National Health Care Waste Management Policy

Democratic Republic of Timor-Leste

April 2025

Ministério da Saúde

World Health Organization
Timor-Leste

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Message from Minister of Health

Developing the Healthcare Waste Management policy is of utmost importance to ensure that all waste generated within the health sector is managed without adverse effects on human health and the environment. As the Democratic Republic of Timor-Leste moves towards the development of an environmentally sound waste management system in the country, the creation of this policy under the "National Health Strategy Plan (2011-2030)" marks a significant achievement in improving the current situation of healthcare waste management in Timor-Leste.

This policy will guide the enforcement of the "National Healthcare Waste Management Guidelines and Strategy" and serve as an umbrella for strengthening healthcare waste management at healthcare settings. The objectives of the policy are to promote an integrated countrywide system that is economically, socially and environmentally sustainable. Implementation of this policy will protect patients, healthcare workers, the community, and the environment from hazards associated with healthcare waste generated in the country, ultimately contributing to the wellbeing of our people and preservation of our planet.

I acknowledge that "Health Care Waste Management Policy" was developed through field assessments and extensive consultations with the relevant government institutions, healthcare facilities at the national and municipality level, and relevant non- governmental organizations. By adhering to this policy, healthcare institutions can mitigate the potential hazards associated with improper handling treatment of disposal and health care waste, thereby safeguarding both human health and environment.

I would like to extend my gratitude to WHO Timor-Leste, the Department of Sanitary Surveillance and Environmental Health and the National Directorate of Education and Promotion of Health, who worked hard to make this policy a success, and I call upon all relevant stakeholders to join hands with the Ministry of Health in the successful implementation of this policy to create a healthier and more sustainable future for all.

dr. Élia A.A. dos Reis Amaral, SH
Minister of Health of IX constitutional Government
Democratic Republic of Timor-Leste

Message from WHO Representative

The management of healthcare waste is an integral part of a national healthcare system. Poor management of health care waste potentially exposes healthcare workers, waste handlers, patients, and the community at large to infection, toxic effects and injuries, and risks polluting the environment. Measures to ensure the safe and environmentally sound management of healthcare wastes can prevent adverse health and environmental impacts from such waste, including the unintended release of chemical or biological hazards, such as drug-resistant micro- organisms into the environment, thus protecting the health of patients, healthcare workers, and the general public.

I am very happy to note that the 'National Health Care Waste Management Policy' has been developed after conducting in-depth field assessments and situation analysis. The policy guidance document uses a comprehensive strategic approach with six strategic components: legal framework and responsibilities on Healthcare Waste Management, waste minimization and recycling, waste equipment and infrastructure, awareness, capacity building and research, documentation, monitoring and contracting, and waste management financing system.

The policy provides guidance in these key areas to achieve the overall goal of the National Healthcare Waste Management policy which is to provide safe and environmentally sound management of healthcare waste to prevent injuries, infections, and other hazards, as well as to protect and promote public health and the environment for the sustainable development of Timor-Leste.

The management of healthcare waste requires increased attention and diligence to avoid adverse health outcomes associated with poor practice, including exposure to infectious agents and toxic substances. I therefore commend Ministry of Health for taking this major leap to have the specific Healthcare Waste Management policy developed through multisectoral consultative process and stakeholder engagement.

I look forward to see the policy implementation minimize health risks and exposure to potentially harmful microorganisms for hospital patients, healthcare workers, the general public, and the environment, ensuring a safer and healthier Timor-Leste.

Dr Arvind Mathur
WHO Representative
Democratic Republic of Timor-Leste

ACRONYMS

AMR	Antimicrobial Resistance
BAT	Best Available Techniques
BEP	Best Environmental Practices
ESM	Environmentally Sound Management
GHGs	Greenhouse Gases
HCF	Healthcare Facility
HCWM	Healthcare Waste Management
SDG	Sustainable Development Goals
SIDS	Small Island Developing States
SOP	Safety Operation Procedures
MoH	Ministry of Health
POPs	Persistent Organic Pollutants
UNFCCC	United Nations Framework Convention on Climate Change
WHO	World Health Organization

ACKNOWLEDGEMENT

The Ministry of Health is grateful for the continued technical and financial support provided by the WHO Country Office during the development of the National Health Care Waste Management Policy for Timor-Leste. The Ministry of Health would also like to express our sincere appreciation to Dr. Ute Pieper, technical expert for developing this policy document in close consultation with the Ministry of Health and WHO. The Ministry of Health highly appreciates the technical inputs from the WHO Country Office and the department of Environmental Health and Sanitary Surveillance for leading this key initiative. The Ministry of Health also highly appreciates the contribution of all the key stakeholders and development partners who actively participated and contributed to the development of this policy. The Ministry of Health also appreciates the teams that supported the field assessments at municipality levels.

