



**UNITED NATIONS
ENVIRONMENT PROGRAMME
CHEMICALS**



PROCEEDINGS

**Subregional Workshop on Support for the Implementation
of the Stockholm Convention on Persistent Organic
Pollutants (POPs)**

**Bangkok, Thailand
26-30 November 2001**



Global Environment Facility

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS
A cooperative agreement among UNEP, ILO, FAO, WHO, UNIDO, UNITAR and OECD



**UNITED NATIONS
ENVIRONMENT PROGRAMME
CHEMICALS**



PROCEEDINGS

**Subregional Workshop on Support for the Implementation
of the Stockholm Convention on Persistent Organic
Pollutants (POPs)**

**Bangkok, Thailand
26-30 November 2001**



Global Environment Facility

IOMC

INTER-ORGANIZATION PROGRAMME FOR THE SOUND MANAGEMENT OF CHEMICALS
A cooperative agreement among UNEP, ILO, FAO, WHO, UNIDO, UNITAR and OECD

The workshop was financed by the Global Environmental Facility (GEF) through a Medium Sized Project (MSP) with co-financing from the Government of Sweden.

This publication is produced within the framework of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC).

The **Inter-Organization Programme for the Sound Management of Chemicals (IOMC)**, was established in 1995 by UNEP, ILO, FAO, WHO, UNIDO and OECD (Participating Organizations), following recommendations made by the 1992 UN Conference on Environment and Development to strengthen cooperation and increase coordination in the field of chemical safety. In January 1998, UNITAR formally joined the IOMC as a Participating Organization. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the Participating Organizations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

Material in this publication may be freely quoted or reprinted, but acknowledgement is requested together with a reference to the document. A copy of the publication containing the quotation or reprint should be sent to UNEP Chemicals.

Cover photo from www.Topham.ab.ca

Available from:

*UNEP Chemicals
11-13, chemin des Anémones
CH-1219 Châtelaine, GE
Switzerland*

*Phone: +41 22 917 1234
Fax: +41 22 797 3460
E-mail: chemicals@unep.ch
www.chem.unep.ch*

TABLE OF CONTENTS

1.	INTRODUCTION	1
2.	WORKSHOP PROGRAMME	2
3.	LIST OF PARTICIPANTS	7
4.	WORKING GROUPS	16
	Issues and Questions	16
	Group 1 Intentionally produced POPs	19
	Group 2 Unintentionally Produced POPs.	25
	Financial Mechanism for the Stockholm Convention on POPs.....	28
	Working Group 1 Financial Mechanism for Stockholm Convention on POPs	29
	Working Group 2 Financial Mechanism for Stockholm Convention on POPs	32
5.	PRESENTATIONS.....	35
	Overview of Programme and Discussion of Goals and Output <i>by Dr. Bo Wahlstrom</i>	35
	Workshop Expectations from UNEP <i>by Mr James Willis</i>	39
	The Global Environment Facility and POPs <i>by Dr. Laurent Granier</i>	45
	Stockholm Convention on POPs <i>by Dr. John Buccini</i>	53
	Overview of the Rotterdam Convention <i>by Mr. James Willis</i>	63
	Overview of the Basel Convention <i>by Mr. James Willis</i>	74
	Stockholm Convention Provision on Intentionally Produced POPs <i>by Dr. John Buccini</i>	84
	Stockholm Convention Provision for Unintentionally Produced POPs <i>by Dr. John Buccini</i>	98
	The Thailand Dioxin and Furans Release Inventory <i>by Ms. Pornpimon Chareonsong</i>	106
	Stockholm Convention Provision for Stockpiles and Wastes <i>by Dr. John Buccini</i> ..	126
	Relationship of the Stockholm Convention to the Basel and Rotterdam Conventions <i>by Mr. James Willis</i>	136
	Legislating Chemicals <i>by Mr. Masa Nagai</i>	146
	Chemical Legislation: A Model <i>by Mr. Masa Nagai</i>	153
	Chemical Controls: Responsibilities, Management, and Institutions <i>by Dr. Bengt Bucht</i>	161
	UNITAR; Preparation of National Profile to Assess the National Infrastructure for the Management of Chemicals <i>by Mr. Brandon Turner</i>	175
	Issues and Problems of Obsolete and Banned Pesticides <i>by Dr. Alemayehu Wodageneh</i>	182
	Activities of the Asia-Pacific Regional Centre for Hazardous Waste Management Training and Technology Transfer. <i>by Dr. Li Jinhui</i>	187

Organizing	189
Activities of the Jakarta Basel Regional Training and Technology Transfer Centre by <i>Mrs. Haruki Augustina</i>	192
Stockholm Convention: General Obligations by <i>Dr. John Buccini</i>	197
Interim Activities and INC-6 by <i>Dr. Bo Wahlstrom</i>	205
Introduction to the Global Environment Facility by <i>Dr. Laurent Granier</i>	215
Initial Guidelines for Enabling Activities on POPS by <i>Dr. Laurent Granier</i>	237
6. THE GEF IMPLEMENTING AND EXECUTING AGENCIES	246
UNDP, GEF and POPS by <i>Mr. Rene Anderson</i>	246
FAO by <i>Mr. Alemayehu Wodageneh</i>	251
UNIDO by <i>Dr. Yash Pal Ramdev</i>	257
UNITAR by <i>Mr. Brandon Turner</i>	270
POPS, UNEP and the GEF by <i>Mr. James Willis</i>	275
7. COUNTRY REPORTS	281
BANGLADESH	281
BHUTAN	288
BRUNEI DARUSSALAM	292
CAMBODIA	296
CHINA	300
INDIA	305
INDONESIA	307
LAO PDR	313
MALAYSIA	314
MONGOLIA	323
MYANMAR	325
NEPAL	335
PAKISTAN	339
PAPUA NEW GUINEA	342
PHILIPPINES	349
REPUBLIC OF KOREA	351
SINGAPORE	354
THAILAND	367
VIET NAM	373

