



Empowered lives.
Resilient nations.



CHEMICALS AND WASTE MANAGEMENT FOR SUSTAINABLE DEVELOPMENT

Results from UNDP's work to protect human health and the environment from POPs



FOREWORD



Nik Sekhran
Director/Chief of Profession
Sustainable Development Cluster
Bureau for Policy and
Programme Support
UNDP

Persistent Organic Pollutants (POPs) are chemicals that negatively affect health and the environment when released into the air, water and soil. POPs can cause nervous system damage, immune system breakdowns, reproductive and development disorders, and cancers. They are a constant threat to sustainable human development, with the poorest among us most susceptible to their impacts. As an implementing agency under the Global Environment Facility (GEF), UNDP has - since 2004 - been expanding its work on these hazardous chemicals and promoting environmentally friendly alternatives that can promote achievement of the existing Millennium Development Goals (MDGs) and the new Sustainable Development Goals (SDGs).

In addition to eliminating PCBs, DDT and other hazardous chemicals, UNDP played a key role in introducing to West Africa a South African state-of-the-art autoclave technology that uses pressurized steam to sterilize infectious Ebola healthcare wastes; by not incinerating these wastes, environmental pollution is reduced. The GEF is one of UNDP's flagship programmes, and Chemicals is one of its key components.

PREFACE



Adriana Dinu
Executive Coordinator
UNDP - Global Environment Finance
Sustainable Development Cluster
Bureau for Policy and
Programme Support
UNDP

We are delighted to share with you the results of UNDP's work in protecting human health and environment from Persistent Organic Pollutants (POPs). The *"Chemicals and Waste Management for Sustainable Development"* publication showcases lessons from 11 case studies around the world, funded by the Global Environment Facility (GEF) as the main funding mechanism for the Stockholm Convention on POPs.

Tackling hazardous chemicals pollution is an important area of GEF's programming and UNDP actively supports developing countries and economies in transition fulfill their obligations under the Convention, taking measures to eliminate or restrict the production and use of POPs that are intentionally produced and reduce the amounts of POPs that are unintentionally produced. UNDP's expertise and experience built up over two dozen years of work in eliminating ozone depleting chemicals is successfully utilized in helping solve the POPs issue. This will also significantly contribute to achieving the target of the sixth GEF funding cycle of eliminating 80,000 tonnes of POPs including PCBs, obsolete pesticides and DDT in an environmentally sound manner.

INTRODUCTION

Many have often considered the earth an inexhaustible source of food, water and natural resources, while they mindlessly continue to pollute its atmosphere, waters and soil. However – as a wise person once said – we humans cannot live without the earth's resources, while the earth can get along quite nicely without us. Helping rid the world of hazardous chemicals is therefore a key step to helping maintain earth's atmosphere and its ecosystems.

All projects implemented by UNDP in POPs and covered in this report are funded by the GEF under its Strategic Plan for Chemicals and Waste. We also have a few activities in chemicals mainstreaming funded by SAICM QSP and some bilateral programmes. All reflect the objectives of the Stockholm Convention and its Secretariat. UNDP supports 84 countries implement POPs-related projects amounting to US\$156 million in GEF grants and US\$392 million in co-financing.

The 11 Case Studies included cover a wide range of experiences including PCBs, pesticides, e-waste, open burning of wastes, the fight against Ebola and South-South cooperation. We hope these case studies – presented in this Brochure to be launched at COP-7 in Geneva in May 2015 – will inspire better chemicals use and disposal practices.



Jacques Van Engel
Director
Montreal Protocol/Chemicals Unit
Sustainable Development Cluster
Bureau for Policy and Programme
Support
UNDP

Application of GEF-UNDP's global medical waste project in Ebola-affected countries



OPERATOR JEFFREY AT JFK MEMORIAL HOSPITAL IN MONROVIA, LIBERIA, TESTING THE NEWLY INSTALLED STATE-OF-THE-ART AUTOCLAVE WHICH WILL BE USED FOR ENVIRONMENTALLY SAFER TREATMENT OF EBOLA HEALTHCARE WASTE. THIS IS DISCUSSED IN MORE DETAIL IN CASE STUDY #10. PHOTO BY BABACAR NDOYE.

TABLE OF CONTENTS

The Stockholm Convention on POPs	1
UNDP and the Stockholm Convention on POPs	2
The Reality of Chemicals and Waste Management	6
UNDP's Role in Protecting Environment and Health from POPs	7
Sound Management of Chemicals and Waste and the SDGs	8
Recent Case Studies: Results and Lessons Learned	11
1. GEORGIA: Clean-up and Disposal of POPs Pesticides	11
2. VIET NAM: Eliminate Pesticide Stockpiles (2009-2015)	12
3. MAURITIUS: POPs Management and Disposal	13
4. KAZAKHSTAN: PCB Management and Disposal (2010-2015)	14
5. JORDAN: Implementation of a Comprehensive PCB Management System (2011-2015)	15
6. NIGERIA: Reduced Open Waste Burning for a Cleaner Earth (2010-2015)	16
7. HONDURAS: Reducing UPOPs from Municipal Waste Burning	17
8. CHINA: Phasing-Out DDT and Sustaining Livelihoods	18
9. CHINA: E-Waste Management	19
10. GUINEA, LIBERIA & SIERRA LEONE: The Fight Against Ebola	20
11. LAC: Promoting South-South Cooperation : Exchange of POPs Experiences	21
Looking Forward	22



EXCAVATION OF POPs PESTICIDES AT THE LAGLUJA PESTICIDE BURIAL SITE IN GEORGIA. PHOTO BY VLADIMIR VALISHVILI.