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1. POLICY SITUATION AND PURPOSE

1.1 Situation analysis

Health Care Waste Management (HCWM) is an integral part of a health system ensuring the safety and health of the patients, health workers and the community. Improper management and disposal of healthcare wastes from the healthcare institutions (big or small, private or public) pose life threatening risks both within the facility and in the environment. Healthcare waste (HCW) is a by-product of the healthcare services, that includes hazardous waste namely infectious waste, sharps, pathological waste like body parts, chemicals, pharmaceuticals and radioactive materials. WHO estimates that about 15% of the waste produced by healthcare is regarded as "hazardous" and can pose a number of health and environmental risks.[1] Poor management of healthcare waste exposes healthcare workers, waste handlers and the community to infections, toxic effects and injuries. There is also a potential for spreading drug-resistant microorganisms from health- care facilities into the environment through poor health-care waste management.[2]

Sharps and, more specifically, needles are considered the most hazardous category of health-care waste for healthcare workers and the community at large, because of the risk of needle-stick injuries which carry a high potential for infection.[3] Burning of waste from health settings generates hazardous gases and compounds, including Persistent Organic Pollutants (POPs) like dioxins and furans. Climate change is exacerbating the challenges faced by many healthcare facilities around the world. Timor-Leste is highly vulnerable to natural hazards which are associated with droughts, floods, landslides and soil erosion. Increasing temperatures, changing precipitation patterns and increased heavy rainfall events, increases the impacts of climate change in the country. The increased number and severity of extreme weather events disrupts health services and essential fundamentals for providing these services, including water, sanitation and waste management.[4]

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[1] WHO 2014. Safe management of wastes from health-care activities. http://www.who.int/water_sanitation_health/publications/wastemanag/en/

[2] WHO 2015. Health-care waste. Fact sheet no. 253. http://www.who.int/mediacentre/factsheets/fs253/en/

[3] WHO 2017. Safe management of wastes from health-care activities: A summary

[4] WHO 2022. Global analysis of healthcare waste in the context of COVID-19: status, impacts and recommendations. https://washinhcf.org/wp-content/uploads/2022/02/Health-care-waste-COVID-19-context_Final.pdf

To understand the HCWM practices in Timor-Leste, WHO supported Ministry of Health (MoH) to conduct an assessment across 76 health facilities in 2011, followed by another assessment in 2023. Both assessments highlighted the following main statements:

- The legal framework on HCWM is incomplete.
- The knowledge and awareness of safe and environmentally friendly waste management among staff in the health facilities is weak.
- Responsibilities at National level, as well as at facility level, are not clearly defined and known.
- The segregation of hazardous and non-hazardous waste is not established.
- Mercury containing equipment like thermometer and sphygmomanometer are not phased out.
- Waste equipment like bins, bags, trolleys are either not available or are insufficient.
- Safe and adequate infrastructure like waste storage facilities, housing for waste treatment equipment and waste pits for the safe treatment and disposal of waste is lacking.
- Treatment and disposal of hazardous waste is either or only partly conducted– open burning or disposal of hazardous waste with general waste is a regular practice.
- Alternative non-incineration waste treatment technologies are rarely used.
- Safe and regulated transport of hazardous waste on public roads is not available.
- A waste documentation and information system like standardized waste registration, plans and procedures are not available.
- Lack of sufficient and adequate funding for HCWM.

Health System Profile

Timor-Leste is part of the Small Island Developing States (SIDS) and is an island on the eastern most end of the island and Oecussi, an enclave on the north-western side of the island within Indonesia. It has four levels of government administration: (1) National level, (2) Municipalities (former district / regions), (3) Administrations within municipalities (former sub-districts), (4) Villages. The country is divided into 13 municipalities. Each municipality has a capital city and is divided by administrations which are further divided by village administrative divisions (Suku).[5]

[5] Government of Timor-Leste: Administrative Division http://timor-leste.gov.tl/?p=91&lang=en, retrieved on 01.08.2023

As per the National Health Sector Strategic plan (2011-2030), the current health system configuration is based on a broad definition of access to publicly financed and delivered primary care, with essential referral care provided by regional hospitals and more specialized referral services by one national hospital. There are two levels of hospitals providing secondary care in Timor-Leste. Tertiary health care services are currently provided overseas as a result of limited technology and specialized human resources required to perform complex interventions which are the main causes of medical evacuations abroad. Primary health care services are provided through District Health Service structure, with Community Health Centers, Health Posts and outreach activities servicing geographically defined populations within framework of Integrated of Health Services Package while incorporating community health services.

Health services both preventive and curative are provided to the population through three types of health facilities, namely, national/regional/referral hospitals, community health centers and health posts (HPs). The “Hospital Nacional Guido Valadares” in Dili is the main hospital that provides secondary care and acts as the top tier referral facility for specialized services with linkages for tertiary care facilities abroad. Furthermore, five referral/regional hospitals at municipality levels are operational for secondary health service delivery. The management of hospitals is overseen directly by the MoH and the 76 Community Health Centers and approximately 333 Health Posts, which offer primary healthcare services, are under the jurisdiction of the municipality level.

The number of public health facilities organized in the tertiary, secondary and primary level is provided below:

Service level	Health facilities	Number
Hospital Care Level Services	National Hospital (Dili) Level 1	1
	Regional/Referral Hospitals Level 2	5
Primary Healthcare Level Services	Community Health Centers (CHC level 1,2 & 3)	76
	Health Posts (HP Level 1 & 2)	333

Table 1. Number of public health facilities in the country

Health Sector Mapping 2023, National Institute of Health Statistics inetl-ip.gov.tl/wp-content/uploads/2024/06/Livro-Mapa-Facilidade-Saude.pdf

Legal framework

The Constituition of the Democratic Republic of Timor-Leste is a fundamental document for the national legal framework – this includes the management of waste from the health sector. Article 57 embeds health and medical care as a fundamental right for all citizens.