1. INTRODUCTION

The Stockholm Convention on Persistent Organic Pollutants was adopted and opened for signature at the Diplomatic Conference held 22 to 23 May 2001 in Stockholm, Sweden. Countries will need to determine whether they will ratify the Convention and if so begin taking the legal, administrative and other steps necessary to ratify. The early development of national implementation plans (NIP) as required by Article 7 of the Convention will help them in this process, and will enable countries to meet their obligations under the Convention.

It is highly desirable that the Convention becomes operational quickly. Early ratification by countries is the key. It is thus essential that all countries become familiar with the Convention, its benefits, and sources of support for its implementation as quickly as is possible. Early coverage of all regions is also necessary to ensure equitable access to the interim financial mechanism and other funding sources.

UNEP Chemicals, together with the Global Environmental Facility (GEF) secretariat is organizing a series of sub-regional workshops to Support the Implementation of the Stockholm Convention on POPs. The workshops are funded through a GEF Medium Sized Project with co-funding from the Government of Sweden. The second workshop, organized in collaboration with the UNEP Regional Office for Asia and the Pacific (ROAP), was held at the UN building in Bangkok, Thailand, 26-30 November 2001. The meeting was organized within the framework of the UNEP Chemicals capacity building program and primarily aimed at providing assistance to developing countries in strengthening their national chemicals management programs with regard to their implementation and ratification of the Stockholm convention on POPs and related instruments, e.g. the Rotterdam convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Basle Convention on the Control of Transboundary Movement of Hazardous Wastes.

The participants were senior government managers and decision-makers from environment and other government authorities from 20 countries from Asia and representatives from international organizations, industry, academia and environmental NGOs, in all 50 participants.

The purpose of the workshop was to inform countries on the obligations and the steps needed for ratification and implementation of the Stockholm Convention on POPs and the Rotterdam Convention on Prior Informed Consent (PIC) and to advise them on how to consider approaches for obtaining support for implementation related activities, e.g. development of National Implementation Plans (NIPs). In addition, countries were informed on how to develop adequate and effective policies and legislation as part of their national strategies, action plans and programs for the sound management of chemicals and to assist national officials in implementing national and regional or sub-regional actions to reduce and/or eliminate releases of persistent organic pollutants (POPs).

2. WORKSHOP PROGRAMME

25 November (Sunday)

Arrival of participants, hotel accommodation

After dinner Meeting of organizers and presenters

26 November (Monday)

09:00-09:30 Registration of participants

OPENING SESSION

09:30-10:00	Official opening of the meeting <ul style="list-style-type: none"> • Welcoming remarks by hosts and organizers 	Mr. Nirmal Andrews, Director, ROAP Mr. James Willis, Director, UNEP Chemicals, Geneva, Switzerland Dr. Laurent Granier, GEFSEC
10:00-10:15	Coffee break	
10:15-10:20	<ul style="list-style-type: none"> • Introduction of participants 	All
10:20-10:30	<ul style="list-style-type: none"> • Overview of programme 	Dr. Bo Wahlström, UNEP
10:30-10:45	<ul style="list-style-type: none"> • Expectations from UNEP Chemicals 	Mr. James Willis, UNEP
10:45-11:00	<ul style="list-style-type: none"> • Expectations from the Global Environmental Facility (GEF) 	Dr. Laurent Granier, GEFSEC

II. THE CONVENTIONS

11:00-12:30	Overview of Stockholm Convention on POPs Overview of Rotterdam Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade Overview of the Basel Convention on the Control of Transboundary Movement of Hazardous Waste	Dr. John Buccini, Chair, POPs INC Mr. James Willis, UNEP Mr. James Willis, UNEP
12:30-13:30	Lunch break	

III. CURRENT STATUS OF TOXICS LEGISLATION IN THE SUBREGION

Session chair: Dr. Jarupong Boon Long,
Thailand

13:30-15:30 Country presentations, focusing on
legislative and regulatory action on toxic
substances, pesticides, industrial chemicals
and by-product POPs.

15:30-16:00 **Coffee break**

16:00-18:00 Country presentations (continued)
Industry and public interest NGO
presentations

27 November (Tuesday)

IV. STOCKHOLM CONVENTION OBLIGATIONS FOR POPs AND RELATED INSTRUMENTS

Session Chair: Mr. Vellayutham
Pachaimuthu, Malaysia

A. Intentionally Produced POPs

09.00-10.30 Pesticides and Industrial Chemicals Dr. John Buccini

10.30-11.00 **Coffee break**

B. Unintentionally Produced POPs

11:00-12:30 By-products Dr. John Buccini

The Thailand national approach to
unintentionally produced POPs Ms. Pornpimon Chareonsong,
Thailand

C. Stockpile and Waste Issues

12.30-13.30 Stockholm Convention requirements Dr. John Buccini

Relations between the Stockholm and the
Rotterdam and Basel Conventions Mr. James Willis,
UNEP

