



## ENHANCING PESTICIDE LIFE-CYCLE MANAGEMENT AND TREATMENT OF PESTICIDE CONTAMINATED SITES IN BOTSWANA

The Government of Botswana has made efforts in recent years to improve the control of pesticides in the country. In addition to ratifying international agreements, it enacted the Waste Management Act in 1998 and the Agrochemicals Act in 1999. However, there was little evidence of the enforcement of these regulations, and a review of their relevance and application was needed. In addition, serious gaps in the ability to control all aspects of the pesticide life cycle were identified. Against this background, the project sought to reduce the risk to public health and the environment posed by poor pesticide management and obsolete pesticide wastes, by building capacity to effectively manage pesticides and avoid future accumulation of obsolete pesticides stocks, identifying Highly Hazardous Pesticides (HHPs) used in Botswana, and updating the pesticides regulatory system to phase out HHPs.



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### WHAT DID THE PROJECT DO?

National pesticide regulatory capacity for sound life-cycle management of pesticides in Botswana was considerably strengthened; and the country now has a strong cadre of pesticide risk managers, who are aware of both international best practices and national needs. These results were achieved through a number of activities, including the revision of the Agrochemicals Act 1999, the establishment of fully integrated legislation and regulations to allow for complete pesticide life-cycle management, and the provision of long and short-term training sessions. Through the project, Botswana became one of the first few countries to address HHPs globally. A mitigation plan for HHPs was developed, and its implementation was initiated, with regulatory actions taken on five HHPs (including banning and severe restriction). Over 60 tonnes of obsolete pesticides stockpiles and contaminated seeds were disposed of in an environmentally sound manner; and a system for the treatment of stockpiled containers was developed. In addition, awareness was created on the risks associated with the reuse and inappropriate disposal of pesticides through the elaboration and implementation of a pesticide risk reduction communication strategy.

### IMPACT

The project successfully contributed to reducing the risks to public health and the environment posed by poor pesticide management and obsolete pesticide management waste.

### KEY FACTS

**Contribution**

USD 1 362 999

**Duration**

1 February 2012 – 31 December 2018

**Resource Partner**

Global Environment Facility (GEF)

**Partners**

Ministry of Agricultural Development and Food Security

**Beneficiaries**

Policy-makers within several Botswana ministries (Agriculture, Environment, Health, Interior, Finance, Justice, etc.) concerned with improved waste management and capacity building; national staff from several ministries; pesticide importers, users, formulators, distributors and dealers; national authorities involved in the control of hazardous waste disposal and environment management; men, women and children living in the neighbourhoods of contaminated sites

## ACTIVITIES

- Environmental Assessments and Management Plans completed for each waste stream (obsolete pesticides and associated plastic wastes, contaminated seed, and contaminated sites).
- Environmental assessments conducted for five pesticides storage sites (Maun, Tutume, Sebele and Kasane) believed to be highly contaminated with Persistent Organic Pollutants (POPs) and other pesticides residues. Decontamination was only required for Sebele, for which bioremediation was selected as the most suitable treatment.
- Review of the Agrochemicals Act of 1999 and submission of the Draft Bill to the Government for internal approval and adoption.
- At the end of 2014, 29.5 tonnes of obsolete pesticide wastes were shipped to the United Kingdom for sound disposal through high temperature incineration.
- Thirty-five tonnes of contaminated seeds, with no detectable active ingredient levels, used as additional organic matter for the bioremediation of contaminated soil at Sebele.
- Feasibility study conducted for piloting sustainable national empty pesticides containers (EPCs) strategy; and business model for dealing with EPCs developed on the basis of this study.
- Thirteen enumerators recruited for HHP work and nine Plant Protection Division (PPD) staff members trained on HHP identification and survey methodology.
- HHPs identified, needs and risk assessment conducted (qualitatively through a national survey and quantitatively using occupational risk models); preliminary HHP risk mitigation plan elaborated.
- Thirteen project assistants and two officers trained on the bioremediation process and safety in the workplace.
- Twenty-five participants from PPD, Agrochemicals Committee, Ministry of Environment, Wildlife and Tourism and Ministry of Health trained on FAO Pesticides Registration Toolkit. The toolkit was then adopted by the Registrar of Agrochemicals for pesticides registration in the country.
- National communication strategy for pesticide risk reduction elaborated and some pesticide risk communication products developed for various target audiences.
- Review of pest and pesticide management in Botswana conducted, culminating in drafting of Pest and Pesticide Management Strategy, which will be used as an implementing instrument under the National Policy on Agricultural Development (NPAD).



### Project Code

FAO: GCP/BOT/011/GFF

GEF ID: 3985

### Project Title

Demonstration project for decontamination of POPs contaminated soils using non-thermal treatment methods

### Contact

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