

REPUBLIC OF NAMIBIA



MINISTRY OF HEALTH AND SOCIAL SERVICES

NATIONAL WASTE MANAGEMENT POLICY



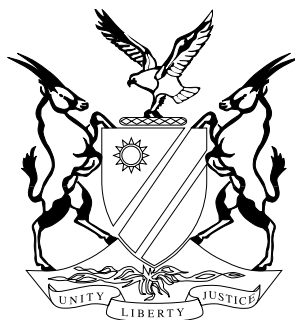
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Republic of Namibia

MINISTRY OF HEALTH AND SOCIAL SERVICES

National Waste Management Policy

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FOREWORD

Since independence, the Ministry of Health and Social Services (MOHSS) has been actively involved in the implementation of the Health for All strategy and is committed to render services in line with the principles enshrined in this initiative.

Waste management has a key role to play in the ongoing socio-economic development processes. While the effectiveness and safety of waste disposal systems vary depending on the Local Authorities and Regions, in many cases uncontrolled dumping takes place.

The Ministry of Health and Social Services aims at improving approaches, techniques and methodologies in waste management and is striving to a sustainable approach to waste management. It is against this background that this policy has been developed. The main objective of the waste management policy is to ensure public health and safety, and the conservation of the environment by encouraging proper waste management by all stakeholders in order to reduce risks from transmission of diseases and injuries, reduce environmental pollution, improve aesthetically the surroundings and derive economic benefits from waste minimization and improved land values.

This policy is focusing specifically on Waste Management and use of various technologies waste treatment and disposal to minimize health risks. It is also geared to have a unified waste management system country wide. This policy provides the necessary guidance on the processes related to waste management in the MOHSS, wider Namibia health and social welfare sectors, and other relevant stakeholders. It is taking into consideration the process of integrated waste management from generation to final disposal. This practice also focus on medical, household, mining, agricultural, and construction waste.

The policy supports the existing legal framework in eliminating the challenges and providing monitoring solutions for compliance and enforcing the prescriptions of various laws and by - laws. It is also economically viable and sustainable project designs for effective waste management in the public sector. It is a tool to use as mechanism for enhancing the waste management portfolio and the ideal road to successful waste minimization through training, situation analysis, and assessment. In addition it is a tool to identify and apply practical solutions for rural waste management through engaging the public, exploring alternatives, finding champions to maintain the good practices.

It is worthy to remember that a dirty or filthy environment brings about unhealthy conditions to individuals, families and nations. It reflects poor living and working conditions responsible for 25% of preventable diseases worldwide and out of this 66% occur in children, who are the most vulnerable group (WHO Paper:

for Johannesburg World Summit on Global Sustainable Development: 1998). A clean environment means healthy citizens and healthy nation.

The policy is to prevent and reduce health risks associated with exposure to healthcare, household, radiation and other waste for healthcare workers, waste handlers and the public by promoting environmental sound waste management practices and to reduce exposure to toxic pollutants associated with waste combustion processes. The "Duty of care Principle" stipulates that all handlers of waste are ethically bound to use utmost care when they carry out these tasks. This policy will enhance all aspects of safe waste management and thereby strengthen the decision making processes and cooperation among stakeholders at all levels in various systems.



HON. DR. RICHARD N. KAMWI (MP)
MINISTER

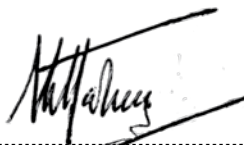
ii

PREFACE

The development of this policy is a direct result of waste generation and improper management which has become a global problem, not only for the environment but also the public at large. Various stakeholders were involved and made valuable comments. The policy was developed in stages from the beginning of December 2006, coordinated by the Ministry of Health and Social Services Task Force assisted by the University Research Corporation Technical Coordinators. The first draft was developed during a workshop held at Okahandja in December 2006. Subsequent workshops were held, thereafter, and a task force was formed to finalize the draft in a continuous process up to the final document of a National Waste Management Policy.

The guidance provided in this policy is aimed at all stakeholders involved in waste management in the country. Not all the information included in this document will be relevant to all stakeholders. However certain information is only relevant to institutions that generate medical waste, such as hospitals and other health facilities. It is my hope that this document will be widely distributed to all stakeholders and that it be made available to schools and other institutions of higher education for possible incorporation in their curriculum.