In Article 61, the right to a "humane, healthy and ecologic balanced environment" is the responsibility for protecting the environment for safeguarding economic sustainability. The Program of the IX Constitutional Government contains a section on water and sanitation that sets the government's priorities and goals concerning sanitation and municipal waste management. Furthermore, the program highlights to develop the waste collection and treatment program (solid and liquid) throughout the country, especially in the capital of Dili as a priority for environment, and community health. The Government recognizes that access to regular and reliable electricity supply is a fundamental right and the foundation for Timor-Leste's economic growth.

Timor-Leste is committed to implementing the 2030 Agenda for Sustainable Development and it's all 17 Sustainable Development Goals (SDGs). The safe and environmentally friendly management of Healthcare Waste contributes directly or indirectly to Goal 3 on good health and wellbeing, Goal 6 on clean water and sanitation, Goal 8 on decent work and economic growth, Goal 12 on responsible consumption and production and Goal 13 on climate action. Climate change has a very tangible impact on SIDS – like Timor-Leste and in 2014 the "SAMOA Pathway", (SIDS Accelerated Modalities Of Action Pathway) was elaborated. Similar to the 2030 Agenda and its 17 Sustainable Development Goals, the SAMOA Pathway includes a number of areas where there is a clear scope for libraries to contribute, which also includes the management of chemicals and waste – including hazardous waste, in which healthcare waste play a critical role.

At international level, Timor-Leste has ratified multi-lateral environmental agreements and conventions relevant for HCWM:

- United Nations Framework Convention on Climate Change and Paris Agreement,
- Kyoto Protocol on Climate Change to limit and reduce greenhouse gases (GHG) emissions and the
- Montreal Protocol on substances that deplete the ozone layer.

Currently Timor-Leste is not part of other related agreements like the "Stockholm Convention," "Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal" and the "Minamata Convention on mercury", but may choose to sign these conventions in the future to demonstrate its commitment to global movements

on environmental health.

At policy level, the “National Sanitation Policy” (2012) and the “Drug and Medicine Policy” (2010) are relevant to the waste sector. To implement the international commitments and national policies several plans and strategies have been approved, in which the component healthcare waste is directly or indirectly included:

- National Adaptation Plan 2020-2030
- National Health Sector Strategic Development Plan 2011-2030
- Nationally Determined Contribution to the UNFCCC 2022-2030
- Environmental Health Strategy 2022 – 2026
- Health National Adaptation Plan for preventing health risks and diseases from climate change in Timor-Leste 2020-2024
- National Immunization Strategy 2014
- National Policy for Quality and Safety in Healthcare 2023

Additionally, various national laws on the environment and solid waste (including plastic waste) are in place. However, a specific law or regulation on HCWM is not available. The main legal document in the country is the “National guidelines for management of healthcare waste”, which was approved in 2021 and is currently under revision. This guidance outlines the classification, risks, policies, occupational safety, administrative requirements, and the steps of HCWM including waste treatment and disposal. The dissemination of the Guidelines at the field level is critical to raise awareness and to ensure successful implementation.

1.2 Purpose and scope

The management of healthcare waste is an integral part of a national healthcare system. A holistic approach to HCWM should include a clear delineation of responsibilities, waste minimization and segregation, the development and adoption of safe and environmentally-sound technologies and related infrastructure, as well as capacity building. The current situation of HCWM in the country has clear gaps, which needs to be addressed to establish a safe and environmentally friendly HCWM at national, municipal and facility level. The various national strategies and plans include HCWM assessments, and capacity building over the years. Several such initiatives have been undertaken by the Government , including the situation analysis of existing HCWM, capacity building activities, guidance notes to strengthen the regular monitoring and evaluation and efforts to manage the healthcare waste in an environmentally friendly manner. However, it is essential to intensify efforts with strong leadership and commitment.

In line with these strategies, this policy will provide the fundament of HCWM legal framework for the future and will be the leading document for the related framework of strategies, legal regulations, guidelines and operational procedures in the sector. It is providing the legal instrument for decision-makers to have the legal obligation to implement safe and environment friendly healthcare waste system. To implement this policy, a strategy and a costed implementation plan must be developed.

A safe and environmentally friendly HCWM system will reduce the health and environmental risk for the staff, patients and visitors of health facilities, the public living nearby the health settings, waste handlers outside the facilities, as well as the general public.

The scope of this Policy is the management of all waste generated in public and private healthcare settings including faith-based institutions providing health services to the population. It also incorporate the comprehensive management of healthcare waste from point of generation to final disposal, with a focus on safety and environmental protection in Timor-Leste.

