Reducing UPOPs and Mercury Releases from The Health Sector in Africa

Results and lessons learnt, long-term sustainability, repository tools for greener HCWM

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GEF-HCW Kazakhstan – a success story

Project: "NIP update, integration of POPs into national planning and promoting sound healthcare waste management in Kazakhstan"

Duration: Oct. 2013 to Sept. 2017; Budget: $3,4 Million

Baseline:

- Small scale incinerators were the ruling solution for HCW treatment in Kazakhstan with extreme high amounts of UPOPs
- Low country capacity in the management of hazardous HCW
- Large, logistically challenging country
- Missing regulation and guidelines
- No environmental monitoring for HCW

GEF-HCW Kazakhstan – a success story

Selected Results:

- National Implementation Plan (NIP) was updated on new POPs and on uPOPs
- Country plans to ratify the Minamata Convention and the Project can be credited for this
- 18,042 mercury-contained thermometers have been replaced
- Completion of installation and commissioning of 10 non-burn equipment in eight (8) pilot project areas

GEF-HCW Kazakhstan – a success story

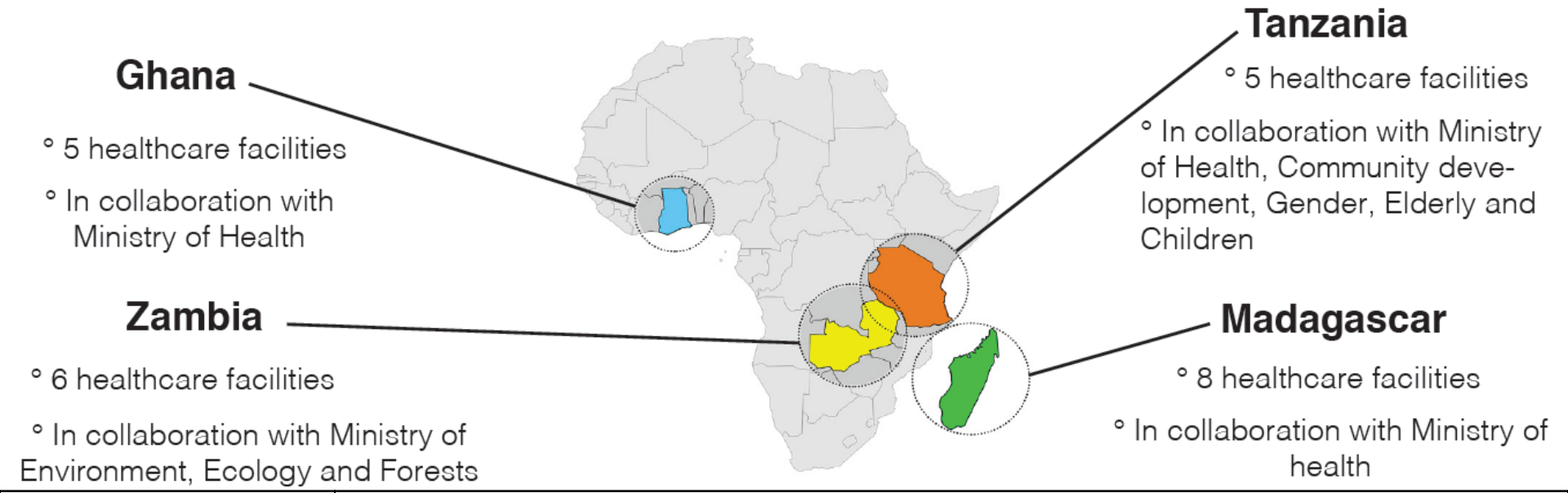
Lessons learned:

- **Legislative challenges** related to private sector's involvement in HCW business are to be expected and have to be addressed from an early stage of a project.
- **Early procurement of equipment** required to not limit sharing results of the pilots
- **Low prices of old combustion technologies** for healthcare waste treatment is a main risk for further promotion
- Providing assistance on **accreditation** and advising on equipment for the existing testing laboratories

HCW-Africa: Overall project objective

…to implement best environmental practices and introduce non-incineration healthcare waste treatment technologies and mercury-free medical devices in four Sub-Saharan African countries (**Ghana, Madagascar, Tanzania and Zambia**) to reduce harmful releases from the health sector.