I wish to congratulate all those health workers, stakeholders in particular the Directorate: Primary Health Care, Division: Public and Environmental Health Services, Division: Quality Assurance, the Regional Health Management Teams, and National Health Training Center for their contributions towards the development of this policy. My sincere and profound thanks is extended to the Chief of Party University Research Corporation (URC) and the team for their technical and financial assistance.



MR. KAHIJORO KAHUURE
PERMANENT SECRETARY



ABBREVIATIONS

CDC	Constituency Development Committee
CMO	Chief Medical Officer
DCC	District Coordinating Committee
EHA	Environmental Health Assistant
EHP	Environmental Health Practitioner
EIA	Environmental Impact Assessment
HBV	Hepatitis B Virus
HCRW	Health Care Risk Waste
HCV	Hepatitis C Virus
HCW	Health Care Workers
HIV	Human Immunodeficiency Virus
ICC	Infection Control Committee
IEC	Information Education and Communication
IWMP	Integrated Waste Management Plan
MOHSS	Ministry of Health and Social Services
NGO	Non Governmental Organization
PEP	Post Exposure Prophylaxis
POP	Persistent Organic Pollution
PPC	Personal Protective Clothing
PHCS	Primary Health Care Services
PMDRC	Policy Management Development Review Committee
PMO	Principal Medical Officer
PPE	Personal Protective Equipment
RMT	Regional Management Team
SME	Small and Medium Enterprises
UNFPA	United Nations Fund for Population Development
URC	University Research Corporation
USAID	United States Agency for International Development
VDC	Village Development Committee
WHO	World Health Organization
WIS	Waste Information System

TABLE OF CONTENTS

Foreword	i
Preface	iii
Abbreviations	iv
CHAPTER 1: INTRODUCTION	3
CHAPTER 2: SITUATION ANALYSIS	3
2.1 Conceptual Background	3
2.2 Main Findings	3
2.2.1 Amount of Domestic Waste	3
2.2.2 Existing Waste Technologies and practices	3
2.2.3 Other challenges with waste management in Namibia	3
2.3 Waste Management Conventions	3
2.4 Existing Legislative Framework on Waste	3
2.5 New Emerging Waste Technologies	3
CHAPTER 3: POLICY FRAMEWORK	3
3.1 Policy Goal	3
3.2 Objectives	3
3.3 National Waste Management Principels	3
3.4 Policy Strategies	3
3.4.1 Integrated Waste Management Plan	3
3.4.2 General Waste collection	3
3.4.3 Waste minimization	3
3.4.4 Waste treatment	3
3.4.5 Waste information system	3
3.4.6 Supportive tools and IEC materials	3
3.4.7 Capacity building	3
3.4.8 Community education and advocacy	3
3.4.9 Inter-sectoral collaboration	3
3.4.10 Advocacy and lobbying for development of legislation	3
3.4.11 Monitoring and Evaluation system	3

CHAPTER 4: INSTITUTIONAL FRAMEWORK	3
4.1 Health Sectors	3
4.1.1 National level	3
4.1.2. Regional level	3
4.1.3 District level	3
4.1.4 Intermediate and National Referral Hospitals	3
4.1.5 Community level	3
4.1.6. Other partners and line ministries	3
CHAPTER 5: RESOURCE IMPLICATION	3
5.1 Types of resources needed	3
5.1.1 Human resources	3
5.1.2 Commodities and Logistics	3
5.1.3 Financial Resources	3
5.1.4 Infrastructure	3
5.1.5. Information and Technology	3
CHAPTER 6: IMPLEMENTATION PHASES	3
CHAPTER 7: MONITORING AND EVALUATION	3
7.1 Monitoring and evaluation shall focus on:	3
INDICATORS	3
DEFINATION OF TERMS	3
ANNEXURE	3

CHAPTER 1: INTRODUCTION

Namibia is a semi arid country which covers a surface area of 825 000km². Such geographical and environmental conditions will have an impact on waste disposal sites, development, construction, and the management of waste in general.

According to the 2006 population and household's census, the Namibian population is 2,080,971 and inter census growth rate of 2.6%. The impact of population growth will have political, social and economic consequences. In terms of safe and proper waste management, it means finding solutions to minimize waste generation.

According to World Health Organization (WHO), it is estimated that poor environment living and working conditions are directly responsible for about 25% of all preventable diseases, while 66% of all preventable illnesses due to environmental conditions occur in children. Indiscriminate waste disposal, littering, etc. and their consequences such as disease transmission, pollution, and land degradation are contributory factors to poor environmental conditions.