13.30-14.30 **Lunch break**

V. BASIC FEATURES OF CHEMICALS LEGISLATION AND MANAGEMENT

14.30-15.30	General features of chemicals legislation and regulation, principles, legislative hierarchies etc. Model legislation	Mr. Masa Nagai, UNEP
15.30-16.00	Chemicals Control, responsibilities, management, institutions	Mr. Bengt Bucht, KemI, Sweden
16.00-16.30	Coffee break	
16.30-17.00	Chemicals control, continued	Mr. Bengt Bucht, KemI
17.00-17.15	Guidance to the development of National Profiles	Mr. Brandon Turner, UNITAR
17.15-18.00	Questions on legislation and management	All

28 November (Wednesday)

STOCKPILES AND WASTE ISSUES CONTINUED

Session chair: Ms. Katrina Solien, Papua New Guinea

09.00-10.00	Obsolete pesticides issues Activities of the Basel Regional Training and Technology Transfer Centre	Mr. Alemayehu Wodageneh, FAO Mr. Jinhui Li, Beijing Regional Training Centre, China and Ms. Haruki Agustina, Jakarta Regional Training Centre, Indonesia
10.00-10.30	Coffee break	

Session IV continued: D. General obligations

10.30-11.00	National Implementation plans	Dr. John Buccini
-------------	-------------------------------	------------------

E. Interim activities and INC-6

11.00-11.30	Final Act of the Stockholm Convention and preparations for INC-6	Dr. Bo Wahlström, UNEP
-------------	--	---------------------------

VI. FUTURE NATIONAL ACTION AND REGIONAL CO-OPERATION

11.30-12.00	<p>Introduction to Working Groups, tasks and expected outcome</p> <p>Formation of working groups on: (1) intentionally produced POPs (pesticides and industrial chemicals), stockpiles and wastes, and (2) unintentionally produced POPs (by-products) and wastes.</p> <p>Working Group discussions:</p> <p>Discussions of steps needed to develop national strategies, action plans, programmes and projects for implementing legislation to meet obligations in the Stockholm Convention on POPs and related instruments.</p>	Dr. Bo Wahlström, UNEP
13.00-14:00	Lunch break	
14:00-15:30	Continued group discussions.	
15:30-16:00	Coffee break	
16:00-19:00	Continued group discussions	

29 November (Thursday)

Session chair: Mr. Narendra Hosabettu, India

9:00-10:00	Working Group presentations in plenary	
10:00-11:00	<p>General discussion</p> <p>Follow up on working group discussions</p> <p>National needs for implementing legislation and chemicals management tools</p> <p>Needs and prospects for sub-regional and regional co-operation</p> <p>Needs and prospects for identifying partners inside and outside the sub-region for co-operation in implementing chemicals legislation in countries of the sub-region</p>	All
11:00-11:30	Coffee break	

VII. FINANCIAL MECHANISM FOR THE STOCKHOLM CONVENTION ON POPS

11.30-12.30	Introduction to the Global Environmental Facility (GEF)	Dr. Laurent Granier, GEFSEC
12.30-13.30	Lunch break	

13.30-15.00	Afternoon session chair: GEF Initial Guidelines for Enabling Activities	Dr. Laurent Granier, GEFSEC
15.00-15.30	Country roundtable; situation regarding National Implementation Plans (NIPs)	
15.30-16.00	Coffee break	
16.00-16.30	Questions and answers	
16.30-17.00	Introduction to Working Group discussions on GEF enabling activities and national implementation plans	Dr. Laurent Granier, GEFSEC
17.00-18.00	Working Group discussions	All
<i>30 November (Friday)</i>		
9.00-12.00	Working groups discussions (continued)	
12.00-13.00	Lunch break Afternoon session chair: Ms. Rohaya Saharom, Singapore	
13.00-14.00	Working Group presentations in plenary	
14.00-15.00	The GEF implementing and executing agencies <ul style="list-style-type: none"> • UNDP • FAO • UNIDO • UNITAR • UNEP 	Mr. Rene Andersen, UNDP Mr. Alemayehu Wodageneh, FAO Dr. Yash Ramdev, UNIDO Mr. Brandon Turner, UNITAR Dr. Bo Wahlström, UNEP
15.00-16.00	General discussion on the development of NIPs	All
16.00-16.30	Closing remarks	Dr. Nirmal Andrews, ROAP Dr. Laurent Granier, GEFSEC Dr. Bo Wahlström, UNEP
16.30	Closure of the meeting	

3. LIST OF PARTICIPANTS

BANGLADESH

Mr. Mahmood Hasan Khan
Deputy Director
Department of Environment
Paribesh Bhaban Room No. 201
E-16 Agargaon
Sher-E-Bangla Nagar
Dhaka-1207
Tel: (+88 02) 911 24 90
Fax: (+88 02) 911 86 82
e-mail: mahmood@doe-bd.org

Mr. Md. Shamsul Alam
Senior Assistant Secretary
Ministry of Environment and Forest
Bangladesh Secretariat
Dhaka
Bangladesh
Tel: (+88 02) 861 54 36
Fax: (+88 02) 861 92 10

BHUTAN

Mr. Chenchod Dorji
Entomologist
National Plant Protection Center
Ministry of Agriculture
Thimphu, Bhutan
Tel : 975-2-351016
Fax : 975-2-351027
e-mail : chenchod@yahoo.com

BRUNEI DARUSSALAM

Ms Martinah Haji Tamit
Environment Officer
Environment Unit
Ministry of Development
Bandar Seri
Begawan BB 3510
Brunei Darussalam
Tel: (+673 2) 383 222
Fax: (+673 2) 383 644
e-mail: modenv@brunet.bn
mht7894@hotmail.com

