

Republic of Mauritius

Country Presentation

Country Highlights and Expectations For GMP Phase II

By

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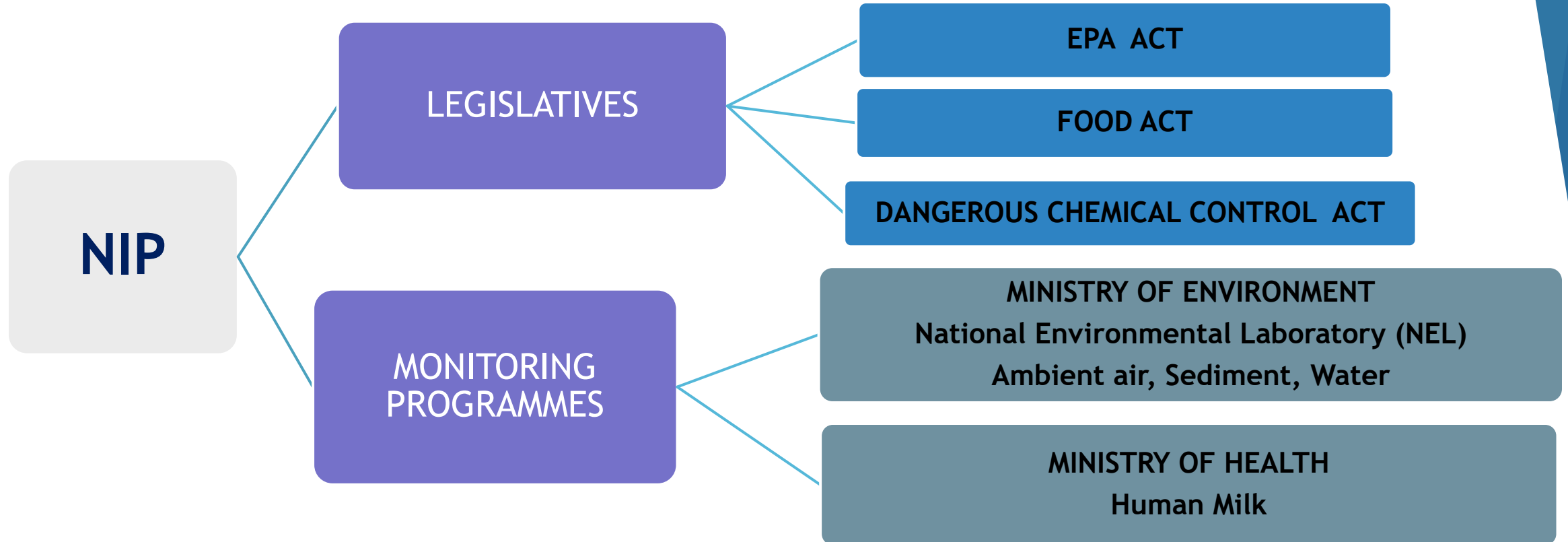
July 2016

National Coordinating Body

- ▶ The Ministry of Environment
 - focal point for Stockholm Convention in Mauritius.
 - coordinating body for the UNEP/GEF project.
- ▶ The National Project Coordinator for all POPs projects

Mrs. D. Lan NG Yun Wing, Director of Environment
Ministry of Environment and Sustainable Development and Disaster and Beach Management

National Implementation Plan for POPs



National Environmental Laboratory (NEL)

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graph TD; NEL[National Environmental Laboratory (NEL)] --> Water[Water Monitoring:]; NEL --> AAQM[Ambient Air Quality Monitoring]; Water --> GWC[General Wet Chemistry Section]; Water --> Micro[Microbiology Section]; Water --> LCC[Liquid Chromatography Section]; Water --> TMS[Trace Metal Section]; Water --> EPA[Data compared with Standards of the EPA 2008]; AAQM --> MS[Mobile Stations]; AAQM --> FS[Fixed Stations]; AAQM --> PE[Portable Equipment];
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Water Monitoring:

General Wet Chemistry Section

Microbiology Section

Liquid Chromatography Section

Trace Metal Section

Data compared with Standards of the EPA 2008

Ambient Air Quality Monitoring

Mobile Stations

Fixed Stations

Portable Equipment

MONET Africa Project- Ambient Air Monitoring

- ▶ Participated in first MONET campaign in 2008.
- ▶ Exposed Passive samplers were sent to RECETOX in Czech Republic.
- ▶ Now participating in the fourth MONET sampling campaign



GMP Phase I

- ▶ Participated in GMP Phase 1 (2009-2012)
- ▶ Mauritius contributed background data of the 12 POPs in ambient air and human milk to the GMP.
- ▶ The GMP phase I helped Mauritius to build capacity of national laboratories (NEL & GAD) in the extraction and analysis of POPs in ambient air and human milk.

GMP phase I

Summary of Findings of GMP Phase 1 Regional report

- ▶ Basic POPs detected in the ambient air of Mauritius were DDTs and HCBs.
 - Range for DDTs was 11.3-22.2 ng/filter
 - Range for HCBs 1.6-2.5 ng/filter
- ▶ PCBs were detected in the range of 2.5-14 ng/filter.
- ▶ Dioxin-like POPs was detected at a concentration of 62 pg/filter.