1.3 Policy development process

This policy was developed in consultation with a variety of government and non-government stakeholders. This includes the Environmental Health Department of the Ministry of Health, various public and private health facilities and international partners like WHO, UNICEF, World Bank and the PacWaste Project funded by the European Union (EU) and implemented by the Secretariat of the Pacific Regional Environment Programme (SPREP). The process entailed an initial stakeholder meeting and formal consultative meetings of the WASH Working Group on the 20th of July 2023, a Validation Workshop in October 2023, various technical discussions with expert consultants' inputs. The process was technically supported and coordinated by the WHO Country Office of Timor-Leste. The draft policy was submitted and revised by the Directorate of Policy and Cooperation of the MoH for quality assurance, Office of the Director General and the Minister of Health. The Council of Directors provided recommendations and the Cabinet considered legislative and resource implications.

It is planned to facilitate the dissemination of the revised and approved policy at the Health Sector Coordination Committee and in the Joint Annual Sector Reviews. At District level and below, the policy will be disseminated during Annual Planning Reviews and at meetings of the District Technical Working Groups.

2. POLICY GOAL AND PRIORITIES

The goal of the HCWM policy is to provide safe and environmentally, sound management of HCW to prevent injuries, infections and other hazards, as well as to protect and promote public health and the environment for the sustainable development of Timor-Leste.

Protecting public health through the management of wastes can be achieved by following internationally recognized "waste management hierarchy." In this concept the most preferable option is to prevent or avoid the generation of waste at source and reduce the quantity generated by adopting different methods of safe re-use, recycling, and recovery. Proper treatment and residuals disposal are the end-of-pipe approach.
HCWM shall be planned and implemented in accordance with the following guiding principles (WHO 2014):

- "POLLUTER PAYS" PRINCIPLE implies that all producers of waste are legally and financially responsible for the safe and environmentally sound disposal of the waste they produce. This principle also attempts to assign liability to the party that causes damage.
- "PRECAUTIONARY" PRINCIPLE is a persuasive principle governing health and safety protection. It was defined and adopted under the Rio Declaration on Environment and Development (1992) as Principle 15: "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."
- "DUTY OF CARE" PRINCIPLE stipulates that any person handling or managing hazardous substances or wastes or related equipment is ethically responsible for using the utmost care in that task. This is best achieved when all parties involved in the production, storage, transport, treatment, and final disposal of hazardous wastes (including HCW) are appropriately registered or licensed to produce, receive, and handle named categories of waste.
- "PROXIMITY" PRINCIPLE recommends that treatment and disposal of hazardous waste take place at the closest possible location to its source to minimize the risks involved in its transport. Similarly, every community should be encouraged to recycle or dispose of the waste it produces, inside its own territorial limits, unless it is unsafe to do so.
- "PRIOR INFORMED CONSENT" PRINCIPLE, as embodied in various international treaties, is designed to protect public health and the environment from hazardous waste. It requires that affected communities and other stakeholders be apprised ofthe hazards and risks, and that their consent be obtained. In the context of HCW, the principle could apply to the transport of waste and the siting and operation of

waste treatment and disposal facilities.

The HCW generated, follows an appropriate and well identified stream from point of generation until its final disposal, which is composed of several steps, that includes waste generation, segregation, collection, transportation (on-site and off-site), storage, treatment, and disposal. To obtain a safe and environmentally sound HCWM system, these steps must be supported by timely procurement, adequate equipment, infrastructure, capacity building and regular monitoring and supervision. All these considerations must be embedded into a comprehensive legal framework.

To achieve the above set goals in consideration with the “waste management hierarchy” and the steps of waste management, the following policy priorities are addressed:

- To adopt healthcare waste management practices which support the international treaties and commitments.
- To consider the waste management hierarchy with focus on prevention and minimization of waste.
- To establish a comprehensive legal framework on HCWM and to ensure that HCW is inserted in the national legislation, strategies and plans of related sectors.
- To protect the environment and reduce climate impact from hazardous compounds and HCW emissions.
- To ensure the proper management of healthcare waste through availability and accessibility of required tools and equipment.
- To enable human resources handling waste adequate and safe by enhancing capacity and awareness to increase the ability to manage waste effectively and efficiently.
- To promote economically sustainable practices for healthcare waste management.

3. POLICY STATEMENT

3.1 Policy components

To achieve the goal and priorities of the policy, the following components have been identified:

1. Legal framework and responsibilities
2. Waste minimization and recycling
3. Waste equipment and infrastructure
4. Awareness, capacity building and research
5. HCWM documentation and monitoring
6. HCWM financing

3.1.1 Component 1: Legal framework and responsibilities on HCWM

Preamble: The management of HCW has been going on without adequate policy and legal frameworks to guide its implementation. As a result, the health sector has been facing various challenges in the management of HCWs, which includes inadequate administrative and institutional arrangements, poor oversight and limited regulation of the practice. There are insufficient and ineffective structures and unclear or overlapping responsibilities to effectively support provision of quality HCWM at all levels. A national strategy and facility-based waste plans for future improvements are not established. A legal framework on HCWM shall be designed to minimize or eliminate the uncontrolled dispersal of waste materials into the environment in a manner that may cause ecological or biological harm, and include laws designed to reduce the generation of waste and promote or mandate waste recycling.

Policy Statements: Develop, endorse, implement and monitor a comprehensive legal framework and define clear responsibilities on HCWM.