THE STOCKHOLM CONVENTION ON POPs

The Stockholm Convention on Persistent Organic Pollutants (POPs) is a global treaty designed to protect human health and the environment from chemicals that do not degrade naturally for long periods of time, are widely distributed geographically, and accumulate in the fatty tissues of humans and wildlife. Exposure to POPs can lead to serious health effects, including certain types of cancer, birth defects, developmental problems, dysfunctional immune and reproductive systems, and greater susceptibility to disease.

Given the long-range dispersion of POPs on wind and water currents, no single government acting alone can protect its citizens or environment from exposure to POPs. The Stockholm Convention, adopted in 2001, entered into force in 2004 and

requires countries that are Parties to it to take measures to eliminate or restrict the production and use of all POPs that are intentionally produced.

The Convention also encourages countries to undertake continuous reductions in the POPs unintentionally produced (UPOPs), and to adopt the use of environmentally sound alternative processes and chemicals while promoting sound management of wastes and contaminated products. Initially, the Convention targeted 12 priority POPs, referred to as "*The Dirty Dozen*"¹ – most were pesticides and the others were industrial chemicals and by-products. Over the years, 11 additional POPs have been added after extensive review, and more are likely to be added in future.

¹ The "Dirty Dozen" are (1) Aldrin, (2) Chlordane, (3) Dieldrin, (4) Endrin, (5) Heptachlor, (6) Hexachlorobenzene (HCB), (7) Mirex, (8) Toxaphene, (9) Polychlorinated biphenyls (PCBs), (10) Dichlorodiphenyltrichloroethane or DDT, (11) Dioxins and (12) Furans.

Combating POPs – China's Action Towards a POPs-free Future



China is celebrating 10 years of successful POPs project implementation. To commemorate this milestone, China's Ministry of Environmental Protection/FECO, together with UNDP/China,

will roll out a month-long international campaign (May-June 2015) to raise public awareness on the danger that POPs present and highlight successful efforts to deal with this problem in China and around the world. This campaign will introduce POPs – a technical term – to the public in a simple cartoon video and smartphone games so as to generate an enabling environment for POPs reduction. A Side Event titled "A Song for You: Combating POPs – China's Action Towards a POPs-free Future" will be hosted by China on Friday 8 May 2015 from 1:15pm to 2:45pm in Conf. Room 4 during the Stockholm Convention COP-7 in Geneva (4-15 May 2015).

UNDP AND THE STOCKHOLM CONVENTION ON POPs

Since 2004, UNDP has been supporting developing countries, and countries with economies in transition, in their efforts to reduce and eliminate POPs and meet the objectives of the Stockholm Convention. UNDP POPs projects are designed to ensure national coordination among chemicals-related activities in support of global conventions on chemicals.

Many of the challenges in reducing and eliminating POPs require enhanced national capacities, and increased availability of technical knowledge and training. Through its presence at the local level, UNDP helps countries:

- Meet reporting obligations, share lessons learned and adopt best practices.
- Build necessary capacity to implement POPs risk reduction measures, including the disposal of POPs and POPs waste.

- Reduce the exposure and release of POPs to protect human health and the environment.
- Demonstrate effective alternative technologies and practices that avoid POPs releases.

UNDP initially supported 29 countries in national planning, building capacity, meeting Convention reporting obligations and compiling the first National Implementation Plans (NIPs), covering the original 12 POPs. UNDP then helped implement activities prioritized in the NIPs.

Since 2004, UNDP has supported 84 countries implement POPs-related projects through national, regional and global programmes. In total, UNDP's portfolio of POPs projects amounts to US\$156 million of grants (through GEF) and US\$392 million in co-financing (see Table 1).



Table 1: UNDP/GEF POPs MSP/FSP (2004–2015)