Ms. Hajah Hasinahwati Haji Hanafi
Agricultural Chemist
Agriculture Department
Ministry of Industry and
Primary Resources
Bandar Seri
Begawan BB 3510
Brunei Darussalam
Tel: (+673 2) 393 841
Fax: (+673 2) 393 839
E-mail: Hasinah@brunet.bn

CAMBODIA

Mr. Chea Sina
Deputy Director
Pollution Control Department
Ministry of Environment
#48, Samdech Preach Sihanouk
Tonle Bassac, Chamkarmon
Phnom Penh
Cambodia
Tel: (+855 12) 915 792
Fax: (+855 23) 212 540
e-mail: moelab@bigpond.com.kh or
012962103@mobitel.com.kh

Mr. Pak Sokharavuth
Ministry of Environment
#48, Samdech Preach Sihanouk
Tonle Bassac, Chamkarmon
Phnom Penh
Cambodia
Tel: (+855 12) 962 103
Fax: (+855 23) 212 540
e-mail: moelab@bigpond.com.kh or
012962103@mobitel.com.kh

CHINA

Mr. Liu Guo hua
Deputy Director
Solid Waste & Toxic Chemicals
Management Division
SEPA
No. 115 Xizhimennei Nanxiaojie
Beijing
People's Republic of China
Tel: (+86 10) 6615 45 47
Fax: (+86 10) 6615 45 47
e-mail: wgurichu@public.bta.net.cn

Mr. Xin Wang
Chief of POPs Working Group
State Environmental Protection
Administration
No. 115 Xizhimennei Nanxiaojie
Beijing
People's Republic of China
Tel: (+86 10) 6615 1792
Fax: (+86 10) 6615 1776
e-mail: wangxsepa@yahoo.com or
popsepa2@yahoo.com

Mr Gu Baogen
Vice Director General
Institute for the Control of
Agrochemicals
Ministry of Agriculture,
No. 22 Maizidian Street
Chaoyang District,
Beijing 100026, P.R.China
Tel: (+86 10) 6419 4079
Fax: (+8610) 65025929
e-mail: gubaogen@agri.gov.cn

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

Mr. Yong U KIM
Senior Officer
National Coordinating Committee for
Environment
Jungsong-Dong Central District
Pyongyang
DPR Korea
Tel: (+850 2) 181 11 (381 83 70)
Fax: (+850 2) 381 46 60

Mr. Chol Gun JANG
Senior Researcher
Center of Environment and
Development
Jungsong-Dong Central District
Pyongyang
DPR Korea
Tel: (+850 2) 181 11 (381 83 70)
Fax: (+850 2) 381 46 60

INDIA

Mr. Prabh Sharan SINGH
Under-Secretary (Chemicals)
Department of Chemicals and
Petrochemicals
Room 227, A-wing
Shashtri Bhavan
New Delhi 110001
India
Tel: (+91 11) 338 25 64
Fax: (+91 11) 338 21 76
e-mail: prabhsharan@yahoo.com

Mr. Narendra Hatwar HOSABETTU
Director
Ministry of Environment and Forests
Room No. 547, Paryavaran Bhawan,
CGO Complex, Lodhi Road
New Delhi 110003
India
Tel: (+91 11) 436 00 60
Fax: (+91 11) 436 17 60
e-mail: nhosabettu@yahoo.co.uk
or adarshh@id.eth.net

INDONESIA

Mrs. Lia Mulianingsih
Head of Hazardous Substance Division
BAPEDAL-Environment Impact
Management Agency
JL D.I Panjaitan 42 Kebon Nanas
Jakarta Timur
Indonesia
Tel: (+62 21) 859 04932
Fax: (+62 21) 859 04932

Mrs. Haruki Agustina
Environmental Officer
Center of Solid Waste and Hazardous
Substances Management
BAPEDAL-Environment Impact
Management Agency
JL D.I Panjaitan 42 Kebon Nanas
Jakarta Timur
Indonesia
Tel: (+62 21) 859 04932
Fax: (+62 21) 859 04932
e-mail: haruki@indo.net.id

**LAO'S PEOPLE
DEMOCRATIC REPUBLIC**

Mrs. Khamphoui LOUANGRATH
Deputy Director of ARD
Department of Agriculture
Ministry of Agriculture and Forestry
P.O. Box 811
Vientiane
Lao PDR
Tel: (+856 21) 412350
Fax: (+856 21) 412 349
e-mail: doag@laotel.com

Mrs. Sisouphanh Luangrath
Director of EQMC
Environment Research Institute
Science, Technology and Environment
Agency
P.O. Box. 2279 Vientiane,
Lao PDR
Tel : 856-21-219003
Fax : 856-21-213472
Email : sisouphanht@hotmail.com

MALAYSIA

Mr. Vellayutham Pachaimuthu
Environmental Control Officer
Department of Environment
Level 3-7 Block C4
Federal Government Administrative
Center
62662 Putrajaya
Malaysia
Tel: (+603) 888 58 200
Fax: (+603) 888 899 87
e-mail: vella@jas.sains.my

Mr. David Subramaniam
Agricultural Officer
Pesticide Control Division
Department of Agriculture
Jalan Gallagher
50632 Kuala Lumpur
Malaysia
Tel: (+603) 269 77 261
Fax: (+603) 269 77 225
e-mail: dsubra54@hotmail.com

Mr. Letchumanan Ramatha
Principal Assistant Director
Conservation and Environmental
Management Division
Ministry of Science, Technology & The
Environment
Level 1-7, Block C5, Parcel C
Pusat Pentadbiran Persekutuan
62502 Putrajaya
Malaysia
Tel- (603) 888 58035/00
Fax- (603) 888 92973
letchu@mastic.gov.my