After so many challenges have been experienced in the waste management practices in the country and specific in the MOHSS a Task Force has been established to develop a policy for guidance, uniformity and awareness raising purposes. The Task Force members identified were from the main stakeholders in the Private and Public (especially Local Authority) sectors. The financial, technical and the secretariat support were provided by the University Research Corporation (URC)

The National Waste Management Policy is complementary to the National Environmental Health Policy which was launched in 2003, and is one of the governing tools for waste management in the country. It also takes into consideration the international objectives of environmental protection and rational use of energy and resources.

The different stakeholders need to work in harmony so that "measures to protect one sector do not result in transferring environmental problems to another sector"(Organization for Economic Co-operation and Development (OECD), A Comprehensive Waste Management Policy, recommendation adopted on 28th September 1976). Since the private sector is also a great producer of waste, its role in helping the government cope with the management of waste should be clearly delineated.

The following methods were applied to have a zero draft for distribution and input from a broader section of relevant partners.

- Workshops
- Meetings
- Group work
- Ad hoc incorporation of relevant expertise

This policy will provide a framework for guidelines for safe and sustainable waste management practices as well as the formulation of legislations on waste management for Namibia.

CHAPTER 2: SITUATION ANALYSIS

2.1 Conceptual Background

The sound management of waste has received uncontrollable proportion worldwide and the need for a holistic approach has become inevitable. It is therefore essential to consider and control the risks associated with any waste from generation to disposal thereof. In view of the global phenomenon of toxic waste being dumped in developing countries the Basel Convention (May 1992) has been entered into force to monitor and control cross boundary movements of toxic waste and has grouped all waste in four components:

- Hazardous waste (Medical, Chemical, & biological)
- Waste oils (From Petroleum Sources and /or Origin)
- Household waste
- Rubber/ Tyre waste

All countries face the challenge of minimizing and managing refuse generated by households, commercial, industrial, and social services activities. The most usual ways of getting rid of waste are dumping, burning, and incinerating. Progressive studies have demonstrated that methods of treatment can be harmful to humans and to the environment, even destroying the ecological system with serious consequences for the fauna and the flora. Some type of pollution generated in one country can spread to other countries, for example: Air pollution (acid rain), asbestos, soil, water. Some of the pollutants can create temporary problems that are relatively easy to solve technically and monetarily, others can create problems of greater magnitude.

In the area of waste management Namibia faces a number of challenges. General observation has shown that waste is generated by a great number of stakeholders including: households, commercial entities, industries, and the health sector. Most of the waste generated end up in open dumping and/or landfill sites. The amount of waste produced has increased significantly as a result of population growth, establishment of industries, and expansion of mines/agriculture and fishing activities.

The amount of domestic waste generated in Namibia is estimated to be 0.5 kg per capita per day, while that for health care waste is 0.6 kg per capita per day. Quantities are expected to rise by 2.5% per annum (Draft document and Action Plan pollution Control and Waste Management Program, Ministry of Environment and tourism, May 2000, p.10-11).

2.2 Main Findings

According to two studies conducted in early 2000 by the Ministry of Environment and Tourism and the City of Windhoek, and desktop review of Ministry of Health and Social Services (MOHSS) reports, the following are the findings regarding waste management in Namibia:

2.2.1 Amount of Domestic Waste

The amount of domestic waste generated in Namibia is estimated to be 0.5 kg per capita per day, while that for health care waste is 0.6 kg per capita per day. Quantities are expected to rise by 2.5% per annum (Draft document and Action Plan pollution Control and Waste Management Program, Ministry of Environment and tourism, May 2000, p.10-11).

In contrast of high waste generation there is no appropriate waste management system. What exist is embryonic. The following waste management technologies are currently being used.

2.2.2 Existing Waste Technologies and practices

In contrast of high waste generation there is no appropriate waste management system. What exist is embryonic. The following waste management technologies are currently being used:

a. Incinerators

Incineration is the current practice used in Namibia for medical/clinical waste disposal. However if not properly managed can cause harmful substances which may cause air pollution and other risks to human and the environment. According to the studies, many of them are not of an acceptable standard, lack maintenance and lack of skilled staff among others.

b. Burning

Burning is not an advisable method of waste treatment, but if practiced should be under strict supervision. The studies found that majority of Namibian Regions/villages/towns are making use of burning mainly for medical and abattoir waste.