Strategic approach:

- Development, endorsement, implementation and regular revision of a national HCWM strategy and costed implementation plan.
- Insert the area of HCWM in future national strategies and plans of related sectors and ensure that the existing strategies and plans are implemented.
- Insert HCWM in the current legal framework on hazardous and non-hazardous waste.
- Revise facility based HCWM guidelines regularly and disseminate the guidelines to health facilities.

- Development, regular revision and distribution of standardized Safety Operation Procedures (SOPs).
- Establish a waste collection, storage, treatment and disposal strategy for pharmaceutical and chemical waste in cooperation with the relevant environmental authorities.
- Insert clear responsibilities and administrative functions to the legal instruments.
- Strengthening financial resource mobilization to implement the legal framework.

3.1.2 Component 2: Waste minimization and recycling

Preamble: The underlying principle of "Waste Minimization" is rooted in the hierarchy of controls, that prevention is very important, thus before producing waste. Waste minimization processes and practices intend to reduce the amount of waste produced. By reducing or eliminating the generation of harmful and persistent wastes, waste minimization supports efforts to promote public health. Currently the strategy of waste minimization is not a part of the HCWM practices in Timor-Leste. Recycling of plastic, cardboard and glass should be introduced as a step towards waste minimization by attracting the private recycling sector.

Policy Statement: Adopting the principles of ecological sustainable development and the UN SDGs to healthcare activities to reduce the waste generated and insert valuable waste materials back into the economy (circular economy).

Strategic approach:

- Establish an inventory of procured equipment and disposables in the health sector and identify possibilities of substitution, recycling and reuse.
- Establish a Green Procurement Policy for the health sector by minimizing the hazardous compounds and phasing out of mercury containing products.
- Institutionalize waste minimization and sustain the program.
- Initiate recycling programs and strategies and business models in cooperation with the relevant authorities and the private sector.

3.1.3 Component 3: Waste equipment and infrastructure

Preamble: The HCWM infrastructure in most facilities is dilapidated and not functioning to the required standard. This is posing a big health concern as most health care wastes are not being fully treated to ensure prevention of infections and occupational injuries to health care workers and the general public. There are inadequacies and variations in terms of the designs, siting and construction of HCWM infrastructure at various health facilities at all levels of care with respect to the HCWM demands on the ground. Most health facilities also do not

have appropriate and adequate equipment to aid in the management of HCW. Availability of adequate and reliable equipment is of utmost importance to establish and maintain a safe HCWM system. The availability and regular maintenance of equipment including waste treatment equipment and treatment and disposal infrastructure is fundamental to work in line with the legal requirements and to protect the health of staff, public and the environment.

Policy Statements: Provide sufficient and adequate equipment and infrastructure for environmentally friendly healthcare waste management. When investing in new technologies, priority consideration should be given to technologies that do not produce hazardous emissions (dioxins and furans) or other greenhouse gases.

Strategic approach:

- Regular procurement of adequate equipment and disposables for segregation, transport, storage and treatment of waste.
- Provide adequate infrastructure for waste storage, housing of waste treatment equipment and the disposal of waste.
- When investing in new technologies, priority consideration should be given to technologies that do not produce hazardous emissions (dioxins and furans) or other greenhouse gases, by gradually phasing in and expanding the use of non-incineration technologies for the treatment of infectious and sharp waste.
- Waste incinerators treating hazardous waste from the health sector, shall comply with international and national standards on best available technologies (BAT) and best environmental practices (BEP) guidance.
- Ban open burning or burning of hazardous medical waste on dumpsites.
- Establish and implement a facility-based repair and maintenance plan for waste equipment and infrastructure.
- Transporting hazardous healthcare waste on public roads and by sea shall be in accordance with national and international requirements.

3.1.4 Component 4: Awareness, capacity building, and research

Preamble: There is generally low capacity for the management of HCW among frontline health workers charged with handling HCW in various health facilities. These limited health care wastes handling skills are negatively impacting the quality of HCWM services at all levels of care. The general public is also not adequately made aware of the health hazards that HCW poses both to human health and the environment at large. Awareness, training and continuing education are integral parts of the HCWM system. The capacity on HCWM of staff working in the health sector in Timor-Leste is weak and needs to be strengthened.

Health risks as well as the environmental threats by improper HCWM and the impact on climate change must be known by waste handlers and the public. Additionally, there is a need to invest on research on adequate waste management system for the specific needs of Timor-Leste.

Policy Statements: Improve and institutionalize HCWM training on national, municipal and facility level and conduct regular awareness raising events to sensitize the people of Timor-Leste on the need of safe and environmentally friendly HCWM. Research is of important to plan and establish the Best Available Technology in the context of the country.

Strategic approach:

- Training Institutions and Universities in Timor-Leste, responsible for educating health workers shall insert and update health care waste management modules into their educational programs.
- A certification system for responsible staff in health facilities shall be established on HCWM.
- A national training manual and modules shall be developed, which needs to be followed for waste handlers in the health sector.
- Medical and non-medical staff are required to be trained regularly on HCWM by the relevant authorities and the responsible persons on HCWM in the facilities.
- The inspectors and other relevant authorities shall be trained on the specific tasks on HCWM.
- Awareness campaigns at health facility and community level on HCWM shall be conducted to encourage staff and patients and the public to understand the potential health and environmental risks from unsafe HCWM.
- Research on safe and environmentally friendly healthcare waste management needs to be conducted and promoted.
- Innovative technologies and environmentally friendly solutions on HCWM shall be promoted.