Duration: April 2016 to April 2020; Budget: $6,4 Million



Base line in the countries…

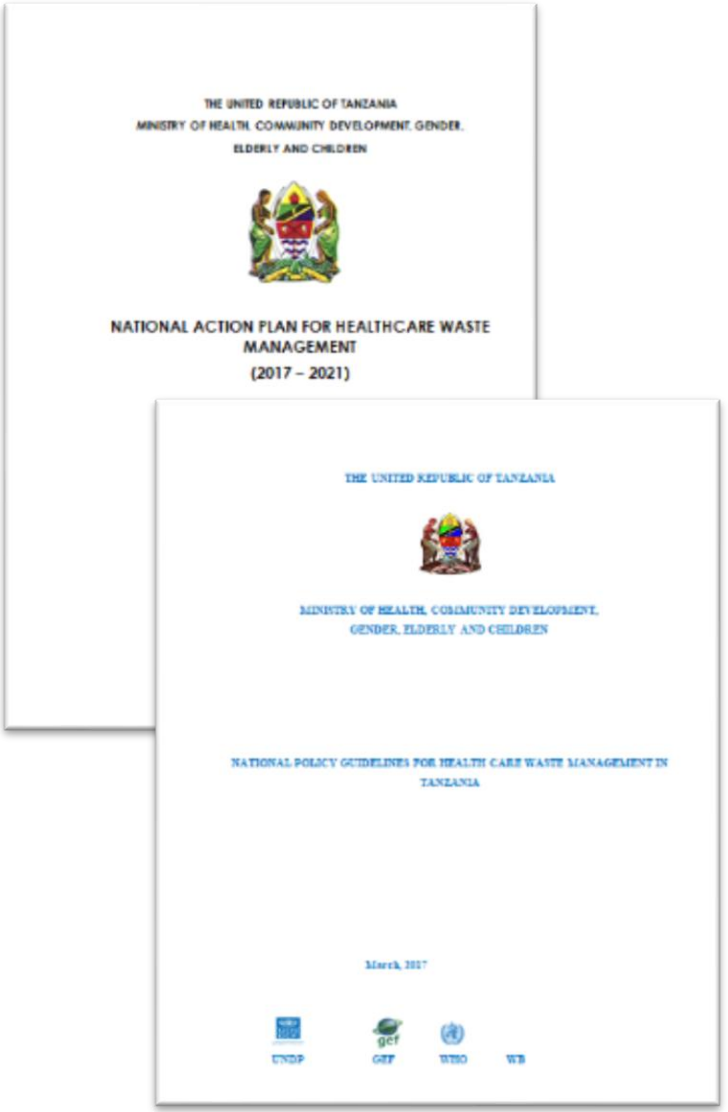
Challenging projects need creative approaches …

- Started to develop an exit strategy already during the inception phase
- Taking into consideration lessons learned from other GEF-HCW projects (Kyrgyzstan, Kazakhstan, Africa Med-Waste project)
- **Cooperation with on-going GEF-HCW projects (Jordan, Egypt, Kenya) for experience exchange**
- **Rapid capacity creation for master trainer and key stakeholders in the project countries**
- **Early supply of demonstration technologies to gain experience, overcome barriers, collect operation know-how and develop local capacities**
- **Strict project management to ensure on-time closure of the project**

Legislative Framework in Africa

Development of Healthcare Waste National plans, implementation strategies, and national policies in each recipient country

- National **policy and regulatory framework** for HCWM and mercury phase-out are already in place in three countries.
- Supporting documents, guidelines, **SOPs** introduced in all countries.
- New legal framework well accepted and currently under implementation.
- Enforcement of the new legal system started.
- **New legal system** is the base for future budgeting and decision making



Capacity building activities

Building capacity to assess, plan, and implement healthcare waste management (HCWM) and the phase-out of mercury.