Country Highlights

SN	Persistent Organic Pollutants (POPs)	Regional Report (2010-2011)	Monet report (Jan-July 2008)
1.	DDTs	11.3-22 ng/filter	3.8-21.3 ng/filter
2.	HCBs	1.6-2.5 ng/filter	0.1-3.2 ng/filter
3.	PCBs	2.5-14 ng/filter	1.1-3.5 ng/filter
4.	Dioxins (WHO 1998-TEQPCDD/PCDF)	62 pg/filter	1.0-1.2 pg/filter

MONET Africa Project-Water Monitoring

- ▶ Participated in mini Water Monitoring project in year 2013.
- ▶ The project was supported by RECETOX.
- ▶ The passive water samplers was placed in a Reservoir at Mare aux Vacoas and deployed after 28 days.
- ▶ Passive samples were sent to RECETOX for analysis.
- ▶ Data was used in African Regional report for year 2014.

Human Milk Sampling for GMP 1

- ▶ Sampling carried out in 2008
- ▶ Our main constraints were
 - It was not possible to get mothers who have resided in the area for at least 10 years
 - Transportation of samples in frozen state
 - Individual samples could not be analysed

Country Highlights GMP Phase 2

- ▶ Mauritius has shown its willingness to participate in the phase II of the GMP project in the African region by signing an endorsement letter in March 2012.
- ▶ The Government of Mauritius has also committed to co-finance the project by an in-kind contribution amounting to USD 600,000 in 2013.
- ▶ The in-kind contribution will be in form of Laboratories facilities, staff participation and infrastructural facilities.

Country Highlights GMP Phase 2

- ▶ Monitoring of Air and Water will be carried out by the NEL in collaboration with MSIRI-MCIA.
- ▶ NEL will be responsible for sampling of air and water.
- ▶ Ministry of Health will be responsible for coordination of Human milk monitoring.
- ▶ MSIRI-MCIA will be responsible for analysis of the POPs.

Present Capacity of MCIA-MSIRI

- ▶ Equipment: Two GC-MS and One LC-MS
- ▶ Detector: HRMS
- ▶ Extraction Methods:
 - Soxhlet
 - Microwave
 - Liquid-Liquid
- ▶ GC Column: Capillary Columns HP 5 MS, 30m, 0.25mm
- ▶ HPLC column: Hypersil ODS 100mm

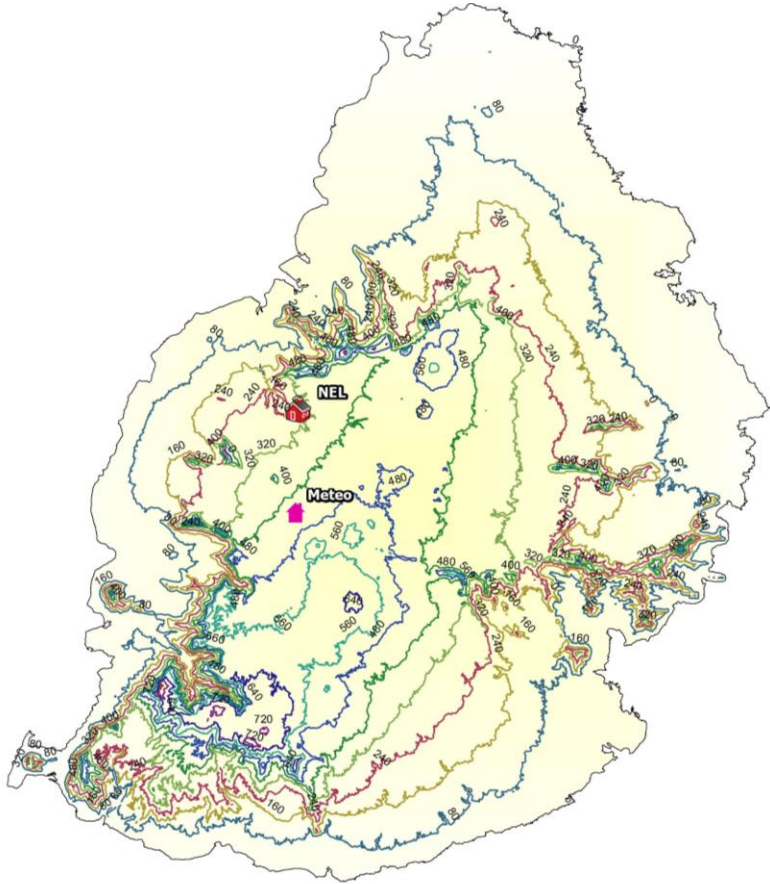
Country Expectations-Sampling

- ▶ Appropriateness of Reduit as a background site.
- ▶ Reduit is not considered an appropriate background site with the medical incineration in the neighbourhood.
- ▶ The passive samplers are located downwind of the medical incineration.



Country Expectations- Background site

- New Background site is being proposed at Vacoas.
- The NEL has a fixed monitoring station at Vacoas.
 - Vacoas located higher altitude than Reduit
 - Residential area



New proposed site at Vacoas

Country Expectations- Training

- ▶ Strengthen the capacity of NEL/MSIRI-MCIA for extraction and analysis of PUFs, sediments, human milk and water.
- ▶ About 6-8 technical staff are expected to be trained on the analysis and extraction of the POPs from different media. Including NEL, MSIRI-MCIA & GAD.
- ▶ Training on solid phase extraction techniques & Cleanup of extracts.
- ▶ Training on Use of GC-MS and LC-MS for POPs analysis.

Country Expectations- Consumables

- ▶ More Passive samplers for Air and Water.
- ▶ Sampling bottles for human milk & details of shipment.
- ▶ Appropriate Analytical Columns for GC-MS and LC-MS.
- ▶ Reference standards for the 23 POPs.
- ▶ Consumables for extraction of POPs in different media.
- ▶ Possibility of upgrading the current GC-MS to GC-MSMS.
- ▶ Participation in Interlaboratory Comparison Exercise.

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