MONGOLIA

Ms. Chogsom SARAN
Senior Inspector
State Inspection Agency
for Food and Agriculture
Ministry of Food and Agriculture
Government Bldg. Ag
Enchtaivan avenue 16A
Ulaanbaatar – 210349
Mongolia
Tel: (+976) 11 451752 (mobile)
Fax: (+976) 11 45 29 67
e-mail: fsais@mongol.net or
telsara@yahoo.com

Mrs. Damba SODNOM
Senior Expert of EIA and State Senior
Inspector for Use Toxic Chemicals
Department of Information, Monitoring
and Assessment
Ministry of Nature and Environment
Baga Toiruu-44
Government Building III
Ulaanbaatar-11
Mongolia
Tel: (+976-11) 312 269
Fax: (+976 11) 321 401
e-mail: moenv@mail.mn

MYANMAR

Ms. Khin La Pyi Won Soe Nyunt
Head of Branch
National Commission for
Environmental
Affairs (NCEA)
Ministry of Foreign Affairs Complex
Thantaman Road
Dagon Township
Yangon
Myanmar
Tel: (+95 1) 221 106
Fax: (+95 1) 221 546
e-mail: env.myan@mptmail.net.mn

Mr. U Kyaw Lwin
Assistant Manager
Plant Protection Divisions
Myanma Agricultural Service,
Ministry of Agriculture and Irrigation
Thiri Mingalar Lane
Off Kaba Aye Pagoda Road
Yankin P. O.
Yangon
Myanmar
Tel: (+95 1) 663 397, 640975
Fax: (+95 1) 667 991

NEPAL

Mr. Bhakta Raj Palikhe
Pesticide Registrar
Directorate of Plant Protection
Department of Agriculture, Lalitpur
Nepal
Tel: (+977 1) 521597
Fax: (+977 1) 543662
e-mail: ppd@ipmnet.wlink.com.np

PAKISTAN

Mr. Fahim Riaz Khan
Director
Pakistan Environmental Protection
Agency
44-E, Office Tower
Blue Area
Islamabad
Tel: (+92 51) 920 92 52
Fax: (+92 51) 920 63 43

PAPUA NEW GUINEA

Ms. Katrina Solien
Acting Assistant Director
Environment Protection
Office of Environment and
Conservation
Box 6601
Boroko NCD
Papua New Guinea
Tel: (+675) 325 01 94
Fax: (+675) 325 01 82
e-mail: katrinasolien@hotmail.com

Mr. Harry Kore
Legal Officer
Office of the State Solicitor
Department of Attorney General
P.O. Box 591
Waigani, NCD
Papua New Guinea
Tel: (+675) 301 28 79
Fax: (+675) 323 02 41
Email: justice@daltron.com.pg

PHILIPPINES

Dr. Norlito R. Gicana
Senior Deputy Executive Director
Fertiliser and Pesticide Authority
4/F Bldg. B, NIA Complex, EDSA
Quezon City
Philippines
Tel: (+63 2) 922 35 71/926 58 77
Fax: (+63 2) 922 53 64/922 33 55
e-mail: Fpa_77@yahoo.com

Ms. Angelita Brabante
Chief Environmental Quality Division
Environmental Management Bureau
DENR Compound Visayas Avenue
Quezon City Philippines
Tel: (+632) 9281212/9202273
Fax: (+632) 9202243
e-mail: angelita_brabante@emb.gov.ph

Mr. Servino Bernardo
Officer-in-Charge
Deputy Director for R & D
Industrial Technology Development
Institute
Dost Complex, Gen. Santos Ave.
Taguig, Metro Manila
Tel: (+632) 837 20 71
Fax: (+632) 837 31 67
e-mail : msd@agham.dosf.gov.ph

Dr. Desireem Narvaez
Chief
Environment and Occupational Health
Office
Department of Health,
Sta Cruz, Manila
Republic of the Philippines
Tel: 632-7438301 / 7432325
Fax: 632-7329966
e-mail: des@doh.gov.ph

REPUBLIC OF KOREA

Mr. Seukwoo KANG
Deputy Director
Ministry of Environment
1 Joongang – Dong
Gwacheon
Republic of Korea
Tel: (+822) 504 92 88
Fax: (+822) 500 60 68

Mr. Seong-han Lee
Director
Industrial Waste Management Division
Ministry of Environment
1 Joongang-Dong
Gwacheon
Republic of Korea
Tel: (+822) 504 92 61
Fax: (+822)
e-mail: seonghl@me.go.kr

Dr. Hi Sun Lee
Fellow Korea Environment Institute
613-Z Bulkwang-Dong
Eunpyung-Ku Seoul
Republic of Korea
Tel: (+822) 380 7614
Fax: (+822) 380 7644
e-mail: leehs@kei.re.kr

SINGAPORE

Ms. Rohaya SAHAROM
Executive Engineer
Pollution Control Department
Ministry of the Environment
Environment Building
40 Scotts Road, #12-00
Singapore
Tel: (+65) 7319654
Fax: (+65) 7319651 / 8362294
e-mail: rohayasaharom@hotmail.com

THAILAND

Dr. Jarupong Boon-Long
Retired
2/195 Muangtong 1, Soi Chiengkam
Mai
Jang-Watana 14 rd.
Bangkok 10210
Thailand
Tel: (+66) 2574 6003
Fax: (+66) 2573 2531
Jarupong.b@pcd.go.th