3.1.5 Component 5: Documentation, monitoring and contracting

Preamble: Waste documentation including data management and regular monitoring are important elements for effective management of waste. The inventory of available infrastructure and equipment as well as information about planned activities and current waste practices, enables the national and municipal level to plan the needed improvements and human capacities more efficiently. Monitoring is important to enforce current legal requirements and continuously improve the quality of HCWM. As HCWM is the responsibility

of different authorities and institutions; responsibilities, tasks and duties need to be clearly defined to avoid overlapping. Outsourcing of housekeeping and waste handling staff in the health sector is a frequent practice in Timor-Leste. It is important to outline clear requirements of the requested services and contract penalties to ensure high quality services.

Policy Statements: Establish a data collection and documentation system for infectious and sharp waste and implement a reliable national wide monitoring system, to plan on needed and adequate waste infrastructure and equipment, as well as enforce to safe and environmentally friendly waste management in the health sector.

Strategic approach:

- Develop a national, municipal and facility-based reporting and monitoring waste system for infectious and sharp waste.
- Insert HCWM indicators in the Timor-Leste Health Information System and relevant accreditation systems.
- A national healthcare waste management monitoring system and plan shall be developed and established. Data shall be collected on how health care facilities and/or institutions are implementing their health care waste management programs and activities countrywide.
- Develop and implement a testing and monitoring system for non-incineration technologies to prove the effectiveness of the process on regular basis.
- The generators of health care waste shall provide periodic waste management plans and report on the healthcare waste to the relevant department of the MoH and the relevant environmental authorities.
- External Companies contracted to handle health care waste related activities on behalf of a health care facility shall comply with the national and local health, safety and environmental regulations and requirements.
- The outsourcing entity shall be responsible for the supervision of outsourced services of the health facilities and shall have the right of using a penalty system.
- The outsourced entity should prove their competency by providing the required licenses and permits.
- Waste management contractors for transporting, treating or disposing healthcare waste shall be registered and licensed by the relevant ministry.

3.1.6 Component 6: HCWM financing system

Preamble: Safe and environmentally friendly waste management can only be realized by providing sufficient funds to ensure the implementation and maintenance of an adequate HCWM system in the country. Currently the funds are lacking. A sustainable annual budget must be made available. Consequently, each HCF should be financially responsible for the safe management of any waste it generates, and the related financing entity shall consider the financial requests of the facilities. This is in accordance with the widely accepted "polluter pays" principle and the obligation of the duty of care.

Policy Statement: Development, implementation and monitoring of a sustainable financing system for HCWM at national, municipality and facility levels.
Strategic approach:

- The government shall provide adequate budget for the public health sector on annual basis.
- Government facilities shall calculate an annual budget for the purchase of disposables, capacity building activities and necessary investments requirements for safe and environmentally friendly health care waste management.
- Non-Governmental Organizations (NGOs), international organizations, individuals and companies, owning and financing health facilities in Timor-Leste shall ensure sufficient budget for the management of health care waste to comply with this policy and the related legal requirements.
- All health care waste management documents including strategies, plans, and standards need to be aligned with this policy and should be reflected in the ministries budget.

3.2 Management Arrangements and responsibilities for Implementation

Intersectoral collaboration is necessary for the effectiveness of the HCWM implementation since the key players come from different ministries with their individual command structure. The relevant departments and divisions of MoH are responsible for the implementation of this policy in terms of enforcement and monitoring. The MoH needs to collaborate and coordinate the health care waste related activities with other related ministries and stakeholders. The MoH shall establish a Technical Working Group to coordinate and manage the implementation of this Policy.

3.2.1 Ministries

Ministry of Health

- Overall responsibility of HCWM.
- Development of the legal framework and standards on waste management generated in the health sector and development of implementation strategies.
- Provision of sufficient and reliable budget for the safe and environment friendly set up and operation of waste management at health care facilities.
- Specify, identify, procure, and supply of waste equipment and infrastructure for health facilities.
- Monitor the health facilities on the status of implementation of the healthcare waste management in accordance with the policy, guidelines, and SOP's.
- Collection and analysis of HCWM data and practices to demonstrate the safe and environmentally safe management of health care waste.
- Responsibility for health facility infrastructure (waste storage, incineration housing, disposal pits etc.
- Set up information, education and communication strategies which shall be used to educate the public on the importance of HCWM and the role of society in advocating for and ensuring effective implementation.
- Provision of technical knowledge and capacity development support to public and private hospitals, clinics and other health facilities.
- Develop and implement vocational training programs for medical and non-medical staff.

Ministry of State Administration

- Overall responsibility for the management of non-hazardous and other hazardous waste
- Overall responsibility of coordination with municipal authorities to ensure Municipal Health Services integrate HCWM into their plans.
- Transport of hazardous waste/goods on public roads.
- Development of necessary regulatory tools for municipal non-hazardous and hazardous waste.
- Development and implementation of national hazardous waste management strategy.
- Monitor the hazardous waste management in the country.
- Planning and development of solid non-hazardous municipal waste management systems.
- Providing capacity building, infrastructure and equipment for non-hazardous municipal waste management.
- Responsibility for collection and disposal of general waste.