c. Land filling sites

Although being the most desirable method for final waste disposal only 2 towns in the country have effective sanitary land fill sites (Windhoek, Walvis Bay).

d. Dumping

Dumping is the most commonly used practice for household, garden, and construction waste (building rubble).

e. Effluent disposal

Sedimentation dams, evaporation ponds, septic tanks and waste stabilization ponds are the most commonly used method of effluent disposal practices. E.g. sewerage system and tailing dams (mines)

f. Hazardous chemical waste disposal

Despite the fact that there exist laws and regulations regarding chemicals, the country has very limited infrastructure and expertise as well as capacity to control these substances at entry points, and obsolete

products inside the country. Farmers' Cooperation have direct access to manufactures/suppliers of pesticides, fertilizers etc and can purchase directly without the knowledge of the government. These problems may lead to serious detrimental aesthetic and environmental impact.

2.2.3 Other challenges with waste management in Namibia

a. Financial resources

There is inadequate financial resources allocated for waste management

b. Human resources

Among the major issues are inadequate numbers of staff, high staff turnovers in some sectors and also inadequate expertise in waste management

c. Health information system

There is lack of an integrated system that captures relevant information on wastes generated that is needed for planning, budgeting and to provide useful information on relevant management functions.

2.3 Waste Management Conventions

To counteract the difficulties mentioned above, different treatment technologies have been developed, some of them are very sophisticated and very expensive e.g. autoclaving. Waste management has taken a new dimension, becoming a managerial entity on its own. Not all countries are capable of applying the technologies, depending on their level of development and availability of resources.

Different groups of countries are applying different degrees and methods of technologies. To protect the environment globally and prevent human diseases caused by improper waste management, some international platforms have been created to study the situation and recommend solutions. Some treaties and conventions (Basel, Stockholm, and Rotterdam) have been signed and enforcing regulations have been enacted by individual countries.

Namibia is a co-signatory to the following conventions:

- a) Basel Convention: Adopted in 1989 in response to concerns about Toxic Wastes Being dumped in Developing Countries, entered into force May 5, 1992. Prescribes the notification of Transboundary movements of waste.
- b) Rotterdam Convention: prescribes the Prior Informed Consent procedures for certain Hazardous chemicals and pesticides in International Trade. Adopted in 1998, entered into force on February 24, 2004.

- c) Stockholm Convention: on Persistent Organic Pollution (POP), it emphasizes the restriction and elimination of POPs especially the disposal of industrial and medical chemicals. It also provides information for future establishments to re-use, reduce and recycle waste with environmental friendly technologies e.g. autoclaving. It was adopted in 2001, and entered into force on May 17, 2004.

2.4 Existing Legislative Framework on Waste

There is a need to harmonize and reinforce compliance with existing legislation regarding all aspects of waste management. Currently Namibia is guided by various legislations on waste management (See Annex)

2.5 New Emerging Waste Technologies

To effectively manage waste and reduce the risks to both healthcare workers and the community, new technologies of managing wastes are recommended. They include among others autoclaving, encapsulation, and use of pressurized containers. Namibia should progressively aim to adopt the newer technologies if resources do permit.

CHAPTER 3: POLICY FRAMEWORK

3.1 Policy Goal

To prevent and reduce health risks associated with exposure to healthcare substances, household, radiation and other waste from healthcare workers, waste handlers and public by promoting sound environmental waste management practices.

3.2 Objectives

- a. To design appropriate means of safe and sustainable waste management
- b. To develop capacity and training on waste management for sustainable and sound waste management
- c. To create community awareness on safe waste management and minimize unsafe waste practices that could lead to diseases
- d. To promote inter-sectoral collaboration on safe waste management
- e. To promote continuous research in waste management
- f. To provide a legal framework for development of a waste management legislation

3.3 National Waste Management Principles

This policy will be based on the following principles:

a. Sustainability

To have lasting positive impact on health and environment, and any new program should be subjected to sustainability assessment before implementation.

b. Affordability

Provision of waste management services shall be affordable to all citizens in Namibia.

c. Community participation

The active involvement and participation of communities during the initiation, planning and implementation of waste management services will be essential in order to promote the sustainability of the program.

d. Accessibility

The Waste Management Services shall be progressively extended to reach all communities in Namibia.

e. Intersectoral Collaboration.