Ms. Pornpimon Chareonsong
Environmental Scientist
Pollution Control Department
92 Soi Phahon Yothin 7
Phahon Yothin Road
Sam Sen Nai Phayathai
Bangkok 10400
Thailand
Tel: (+66) 2298 2457
Fax: (+66) 2298 2425
e-mail: dbase.c@pcd.go.th

Mrs. Mingquan Wichayarangsridh
Director
Hazardous Substances and Waste
Management Division
Pollution Control Department
92 Soi Phahon Yothin 7
Phahon Yothin Road
Sam Sen Nai Phayathai
Bangkok 10400
Thailand
Tel: (+66) 2298 2423
Fax: (+66) 2298 2425
e-mail: mingquan.b@pcd.go.th

Ms. Teeraporn Wiriwutikorn
Environmental Scientist
Pollution Control Department
92 Soi Phahon Yothin 7
Phahon Yothin Road
Sam Sen Nai Phayathai
Bangkok 10400
Thailand
Tel: (+66) 2298 2438
Fax: (+66) 2298 2425
e-mail: hazwaste@pcd.go.th

Mr. Manop Mekprayoonthong
Director
International Development Affairs Division
Department of International Organizations
Ministry of Foreign Affairs
443 Sri Ayudhya Road
Bangkok 10400
Thailand
Tel: (+66) 26 43 5077
Fax: (+66) 2543 5080

VIETNAM

Mr. Nguen Khac Kinh
Deputy Director General
National Environment Agency
67 Nguyen Du Street
Hanoi
Vietnam
Tel: (+844) 822 31 91
Fax: (+844) 822 31 89
e-mail: nk@nea.gov.vn

Mr. Le Huu Tan
Vice Chief of Pesticide Management
& Registration Division
Plant Protection Department (PPD)
149 – Ho Duc Di – Dong Da
Hanoi
Vietnam
Tel: (+844 8) 573 808
Fax: (+844 8) 574 719/530 00 43

SPREP

Ms. Katrina Solien
Acting Assistant director
Environment Protection
Office of Environment and
Conservation
P.O.Box 6601 Boroko NCD
Papua New Guinea
Tel: 675-3250194
Fax: 675-3250182
Email: katrinasolien@hotmail.com

UNITAR

Mr Brandon Turner
UNITAR Special Fellow
35/226 Phayathai Road,
Rajathevi, Bangkok 10400
Thailand
e-mail: brandon.turner@unitar.org
Tel: (+41) 22 917 84 52
Fax: (+41) 22 917 80 47

SBC TRAINING CENTER

Mr. Jinhui LI
Asia-Pacific Regional Center
for Hazardous Waste Management,
Training and Technology Transfer
Department of Environmental Science
and Engineering
Tsinghua University
Beijing 100084
China
Tel: (+86 10) 62794 351
Fax: (+86 10) 627 720 48
e-mail jinhui@tsinghua.edu.cn or
jinhui@public.east.net.cn

NGOs

Mr. Ahmad Saeed
Deputy Programme Director
IUCN – The World Conservation Union
I-Bath Island Road
Karachi 75530
Pakistan
Tel: (+92 21) 587 56 21/587 56 22
Fax: (+92 21) 587 56 20/583 59 83
e-mail : ahmad.saeed@iucnp.org

Ms. O'lola Olib
Executive Director
Peoples Task Force for Bases Clean Up
(IPEN Focal Point)
14-c, Medical Street, GSIS Village
Project 8, Quezon City, Philippines
Fax: (+632) 4562985
e-mail: olola12@yahoo.com

LECTURERS

Mr. James B. Willis
Director, UNEP Chemicals
11-13 Chemin des Anémones
CH-1219 Châtelaine, Geneva,
Switzerland
Tel: (+41 22) 917 81 83
Fax (+41 22) 797 34 60
e-mail: jwillis@unep.ch

Mr. Bo Wahlström
Senior Scientific Advisor
UNEP Chemicals
11-13 Chemin des Anémones
CH-1219 Châtelaine, Geneva,
Switzerland
Tel: +41 22) 917 81 95
Fax (+41 22) 797 34 60
e-mail: bow@unep.ch

Mr. John Buccini
31 Sycamore Drive
Ottawa, Ontario
Canada K2H 6R4
Tel: (613) 828-7667
Fax: (815) 352-4253
E-mail: jbuccini@sympatico.ca

Dr. Laurent K. Granier
UNEP/GEF Coordination Officer
P. O. Box 30552
Nairobi, Kenya
Tel: 254 2- 62 3967
Fax: + 254 2- 62 4041
e-mail: Laurent.Granier@UNEP.org
Or from 15/1/2002
Senior Environmental Specialist /POPs
Global Environment Facility
1818 H Street NW
Washington DC 20433
USA
Fax: 1-202-5223240
Email: lgranier@worldbank.org

Mr. Bengt Bucht
Senior Counsellor
National Chemicals Inspectorate
(KEMI)
P.O. Box 1384
S 17127 Solna
Sweden
Tel: +4687831226, +46707678897
(mobile)
Fax: +4687358612
e-mail: bengt@kemi.se

Mr. Masa Nagai
Legal Officer
Environmental Law Branch
Division of Policy
Development and Law
UNEP, Nairobi, Kenya
Tel: (+254 2) 62 34 93
Fax: (+254) 23 01 98
e-mail: Masa.nagai@unep.org