Ministry of Tourism and Environment

- Overall responsibility for the monitoring, regulation and law enforcement of other hazardous waste (Chemical, oil, mercury containing the devices etc.)
- Responsibility to provide the legal framework for hazardous waste (chemicals, oil, mercury containing devices etc.)
- Develop strategies for waste minimization, recycling and reuse for economically sustainable practices of HCWM.

Ministry of Education and Ministry of Higher Education

- Revise and approve the curricular of medical schools and universities in the country in cooperation with the MoH to incorporate HCWM curriculum in the course

Ministry of Planning and Strategic Investment

- Responsible for guaranteeing the planning and the provision of integrated annual budgets, in line with the national and municipal priorities.

3.2.2 Municipalities

- Responsibility of the management, collection and disposal of solid waste in respective areas including the waste generated in health facilities.
- Planning and construction of waste management infrastructure and procurement of waste management equipment for the public primary facilities.
- Regular monitoring of the preventive waste equipment service and maintenance in primary health facilities.
- Provide annual budget for primary health facilities – including HCWM.

3.2.3 Public and private healthcare facilities

- The management authorities of the health care facilities are responsible to implement the policy and strategy at facility level. The Management Authority, Director and/or similar position of the health care facilities has the overall responsibility for the management of waste within the facilities and to implement the policies, laws and guidelines provided by the government.
- The management of each health facility has to appoint one person to be responsible for waste management within the facility.
- All health facilities are responsible for the safe management of health care waste in an environmentally sound manner that minimizes the risk to the community and staff involved in its management.
- All hospitals must develop a Healthcare Waste Management Plan as part of an

overall environmental management system, unless exempted by the responsible authority. The Plan needs to be updated yearly.

- Institutionalization of training programmes for clinical and non-clinical staff and routine supervision.
- The types and quantity of hazardous healthcare waste generated in the facility need to be documented and reported to the relevant departments of the MoH on monthly basis.
- To supervise and monitor healthcare waste management procedures onsite and to ensure that the procedures are in accordance with the relevant legal requirements.
- To calculate the annual budget for HCWM of the health facility including capital, operation, maintenance costs as well as human resources.
- To promote waste minimization, recycling and green procurement.

3.3 Resources Mobilization

The Ministry of Health will take lead in the overall coordination for the implementation process at all levels of health care service delivery:

- MoH will provide the required strategic leadership and will ensure a conducive environment in collaborative efforts with stakeholders in resource mobilization, capacity building, public awareness, monitoring and reporting of HCWM activities.
- MoH will develop a costed action plan to implement this policy and will provide support to public hospitals, clinics and other health care institutions to develop and subsequently secure adequate budget provisions to implement the planned and approved Healthcare Waste Management interventions.

Furthermore, the following stakeholders play the following roles in the policy implementation process:

- All relevant ministries and relevant stakeholders should mobilize the necessary human resources, material, and finance for the implementation of this policy as a part of their responsibility in the designated area.
- All relevant ministries and other stakeholders should ensure that qualified personnel are in place to implement this policy.
- Implementation of this policy shall be funded primarily by the government of Timor- Leste with contribution from development partners, individuals and the private sector when applicable, considering the need to envision long term benefits towards economic efficiency through optimal use of resources.
- The implementation shall follow the partnership approach in which the different relevant governmental authorities, communities and councils, national and international organizations, and the private sector shall be considered.

Review of the Policy

The policy review will commence either at the end of the implementation period or within five years, whichever comes first, to ensure a succession policy is in place when the current implementation period concludes. The succession policy will be informed by the lessons drawn from the monitoring and evaluation of this policy.

4. ANNEXES

Key Stakeholders that contributed to the development of this policy

1. Mr. Ivo C. Lopes Guterres, MoH
2. Mr. Natalino Lopes, Journalist of STL
3. Ms. Denia Soares, Journalist of STL
4. Mr. Alexandre Verdial, Private Clinic Moris foun
5. Mr. Joao B. M. Cardoso, Municipality Health Services of Bobonaro, MoH
6. Ms. Cesaltina Fraga Ornai, DPHO Environmental Health of Baucau, MoH
7. dr. Gabrielada C. H Pereira, Director Executive of Referal Hospital Maubesi, MoH
8. Mr. Joni Alves dos Santos, Director Municipality Health Services of Ermera, MoH
9. Ms. Julieta A. Petiunaung, DPHO Environmental Health of Bobonaro
10. Mr. Vitor Martins, DPHO Environmental Health of Manufahi
11. Mr. Leoncio A. Soares, DPHO Environmental Health of Manatuto
12. Mr. Alfredo Jorge, DPHO Environmental Health of Lautem
13. Mr. Rogerio d.s. Amaral, Technical staff Ministry of State Administration
14. Mr. Pedro da Silva Pereira, Director of Municipality Health Services of Viqueque
15. Ms. Margarida dos Santos, Head of Department, Ministry of State Administration
16. Mrs. Maria Odete B. Florindo, General Director of Ministry of State Administration
17. Mr. Augusto de Jesus, CHC Manager of Maubara, Liquica Municipality
18. Mr. Bento da Silva Soares, DPHO Environmental Health of Liquica Municipality
19. Mr. Marcelo do Rego, Lowers assistance of MoH
20. Mr. Anacleto M. Guterres, Private Clinic Chindranita
21. Mr Jacinto Caet, Journalist of Timor Post
22. Mrs. Ana Rosario da Silva, Journalist of TVE
23. Mr. Antonio B. Ximenes, DPHO SMS Ainaro
24. Dr. Oris de Alberto, Director of SMS Liquica
25. Mr. Agustinho da Costa, Director of SMS Aileu
26. Mr. Angelino da Silva, Officer EH SMS Viqueque
27. Mr. Anastacio da Cruz, Director of SMS Lautem
28. Ms. Cesaltina Pinto Soares, Program officer Surveillance, MoH
29. Mrs. Rita de A. do Rego, Head of Department DNFM MoH
30. Mrs. Felicidade Ximenes, Journalists Tatoli
31. Mr. Rogerio da Silva Amaral, Technical MAE
32. Mr. Anacleto A. Guterres, Chief Department of program SMS Dili
33. Mrs. Julieta da C. Soares, Secretary, MAE
34. Mrs. Maria da Conceicao, Administration of MAE
35. Mrs. Margarida dos Santos, Head of Department MAE
36. Ms. Natalina Lopes, Journalist STL