Other line Ministries and Non Governmental Organizations should be consulted and involved in the management of waste at all levels.

g. Duty of care principle

Any person handling or managing hazardous waste or equipment is ethically responsible for using the utmost care during the tasks being carried out

i. Liability/Polluters pay principle

Implies all producers of waste are legally and financially responsible for the safe and environmentally sound disposal of the waste they produce. (Household, radioactive, biological, chemical, medical).

j. Precaution principle

This is to ensure health and safety protection. It shall be assumed that all waste are significantly risky and therefore measures shall be designed to fit the situation at the moment. All waste must be considered hazardous until shown to be safe

k. Proximity principle

Any person or community handling waste shall recycle or dispose of them at the closest possible location. Trans-border movement of waste between countries, towns, cities and villages shall be discouraged by all means

8

3.4 Policy Strategies

Promotion of waste management through life cycle approach from the point of generation to the point of final disposal using the following steps to eliminate and minimize environmental and health hazards posed by waste:

3.4.1 *Integrated Waste Management Plan*

The anticipated short term deliverables from the Action Plans have been incorporated under the goals and objectives of this policy. In addition, an Implementing Instruments Project Plan has to be developed to support the implementation of the short-term priority Action Plans.

3.4.2 *General Waste collection*

Ensuring that waste is appropriately collected prior to their disposal in accordance with relevant laws, regulations, standards and guidelines. Ensuring that all Namibians have adequate and sufficient waste and refuse waste collection services.

3.4.3 *Waste minimization*

To adopt measures in close cooperation with the existing successful waste minimization and recycling initiatives.

3.4.4 Waste treatment

Ensuring that waste are appropriately treated and processed prior to their disposal in accordance with relevant laws, regulations, standards and guidelines. Rendering harmless any pollutants that may be released during waste treatment processes.

3.4.5 Waste information system

An effective waste information system is fundamental for safe and sustainable waste management practices. It should be integrated into the existing information and management system.

3.4.6 Supportive tools and IEC materials

Information, education and communication materials will be identified at every level to promote safe waste management practices at all levels of waste generation.

3.4.7 Capacity building

Government and civil society will be capacitated through training in integrated pollution and waste management. The human resource development program of the Public and Environmental Health Services will be adjusted to focus on the new policy priorities.

3.4.8 Community education and advocacy

The government will promote the education and empowerment of Namibian people with regard to integrated waste management by increasing their awareness of and concern for waste, and assisting in the development of the knowledge, skills, values and commitment necessary for successful integrated waste management. The government's approach in this policy is to establish mechanisms and processes to ensure effective public participation and capacity building in integrated waste management.

3.4.9 Inter-sectoral collaboration

A multi-sectoral committee with clear terms of reference to advise and coordinate between sectors on waste management functions and in particular the incorporation of waste management considerations in par with the policies, strategies and guidelines shall be established.

3.4.10 Advocacy and lobbying for development of legislation

Public and Environmental Health Services is currently engaged in a law reform process which will address all outstanding waste management legislation and amend existing legislation Public Health Act. (No. 36 of 1919) where necessary, in line with the new policy.

3.4.11 Monitoring and Evaluation system

Waste management indicators shall be used to determine measure and assess whether the waste management services are effective and adequately address the goals and objectives of the policy.

CHAPTER 4: INSTITUTIONAL FRAMEWORK

4.1 Health Sectors

The Ministry of Health and Social Services (MOHSS) shall be the central coordination point for this policy. In the spirit of decentralization the institutional framework will fall in the following components as indicated below:

4.1.1 National level

The MOHSS shall distribute the policy to all stakeholders at all levels and shall:

- a. Integrate waste management into the agenda of the multi-sectoral team on implementation procedures, including organizing training courses;
- b. Develop and review of legislation, standards, and guidelines on waste management;
- c. Develop and distribute relevant Information, Education and Communication (IEC) materials on waste management;
- d. Conduct continuous in-service training on waste management;
- e. Planning and budgeting to be done for implementation;
- f. Collect, analyze, and use data on essential waste management practice and implement tracking and auditing systems to demonstrate that healthcare waste has been rendered safe for reprocessing or destroyed in an environmentally sound manner;
- g. Mobilize financial and human resources to implement the program;
- h. Explore alternative methods on waste treatment and consult with relevant stakeholders on ideal places for a disposal site and incinerators;

4.1.2 Regional level

A multi-sectoral sub committee shall be established at Regional Level and chaired by the Regional Health Director to:

