant	
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3. Achievements of course objectives

Objective	Degree of achievement		
	Yes	Partly	No
Objective 1:			
Provide and present appropriate material on technical, policy, legal and management issues to trainees	89%	11%	
Objective 2:			
Improve general HCWM skills and capacity of the trainees	97%	3%	
Objective 3:			
Stimulate awareness and understanding of environmentally sound management of healthcare waste.	95%	5%	

The following are the reasons for none or partial achievement of the workshop objectives:

The course should include more of South African legal issues pertaining to Healthcare Waste Management. Case studies should include those research programmes conducted in South Africa and the other participating countries.

4. Quality of Training Materials

Trainees describe the quality of Training Materials as follows:

Type of Material	Rating				
	Excellent (5)	Good (4)	Satisfactory (3)	Fair (2)	Poor (1)
Course pack manual	10	9	7	1	
Presentation slides	13	10	3	1	

5. Duration

Trainees indicated that the duration of the course was:

Too long	9	Adequate	15	Too short	3
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6. Suggestions for improvement of the course.

- The course pack and programme should be sent to trainees in advance.
- Training and awareness raising programmes should be developed for various target groups in the Healthcare Waste Facilities. Following these courses, there should be refresher courses.
- More information on legislation pertaining to Healthcare Waste Management. More group discussion on implementing of regulations e.g. Western Cape Healthcare Waste Management Draft Bill.
- The course should be held over 3 days. Also, for purpose of time management, trainees should be accommodated at the training venue.
- Course should be held in the Provinces for more coverage.
- Site visit should be conducted at a Healthcare Waste treatment and disposal site.
- More emphasis on tools for handling practical / workplace problems.

