

## Project Case Study - Madagascar

# CHUJRA as the pilot of the central medical waste treatment in Madagascar

### Background

The Ravoahangy Andrianavalona Hospital, or CHUJRA, was built in 1965 and it has been devoted to surgical and para-clinical exploration. Now a Centralized Treatment Facility, the hospital disinfects more than 200 kg of health care waste per week from private hospitals in Antananarivo. Previously, the health staff were using incinerators.

In Madagascar, incineration and open burning are the most widely used and known disposal technologies for infectious waste—resulting in significant release of unintentional persistent pollutants (UPOPs). Exposure to UPOPs may lead to several types of cancers and the impairment of the immune system, the nervous system, the endocrine system, and the reproductive functions.

The 2011 assessment<sup>1</sup> showed that a large percentage of hospital centres also use their incinerators to burn municipal waste. Although the assessment results indicated that segregation was practiced at certain HCFs quite well, the fact that this waste ends up being burned in incinerators or in the open, is likely due to the fact that some infectious components end up mixed in with the municipal waste stream.



Therefore, Reducing Unintended Persistent Organic Pollutants (UPOPs) and Mercury Releases from the Health Sector in Africa—GEF/HCWM—project aims to promote the use of non-incineration technologies—autoclaves—that will generate significantly less air pollutants.

### Approach

With the support of the GEF/HCWM project, implemented by the United Nations Development Program (UNDP), health care waste management is shifting from incineration to heat sterilization—a better environmental practice. This shift is realized by the installation of an autoclave, a waste sterilization machine. Infectious health care waste includes syringes, gloves and other medical tools that have been in contact with patients and are possibly infectious. They are sorted immediately after use at the patient treatment room so they can be collected and transported to the autoclave to be disinfected.



### Outcomes

The sterilization of infectious waste without incineration is one of the most environmentally friendly technological breakthroughs in Madagascar. This allows the GEF/HCWM project to consider it a best environmental practice. The autoclaved waste can be recycled without risk of disease contamination. Therefore, the idea of recycling waste into building materials could not be ruled out.

<sup>1</sup>“Report on the Evaluation of the experiences and Monitoring in the area of Waste Management in Madagascar” (MoSP, April 2011).

## Challenges and lessons learned

Since the installation of the autoclave in January 2018, CHUJRA has been treating up to 2.5 tons of infectious waste per month. Eleven health establishments, including the Tsaralalàna Mother and Child Hospital—one of the beneficiaries of the project—are collaborating with the JRA Hospital in this activity. The GEF/HCWM project supports the operationalization of the device by providing plastic bags and garbage bins to facilitate sorting. The CHUJRA autoclave is capable of handling up to 68 kg of waste and 1300 litres of water.



Lala, the operator agent, explains his day: *"From 7 a.m. to 3 p.m., I perform an average of three operations depending on the volume of waste. To be precise,"* he says, *"waste cannot be stored for more than 24 hours or it could spread germs and bacteria."*

## **Project Overview**

**Project:** GEF-financed UNDP-supported regional project: "Reducing UPOPs and Mercury Releases from The Health Sector in Africa"

**Objective:** Implement best environmental practices and introduce non-incineration healthcare waste treatment technologies and mercury-free medical devices in four Sub-Saharan African countries to reduce harmful releases from the health sector

**Financing:** \$ 6,453,195 (GEF financing)  
\$ 28,936,164 (co-financing)

**Term:** December 2015 until December 2020

**Agency:** UNDP Istanbul Regional Hub for ECIS

**Partner:** WHO - World Health Organization  
HCWH - Health Care Without Harm

**Countries:** Ghana, Madagascar, Tanzania, Zambia

**Executing Agency:** Ministry of Public Health, Madagascar  
Ministry of Environment, Madagascar

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