- a. Conduct regular meetings to review and monitor the implementation process;
- b. Coordinate a two-way communication from National and District level on training, communication, and IEC materials;
- c. Enforce regional waste management guideline;
- d. Prepare and present the budget and plans on waste management;
- e. Distribute the policy to all stakeholders at regional and district level;
- f. Facilitate and support continuous in-service training on waste management;
- g. Collect, analyze, and use data on essential waste management practice in the region;
- i. Establish a permanent position for Environmental Health Practitioner (EPH) at all points of entry;
- j. Explore alternative methods on waste treatment and consult with relevant stakeholders on ideal places for a disposal site and incinerators;

4.1.3 District level

Establish an Inter-sectoral committee on waste management chaired by the Principal Medical Officer (PMO) involving community own resources persons:

- a. Implementation of policy and guideline on waste management through multi-sectoral committee at district level spearheaded by Environmental Health Practitioner (EHP);
- b. Conduct continuous in-service training;
- c. Prepare and present action-plan and budget for implementation of the frame work;
- d. Promote community participation;
- e. Community owned resource persons should be members of the multi-sectoral team;
- f. Ensure regular maintenance of waste management equipments;
- g. Establish a permanent position for environmental Health Officer at all points of entry.

4.1.4 Intermediate and National Referral Hospitals

The hospitals and the supportive departments are the main producers of medical, chemical, domestic and biological waste and therefore should have a well functioning infrastructure, equipment, transport (materials and logistics) in place as well as trained staff from all cadres to ensure proper waste management practices. It is of utmost importance to maintain the infrastructure, equipment and transport.

4.1.5 Community level

Constituency Development Committees (CDC) and Village Development Committees (VDC) should encourage active community participation in waste management activities e.g. well planned and documented clean-up campaigns and information. Community leaders should disseminate and translate/explain the policy and IEC materials to the community in consultation with the relevant authorities

4.1.6. Other partners and line ministries

a. Ministry of Agriculture, Water and Forestry:

Regulates water pollution, hazardous and solid waste based on current legislation.

b. Ministry of Environment and Tourism:

To ensure and develop policies and legislation and conduct Environmental Impact Assessment (EIA) for the siting of sanitary landfill sites.

c. Ministry of Trade and Industry:

Enforce policy during registration of Small and Medium Enterprises (SME) and Industries regarding regulations on possible pollutants that may have a detrimental effect on the health and safety of the employees and the environment.

d. Ministry of Works, Transport and Communication:

Responsible for a routine maintenance and contingency plans for Health Care Risk Waste (HCRW) as well as maintenance and repair of buildings, and equipments (incinerators).

e. Ministry of Fisheries and Marine Resources:

To prevent the illegal dumping of waste at sea in cooperation with NamPort relating to the safe disposal of all kinds of waste.

f. Ministry of Regional and Local Government and Housing and Rural development; Local Authorities (Municipalities, Town Council, Village Councils, and Settlement areas):

Ensure proper collection, storage, transportation and safe disposal of waste, at identified sites. Safety and Security measures are compulsory by putting up relevant signs and fencing of disposal site.

g. Ministry of Finance:

Ensure training of officials and collaboration with Ministry of Health and Social Services at the Port.

h. Ministry of Mines and Energy:

Regulates all types of wastes produced during mining activities by enforcing them with waste management regulations.

i. Ministry of Defence

Enforcement of various regulations as needed. E.g. import, export and criminal activity. Safely dispose all waste generated as per the regulation.

j. Ministry of Safety and Security

Enforcement of various regulations as needed. E.g. import, export and criminal activity. Safely dispose all waste generated as per the regulation.

k. Ministry of Labour and Social Welfare

As the custodian of Safety and Security for employers, should be on board to support the Health System with the implementation of preventative measures.

l. Private Enterprise and Contractors:

Should adhere to all the waste regulations ensuring safe waste management and handling practices. They should be encouraged to explore waste minimization: recycling, and reuse practices. (Polluters pay).

m. Non-Governmental Organization's - NGO's

Should adhere to all waste regulations and Guidelines.

n. Community Based Organization

Should adhere to all the waste regulations.

CHAPTER 5: RESOURCE IMPLICATION

5.1 Types of resources needed

All Ministries and stakeholders should mobilize the necessary resources such as manpower, material, and finance. All other development partners working in the area of waste management and implementing this policy shall also mobilize the resources needed. Public private partnerships should be encouraged and all relevant authorities should have a specific line budget for waste management activities.