ANNEX 4

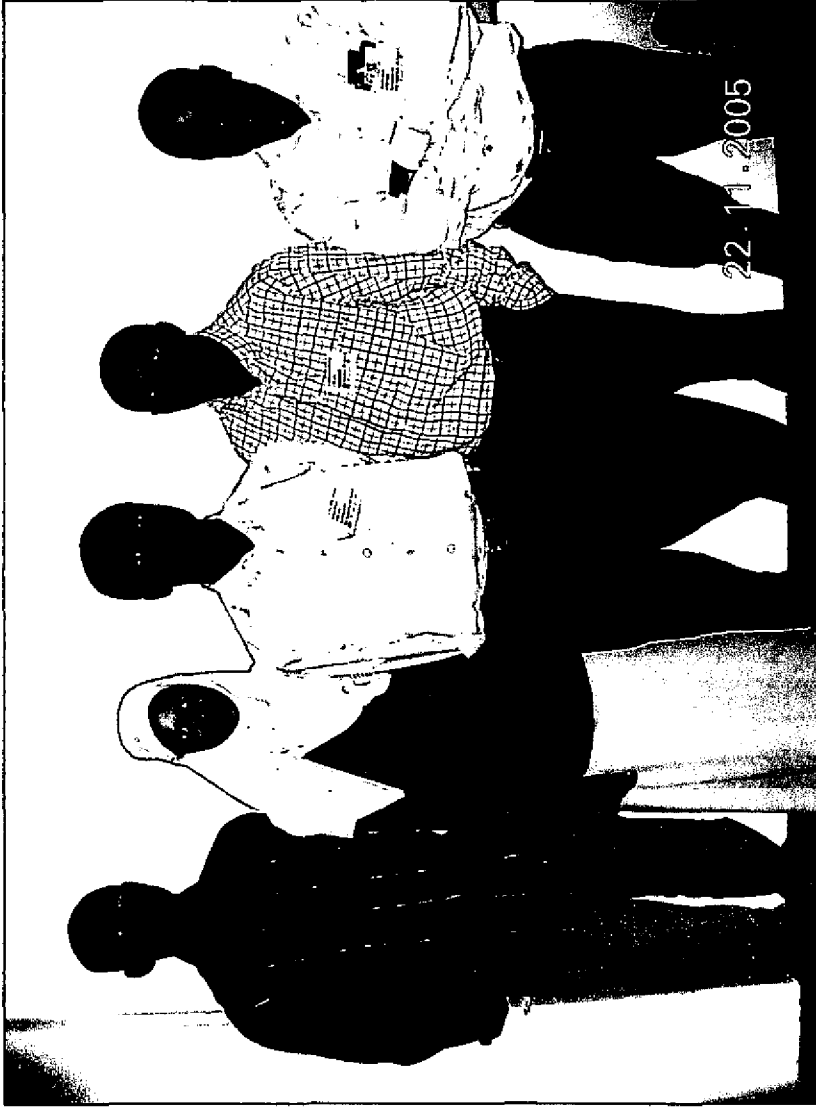
PHOTOS

Appendix 4: Photos

1. The participants



2. International participants



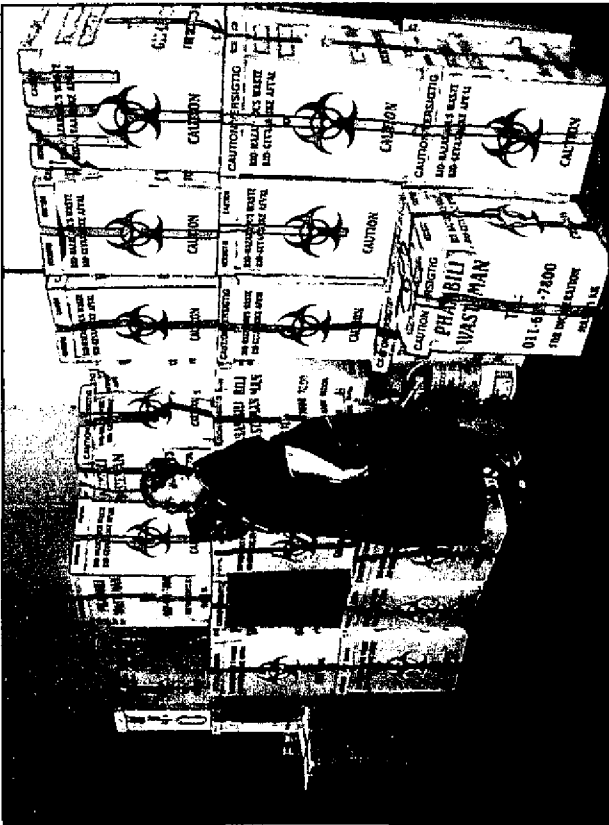
3. Training sessions





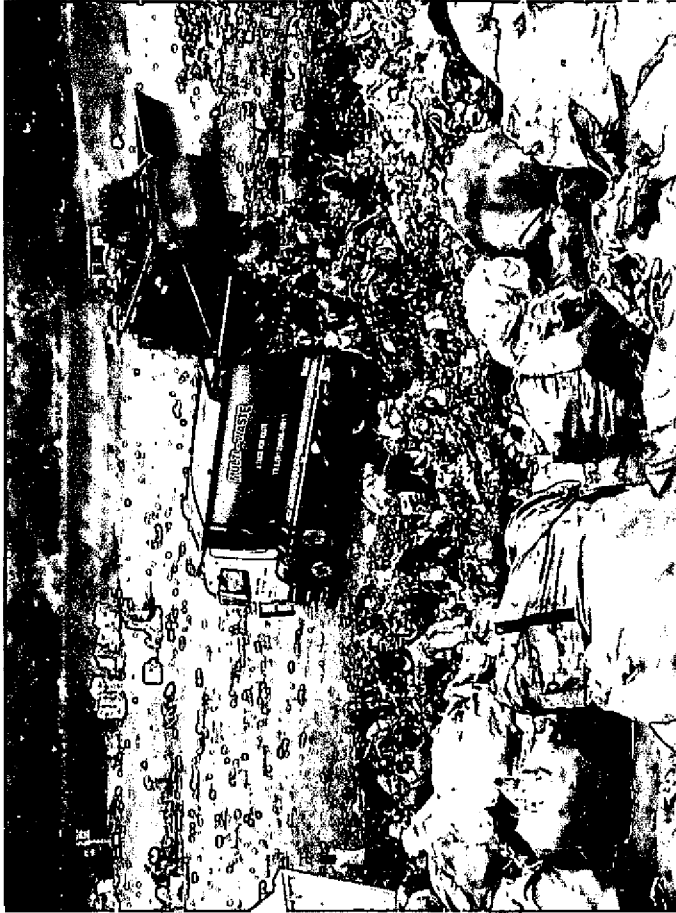
4. Site visit to Pretoria Academic Hospital







5. Site visit to landfill site





6. Certification







3 4