Country	POPs Area	GEF Grant (US\$'000)	Target
Argentina	PCB Management	3,400	1,000 T (D); 1,000 T (S)
Armenia	POPs Pesticides	4,700	1,050 T (D)
Belize	UPOPs from HCWM	990	6.4 g-TEQ
Brazil	PCB Management	4,700	1,000 T (D)
China	Pesticides – Dicophol	6,000	100 T (D); 100 T (S)
China	DDT – Antifouling Paint	10,365	100 T (D); 100 T (S)
China	UPOPs/PBDEs from e-waste	11,650	655 g-TEQ; 8.3t/yr PBDE
China	UPOPs: secondary copper	PPG Phase	NA
Colombia	PCB Management	3,400	500 T (D)
Colombia	NIP update	250	NA
Costa Rica	PCB Management	1,930	1,350 T (D)
Ecuador	PCB Management	2,000	750 T (D)
Egypt	UPOPs and PBDEs from HCWM & e-waste	4,100	41 g-TEQ
Georgia	POPs Pesticides	1,000	250 T (D)
Ghana	PCB Management	2,945	150 T (D)
Honduras	Multi-POPs	2,650	89 (D); 40 (S); 80 g-TEQ
Indonesia	PBDEs from plastics prod., recycling and e-waste	3,990	10 g-TEQ
Jordan	PCB Management	950	40 T (D)
Kazakhstan	PCB Management	3,300	1050 T (D); 200 T (S)
Kazakhstan	NIP + UPOPs from HCW	3,400	103 g-TEQ
Kenya	UPOPs from MSW and HCW	PPG phase	NA
Kyrgyzstan	PCB Management	950	25 T (D)
Kyrgyzstan	UPOPs from HCWM	1,425	3 g-TEQ
Latvia	PCB Management	999.6	280 T (D)
Mauritius	Multi-POPs	902.25	21 T (S)
Mexico	PCB Management	4,630	1,979 T (D); 818 T (S)
Mexico	UPOPs from e-waste and pesticide management	PPG phase	NA
Morocco	PCB Management	2,198	685 T (D)
Nicaragua	POPs Pesticides	900	1,288 m3 (S)
Nigeria	UPOPs from open burning	4,150	5.6 g-TEQ
Pakistan	PCBs and POPs pesticides	5,150	1,600 T (D), 1,600 T (S)
Rwanda	PCB Management	886.7	150 T (D)
Trin. & Tobago	NIP Update	425.5	NA
Turkey	Multi-POPs: Industry UPOPs, PCBs, POPs pesticides, NIP	6,931.4	4,032 T (D); 250 g-TEQ
Uruguay	PCB Management	954.55	124 T (D); 20 g-TEQ
Viet Nam	Pesticides, contaminated sites	3,957.58	1,140 T (D)
Viet Nam	Dioxin Hotspot remediation	4,977.27	1,736 g-TEQ
Viet Nam	SMC, POPs contaminated sites and MIA	2,550	6,350 T (S)
Viet Nam	NIP Update	225	NA
Africa (4)	UPOPs in HCWM	6,453.2	32 g-TEQ
Global	UPOPs in HCWM	10,326.46	226 g-TEQ
Indonesia/Philippines	Lead	838	
15 countries	Skills building for NIP devl.	700	NA
25 countries	Skills building for NIP devl.	1,000	NA
TOTAL		133,250.51	

T: tonnes; S = safeguarded; D: disposed; NA: Not Applicable; Africa 4 countries: Ghana, Madagascar, Tanzania, Zambia; Global countries: Argentina, India, Latvia, Lebanon, Senegal, Tanzania, Philippines, Viet Nam

Figure 1: Geographical distribution of UNDP implemented projects on POPs

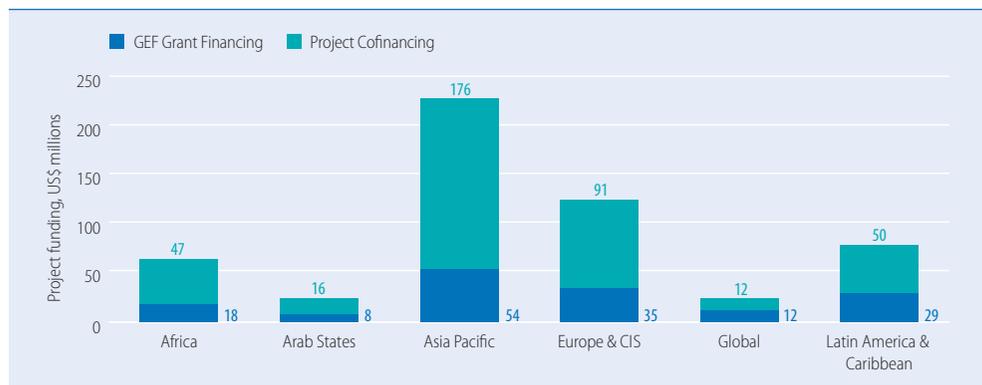


Figure 1 above shows the geographical distribution of UNDP implemented projects on POPs.

UNDP-supported country projects and global programmes address a variety of national and Stockholm Convention priorities, as well as GEF Strategic Objectives. Sectors that are supported through UNDP projects include:

- **Update and revision of National Implementation Plans (NIPs)**
- **PCB management**
- **POPs pesticide management**

- **Reduction and elimination of UPOPs from:**
 - Healthcare Waste Management
 - E-waste Management
 - Municipal Waste Management
 - Agricultural Waste Management
 - Metallurgical Production Processes and Recycling
- **Reduced use and releases of POPs flame retardants from:**
 - Manufacturing and production processes
 - Plastics waste management and recycling



预览已结束，完整报告链接和二维码如下：

https://www.yunbaogao.cn/report/index/report?reportId=5_13426