Dr. Alemayehu Wodageneh
Coordinator and Chief Technical
Advisor
Plant Protection and Protection Division
Food and Agriculture Organization
of the United Nations (FAO)
Viale delle Terme di Caracalla
00100 Rome, Italy
Tel: (+39 06) 5705 5192
Fax: (+36 06) 5705 6347
Alemayehu.wodageneh@fao.org

CONSULTANT

Mr. Muhammed Omotola
Consultant
UNEP Chemicals
11-13 Chemin des Anémones
CH-1219 Châtelaine, Geneva,
Switzerland
Tel: +41 22) 917 84 97
Fax (+41 22) 797 34 60
e-mail: momotola@chemicals.unep.ch

UNIDO

Mrs. Barbara Garbe
Programme Officer
Regional Office Thailand

2nd Fl., PTTEP Bldg.
Viphavadee-Rangsit road
Chatuchak, Bangkok 10900
Tel: 662-537-5956
Fax: 662-5375955
e-mail : bgarbe@unido.or.th

Dr. Yash Pal Ramdev
Assistant Regional Coordinator
Regional Network on Pesticides for
Asia and the Pacific (RENAP)
UNIDO
55 Lodi Estate, New Delhi 110003
India
Tel: 91-11-4628877 ext 469/ 4629112
Fax: 91-11-4620912 / 4649895
e-mail : renpap@del2.vsnl.net.in
yashramdev@indiatimes.com

UNDP

Mr. Zhe Yang
Deputy Resident Representative (D)
UNDP
UN Bldg., Rajdamnoen Nok Avenue
Bangkok Thailand
Tel: 2881822

Mr. Rene Anderson
Programme Officer
Environment Division
UNDP
UN Bldg., Rajdamnoen Nok Avenue
Bangkok Thailand
Tel: 2882150

4. WORKING GROUPS

Issues and Questions

Intentionally produced POPs

Stockholm Convention

1. Legal and/or administrative measures to control intentionally produced POPs:

- Legal or administrative means to restrict and/or eliminate POPs
- Control of production and use
- Addressing pesticides
- Addressing industrial chemicals

2. Exemptions:

- Specific exemptions needed for any of the (8) POPs in Annex A and B
- Mechanism to notify the secretariat
- Means to control/minimize releases to environment and exposure to humans
- Site-limited exemptions needed for HCB or DDT
- Reporting measures, etc.

3. Implementation of trade measures:

- Measures for Parties
- Non-parties
- Reporting requirements

4. Implementation of PCB regime to achieve the main goals:

- Cessation of production (immediately/entry-into-force)
- Phase out of existing equipment by 2025
- ESM of wastes by 2028

5. Implementation of DDT regime to achieve the main goals:

- Need to produce or use for the acceptable purpose (disease control programs)
- Ability to develop national action plan
- Ability to inventory existing/produced DDT
- Research and development plans/needs

6. Assessment of new and existing chemicals and pesticides:

- Planned or existing programs
- Ability to use Annex D criteria into existing/planned programs

7. Provisions for stockpiles and wastes: Strategies for stockpiles and wastes

- For identification
- For ESM collection, transport, handling and transport
- For meeting requirements for transboundary movement (N.B. PCB regime)
- For ESM disposal
- Strategies for identifying contaminated sites

General Provisions:

1. Information exchange establish Designated National Authority
2. Public information, awareness and education
3. Research, development and monitoring
4. Reporting requirements
5. Development of national implementation plan (NIP).

How would the above link into the development of a NIP?

Steps to take

Assistance needed

Funding required

Points to stimulate discussion (not meant to be a limiting list!):

- How does present legislation handle intentionally produced POPs identified under the Stockholm convention?
- Is there legislation for their generation and release?
- Is there legislation for stockpiles and wastes containing these?
- What changes are needed to implement and ratify the Stockholm convention?
- What are the needs in developing national legislation that UNEP/other IGOs can help meeting?
- Needs for infrastructure changes?
- How would enforcement of legislation and other regulatory measures, adopted in implementation of the Stockholm convention, be carried out?
- What are the needs and possibilities for co-operation on implementing the Stockholm convention? Sub/regional and Bilateral

- What would be the necessary steps for countries to take to ratify the Stockholm convention?

Rotterdam Convention

- Legal and or administrative measures to implement the Rotterdam Convention.
- Nomination of Designated National Authority (DNA)
- Notification of Ban or Severe Reduction
- Proposal of Severely Hazardous Pesticide Formulations
- Import decisions
- Import and export control

Group 1 Intentionally produced POPs

Country	Legislation and Regulation Party			
	Pesticide	Industry	Chemicals	Party
	<i>Yes</i>	<i>No</i>	<i>Yes</i>	<i>No</i>
Bangladesh	➤			➤
Bhutan	➤			➤
Brunei	➤			➤
Cambodia	➤			➤
China	➤		➤	
India	➤		➤	
Indonesia	➤		➤	
Laos	➤			➤
Malaysia	➤			➤
Mongolia	➤	➤		
Myanmar	➤	➤		
Papua New Guinea	➤	➤		
Philippines	➤	➤		
Thailand	➤	➤		
Viet Nam	➤			➤

The countries in Working Group have banned practically 6 of the intentionally produced POPs, mainly the pesticides. However, in the case of DDT and PCBs, some countries have requested for exemptions pursuant to Article IV mainly for vector control programs while PCBs are used in some electrical equipment. The COP should settle the period of enforceability of exemptions.

The issue on whether or not, alternatives to PCBs and DDT may be acceptable to the countries in the Working Group, cannot be resolved in view of information that these alternatives might be more expensive and therefore uneconomically viable.