5.1.1 Human resources

Human Resources are the most important element in the implementation of this policy. The ministries' should ensure qualified personnel are in place to implement the waste management policy and interventions.

Capacity building shall be implemented as a matter of priority in order to include pre and in service training focusing on theory and practice as well as networking with relevant partners.

5.1.2 Commodities and Logistics

Through funding by the government and relevant stakeholders, materials for the implementation of this policy should be procured and maintained especially autoclaves, standard incinerators and other relevant technologies. Office equipment and field materials should be purchased to enable the health workers to carry out waste management activities. Districts, regions, and national level will budget for their own activity implementation. The national level takes full responsibility in ensuring that the policy is implemented. Therefore during the initial stage of implementation, it shall budget for materials needed by the lower level implementing structures.

5.1.3 Financial Resources

The government and relevant service providers shall work out the budgets needed to cover cost for materials, purpose made vehicles/contractors and human resources. The government shall develop market related tariff structures for waste management services/practices. Data should be collected regularly to aid in proper planning and budgeting.

5.1.4 Infrastructure

New infrastructure shall be built in line with internationally recommended standards where necessary and the existing ones should be modified to fit the latest technology. It is essential to replace all obsolete structures and equipment. An operational assessment should be carried out to estimate the need of additional infrastructure on a regular basis. The policy shall be implemented through all levels.

5.1.5. Information and Technology

A Waste Information System shall be established under the Directorate of Primary Health Care to collect data, analyze and distribute it for use. Information resource shall be made available to the district, regions, and the public at large. Research and survey results shall be accessible to all those who need it either for planning or proposal and project design.

CHAPTER 6: IMPLEMENTATION PHASES

The Directorate of Primary Health Care (PHC) within the Ministry of Health and Social Services in collaboration with relevant partners will take charge of the implementation of this policy. Partnership will be sought with the relevant stakeholders with regard to advocacy, sustainability, monitoring research and resource mobilization for the implementation of the policy.

IMPLEMENTATION PHASES FOR THE WASTE MANAGEMENT POLICY

	2010	2011	2012	2013	2014
Advocacy of the policy to all stakeholders	x				
Develop an integrated waste management plan	x				
Development of a national waste management profile	x				
Develop a waste collection strategy	x				
Develop waste minimisation strategy	x				
Develop a waste treatment strategy		x			
Develop waste information systems		x			
Develop supportive tools and IEC materials		x	x	x	x
Postgraduate training of staff			x	x	x
In-service training		x	x	x	x
Incorporate waste management into school curricula		x			
Develop a postgraduate course on waste management		x			
Strengthen public awareness campaign		x	x	x	x
Strengthen analytical capacity and collaboration		x	x	x	x
Collaboration in data collection and reporting system			x	x	x
Develop a monitoring and evaluation system			x		
Review formulate legislations and standards on waste management				x	
Review of the National waste management policy					x

CHAPTER 7: MONITORING AND EVALUATION

The MoHSS shall monitor and evaluate the implementation of the National Waste Management Policy through a set of indicators focusing on outcomes. These indicators should help to measure changes that occur directly or indirectly in the field of waste management throughout the country. They will measure progress made against set objectives or standards. Periodic evaluation of the system will be conducted to measure the outcome and the impact of the policy.

7.1 Monitoring and evaluation shall focus on:

- a. Effectiveness and efficiency of management systems and practices
- b. Environmental protection
- c. Human resources development
- d. Supportive supervisory activities
- e. Capacity building
- f. Resources for policy implementation
- g. Technological options and transitioning to safe healthcare waste treatment
- h. Research outcomes (e.g. EIA, surveys, studies)
- i. Legislation for policy enforcement
- j. Compliance with international agreements and principles
- k. Intersectoral collaboration/cooperation
- l. Evaluation of waste related risks
- m. Best practices and identification of centers of excellence

For each component mentioned above specific plans shall be developed with goals, objectives, and specific indicators. These indicators should allow verification of compliance with the policy and impact or desired effect of activities on the health and safety of the general population and on the protection of the global environment.

A National Waste Management committee shall be established at all levels to oversee the implementation of the necessary legislation, policies, and guidelines. Progress in the implementation of National Waste Management plans based on standardized evaluation tool should be followed up quarterly. Data collected should be sent to the Waste Information System. Periodic evaluation should be conducted every 2 years using a standardized evaluation tool.