- Technical guidelines and SOPs were developed
- ToT training for national experts (duration 2 weeks) already carried out in the end of 2016
- Participatory approach: Items and equipment specifications commonly standardized for all countries
- Development of training videos (maintenance, testing):

Check YouTube Channel:

"Green HealthcareWaste"

Demonstration of BAT for HCW

- Carried out need assessment in the countries, including full infrastructure assessment (water, electricity, sewage)
- Preparation of specification and infrastructure requirements for installation sites (buildings) – all infrastructure was constructed & financed as project contribution by the partners
- Including of equipment for infrastructure improvement and maintenance (water, electricity)
- Selection of equipment by countries based on standardized items and international technical specifications (BAT)
- Including of “minor” equipment such as PPE, waste logistic equipment, equipment for operation of central treatment centers
- **Result: All equipment of the first phase was commissioned as planned in Summer 2018 and is fully operational. Countries are able to plan, tender and commission new sites.**

Building synergies with other sustainable development, innovation, and the green economy such as ***Sustainable Health in Procurement Project (SHiPP) combining environmental, social sustainability***

18 autoclave systems in 4 Countries

Duplication & Follow up projects

Zambia: need for additional treatment systems

- Support in proposal writing (Italy)
- Support of duplication within ongoing projects (e.g. EIB, CDC, World Bank) …

Ghana: under-utilized central autoclave in Accra (Zoompak,PPP)

- MoU on cooperation instead of competition was signed
- Improvement and enforcement of legal framework
- Awareness raising activities for HCFs
  - Increased number of HCF signing contracts w/ Zoompak

Discovery of new interventions

Tanzania: bio-digester was constructed for the treatment of pathological waste and kitchen waste

- Bio-gas is produced and used for water heating
- A second bio-digester was requested and will be installed in 2019

Madagascar: The pilot facilities were not able to finance the operation cost for waste treatment.

- Small, rural healthcare facilities: Provision of photovoltaic to compensate electricity consumption
- Larger, urban hospitals: Insourcing of waste treatment services

Minamata – Mercury reduction

Project achievements

- In all four countries, so far 3,538 non-mercury containing thermometers and sphygmomanometers are distributed and in use
- All pilot facilities will be **mercury-free** in 2020 + future imports of Hg products banned
- The health systems are enabled to procure and validate high quality, non-mercury alternatives fit for medical usage.
- The training curriculums of nurses and physicians changed and include now usage of digital thermometers and sphygmomanometers
- A system for the collection and safe interim storage of existing mercury containing waste is set up in the countries

Key Lessons:

- The sustainable introduction of alternative treatment technology in the health sector requires:
  - Creation of a framework to enable **sustainable, innovative procurement and communication** (replication)
  - Building capacity to allow **beneficiaries** to select sustainably manufactured, right equipment (ownership)
  - **Standardization of equipment** and development of acceptable, international **technical specification** for procurement
  - Consideration of the **existing** infrastructure and maintenance capacities
  - Selection of equipment under consideration of BAT aspects and **affordability** (operation costs, maintenance) including introduction of environmental and social dimensions of manufacturing practices

Message to be taken home…

- **Results** on regional Africa project:
  - Successful introduction of non-incineration technologies and progress in overall healthcare waste management practices at model facilities in all 4 project countries
  - Progress on HCWM legislation and enabling environment for non-incineration technologies

- **Challenges** on long term sustainability:
  - Waste segregation and treatment in small, rural healthcare facilities and post-treatment challenges
  - Long-term maintenance of equipment and importance of full cost analysis for treatment technologies
  - Post treatment disposal of autoclaved HCW

- **Repository of key resource documents** availble to all countries

Breaking news…

BBC, April 2019: ….The number of measles cases reported worldwide in the first three months of 2019 has quadrupled compared with the same time last year, according to the World Health Organization (WHO)….. Africa had witnessed the most dramatic rise - up 700%. Since September, ***at least 800 people have died from measles in Madagascar*** alone….

The MoH is currently carrying out a measles vaccination campaign in Madagascar in cooperation with WHO.

Project contribution:

- The campaign results in huge amounts of HCW to be treated
- Project Pilot facilities volunteered to collect and to treat the waste in the new treatment facilities
- **Vaccination waste was safely collected and treated in environmentally friendly manner**
- Production of UPOPs from vaccination waste was reduced