37. Mr. Antonio B. S, Director DNSOU/ MAE
38. Mr. Jacinto Rodrigues, Private clinic
39. Dr. Abgel de Aflay, DNASH/MoH
40. Mr. Graciano Guterres, Officer Health Education and Promotion, MoH
41. Mrs. Luzia F. Coutinho, Officer Health System MoH
42. Mr. Joao B. M Cardoso, Director of SMS Bobonaro
43. Ms. Jesuina S. C Gusmao, Health Officer WaterAid
44. Mr. Mateus Vicente, Director of SMS Manatuto
45. Mr. Alfredo Jorge, DPHO EH SMS Lautem
46. Mr. Agustinho da Costa, Director of SMS Ainaro
47. Dr. Artur S. Martins, Head of CHC Maubisse
48. Ms Maria de Fatima Moniz, Director of SMS Covalima
49. Me. Angelica da S. dos Reis, Head of CHC Saint Joaquim Maubisse
50. Dr Evangelino R. Soares, Director of Referral Hospital Baucau
51. Mr Dominogos R. da C. Guterres, Director of SMS Baucau
52. Mr. Agustinho Mendonca, DPHO SMS Aileu
53. Mr Josezinho da Costa, Maintenance of Maternity Fatumeta
54. Mrs Adelgiza Soares, Volunteer BESI TL
55. Mr Jose Marcal da Cruz, Director of SMS Maliana
56. Mr Santino Eto, Private Clinic Stamford
57. Dr Geraldo F. da Cruz Caerdoso, Director of Referral Hospital Covalima
58. Ms Efiana de Jesus, Journalist SMnews TL
59. Mrs Junita Castanheira, CARE
60. Manuel de Jesus, Director of SMS Aileu
61. Mr Deonisio Freitas Barreto, DPHO SMS Covalima
62. Ms Florencia Corte Real Tilman, Director of SMS Manufahi
63. dra. Merita A, Monteiro, President of INSPTL
64. dr. Frederico Bosco A. dos Santos, General Director of Scientific, INSPTL
65. dr. Filipe de Neri Machado, National Director Of Public Health, INSPL
66. Mr. Ivo Ireneo, National Director of Partnerships, INSPTL
67. Mrs. Misliza Vital, Head of Health Promotion and Education
68. Mr. Holderico, WASH Officer UNICEF
69. Mrs. Angelica, UNICEF
70. Mrs. Maria Natalia, Head of M&E, MoH
71. Mr. Delfin Freitas, National Director of Pharmacy and Medicines
72. Mr. Natalino de Araujo, Director of Legal Cabinet, MoH
73 Mr. Marcelo da Rosa, Legal Advisor, MoH
74. Mr. Abel D. de A. F. Lay, MD, DNASH, MoH
75. Mr. Jose Felix C. F, Cabinet of Deontological Ethics Quality Assurance, MoH

76. Dr. Cecilia Lopes, Former Head of department of Quality Control, MoH
77. Mr. Ubaldo Savio S. F. de Sousa, GIS PMU, MoH
78. Mrs. Eldercia de Araujo F. Soares, Staff DNALP, MoH
79. Mr. Manuel Sousa, Official DNALP, MoH
80. Mr. Jose Mausec, World Bank
81. Mrs. Tomasia de Sousa, Superior Technician, MoH
82. Mr. Agostinho de Oliveira, Professional Technician, Moh
83. Mr. Elisia Ximenes dos Santos, Climate Change and Health Officer, MoH
84. Mr. Octavio Pinto, Vector Control Officer, MoH
85. Mr. Francisco Oliveira, Professional Technician, MoH
86. Mr. Paulo da Costa do Rego, Waste Management Unit Officer, MoH
87. Mrs. Eva Merita Magno, Water Safety Plan Officer, MoH
88. Mrs. Eva da Silva, Finance Officer EHD
89. Mrs. Martinha R. da C. Salu, Air Pollution Officer


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