INDICATORS

- 1. Integrated Waste Management Plan (IWMP)**
 - IWMP available
 - Number of facilities with Waste Management guidelines
 - Number of waste handlers provided with Personal Protective Equipment (PPE)
 - Number of registered disposal sites
 - Number of vehicles licensed to transport waste
 - % of health facilities with recommended functional equipment.
 - Number of facilities with appropriate protective clothing/commodities/appliances
 - % of budget allocated to waste management per region/district.
 - Number of district supported and sponsored companies.

- 2. Waste Minimization**
 - Number of companies recycling waste
 - % of recyclable waste being recycled.
 - Volume of waste reduced
 - Number of companies promoting re-using of waste materials

- 3. Waste Information System (WIS)**
 - WIS reports
 - Regular feedback reports (tables)
 - Number of research studies carried out

- 4. Capacity Building**
 - % of workforce trained in waste management
 - Training incorporated in post graduate and in-service training

- 5. Communication Education and Advocacy**
 - Number of IEC materials
 - Number of awareness campaigns

- 6. Intersectoral Collaboration**
 - Forum established
 - Availability of integrated waste management plan

- 7. Legislation/ Guidelines**
 - Number of facilities where legislation/guidelines are available and are in compliance

DEFINATION OF TERMS

Acid Rain: precipitation of high levels of pollutants

“A comprehensive waste management policy means” a coherent system of measures concerning the design, manufacture and use of products as well as the reclamation and disposal of waste, and aiming at the most efficient and economic reduction of the nuisance and costs generated by waste.

Autoclaving: A process that treats medical wastes with steam at high temperature and pressure to kill pathogens

Incineration: Is a complete burning process of organic materials and/or substances destroying all microbes and pathogens, using very high temperatures (up to 1600 oC) to manage waste.

Infectious waste is suspected to contain pathogens (bacteria, viruses, parasites, or fungi) in sufficient concentration or quantity to cause disease in susceptible hosts.

- a. Culture and stocks of infectious agents from laboratory work;
- b. Sharp – items that could cause cuts or puncture wounds, including needles, hypodermic needles, scalpel and other blades, knives, infusion sets, saws, broken glasses, and nails. Whether or not they are infected, such items are usually considered as highly hazardous health-care waste.
- c. Waste from surgery and autopsies on patients with infectious diseases (e.g., tissues, and materials or equipment that have been in contact with blood or other body fluids).
- d. Pathological waste consists of tissues, organs, body parts, human fetuses and animal carcasses, blood, and body fluids. Within this category, recognizable human or animal body parts are also called anatomical waste. This category should be considered as a subcategory of infectious waste, even though it may also include health body parts, waste from infectious patients in isolation wards (e.g. excreta, dressings from infected or surgical wounds, clothes heavily soiled with human blood or other body fluids).
- e. Waste that has been in contact with infected patients undergoing haemodialysis (e.g. dialysis equipment such as tubing and filters, disposable towels, gowns, aprons, gloves, and laboratory coats);
- f. Infected animals from laboratories

g. Any other instruments or materials that have been in contact with infected persons or animals.

Solid waste “useless, unwanted or discarded materials that arise from man’s activities and are not free flowing.” (WHO Expert Committee, 1971)

Waste is “an undesirable or superfluous by-product, emission, or residue of a process or activity which has been discarded, accumulated or stored for the purpose of discarding or processing. It may be gaseous, liquid or solid or any combination thereof, and may originate from residential, commercial or industrial area. This definition excludes industrial wastewater, sewage, radioactive substances, mining, metallurgical and power generation waste.” (Government Gazette, No. 12703, August 1990)

ANNEXURE

Existing legislation in Namibia on waste management

- The Atmospheric Pollution Prevention Ordinance, 1976 (No. 11 of 1976)
- Offensive Trades Regulations, 1959
- Local Authorities Act No. 6 of 1992 (Amended as Labor Act No. 11 of 2007)
- Mineral Prospecting and Mining Act, 1992 (Act 33 of 1992)
- Environmental Management Act, (Act No. 7 of 2007)
- Public Health Act, 1919 (Act 36 of 1919)
- Regulations Relating to the Health and Safety of Employees at work, made under the Labor Act, 1992 (Amended in 2007)
- Hazardous Substance Ordinance No. 14 of 1974
- Road Traffic and Transport Act, 22 of 1999
- Medicines and Related Substances Control Act No. 13 of 2003
- Marine Resource Act No. 7 Of 2000
- Water Act, No. 56 of 1956