Trans-boundary movement of intentionally produced POPs in the sub region is one major issue discussed by the group. This is in view of the geographic locations of the countries thereby allowing illegal traffic of banned pesticides.

China: The management of pesticides requires licensing and inspection before distribution to consumers. Chlordane, however, continues to pose a threat to the environment, as it has no formal registration in accordance with acceptable environmental rules. Present regulations, however, cannot meet the requirement for POPs elimination, and China is stipulating a new law on Chemical Management.

India: a Central Insecticide Act governs the handling of pesticides. The present production is about 6,000 metric tons per annum entirely for malaria control. India has banned the production of Dieldrin, however its existing stock is allowed for use in the country. All other POPs are banned.

Thailand: The pesticide regulation is covered by 3 laws: the Factory act, Enhancement and Conservation of National Environmental Quality Act and the Hazardous Substance Act that controls the movement and production of any chemical.

Cambodia: The handling of pesticides is governed by regulation. Problems have been encountered with misuse of pesticides.

Brunei: Absence of specific legislation on toxic chemicals but Agrochemicals and pharmaceuticals are regulated through the Poison Act. All POPs pesticides have been banned. Brunei also does not produce nor manufacture any pesticides or chemicals.

Myanmar: No production of POPs pesticides. Laws and regulations to monitor and control the registration, importation, formulation, transportation, repacking and application of pesticides in place.

Mongolia: Indicates that they have legislation but has problem with enforcement.

Indonesia: Has both Pesticide and Industrial Chemicals regulation.

Laos: Legislation on pesticides has not been established, is only covered by Regulation. Industrial chemical Law is absent.

Bangladesh: Issues of a country that has produced DDT has been raised, whereby the production needs to be stopped, thus problem on stockpiles exist.

The production, import and use of POP Chemicals have been banned. The single DDT plant has been shut down a long ago. But approximate 500 tons of DDT stock remains. Small quantities are used for vector control. But DDTs found in the black market are coming from neighboring country. There are also problems with the huge unemployed manpower of the layoff DDT plant and also with the dismantlement of the DDT plant.

PCB's are used in electric transformers. But there is no inventory or data about the amount of use and the final fate of discarded PCBs (from out of use transformers).

Bangladesh has no direct regulation Act to control the POPs. But there are pesticide rules and an Act to control the pesticide import, production and use. All pesticide and

chemicals import, production and use are controlled and governed by the Environmental Conservation Act 1995 and Environmental Conservation rules 1997, above all the rules, regulation and Acts regarding any chemicals and pesticides.

Bhutan: Pesticide legislation has been passed since June 2000, but its implementation is not enforced. All pesticides are centrally controlled by a single organization. With regards to POPs, all POPs have been banned since 1990. There is no usage or production of POPs pesticides. On industrial Chemicals, there is no specific legislation at present. Baseline information needs to be collected to create a database.

PNG: Legislation exists but the only regulation in operation is the Pesticides Regulations. The regulation covering industrial chemicals has been in draft since 1995. Both need to be reviewed.

REQUESTS FOR EXEMPTIONS:

Bangladesh: No exemptions requested

Pakistan: Stocks of dieldrin are still available and a 2-yr exemption is requested.

India: Need exemption for DDT and for dieldrin; the existing stock is for a 2-year use.

Indonesia: Technical guidance is requested to control and minimize release to the environment.

Laos: Needs exemption for Chlordane.

Papua New Guinea: Needs exemption for vector control for DDT and heptachlor. Issues on controlling the chemical needs to be addressed.

Mongolia: Needs technical assistance for pesticides and chemicals and their control. POPs chemicals have been banned.

Brunei: Exemptions not applicable as all POPs chemicals have been banned.

Malaysia: All POPs pesticides have been banned. Based on the text & Annexes of Stockholm Convention, Annex A shows that chlordane is exempted as an insecticide, which is very general/broad, should be more specific i.e. termiticide.

Cambodia: Exemption needed for aldrin and for the industrial chemical PCB in electric transformers and capacitors. Requesting technical assistances for PCBs and for risk assessment and management of POPs.

China: DDT, Chlordane are requested to be exempted.

TRADE MEASURES.

Illegal traffic of pesticides is a concern. Measures such as information exchange are needed on the illegal transfer on banned pesticides. Information exchange with producer (exporting country) is crucial.

Bangladesh: Concerned about the illegal traffic of DDT and other POP chemicals from neighbouring country.

Cambodia: Raised issues on the absence of labelling on pesticide formulations illegally imported.

China: Notifications between the importing and exporting countries are needed.

Malaysia: Legislation is under review, so that even the user of illegal or banned pesticides could be penalized.

Papua New Guinea: Legislation is not fully operative, there is lack of manpower and lack of information exchange mechanisms between different agencies. These issues need to be raised in order to tackle the problem. Training of manpower in all relevant agencies is an urgent need. The only control on pesticides is for those where applications have been made for import permits.

Indonesia: Notification procedure and bilateral agreement for non-party and party needed.

Mongolia: Need for training of inspectors.

IMPLEMENTATION OF PCB REGIME TO MAIN GOALS.

Bangladesh: Still using PCB for electric transformers. But there is no inventory about the amount and impact of the PCBs.

Thailand: National Action Plan is done on inventorying PCB containing transformers. The phasing out of PCB is a problem and has not been completed.

Papua New Guinea: PCB use banned since 1980s. Survey done and a lot of PCB oil has been transferred from the old equipment to the new ones. Problems with disposal of PCB contaminated oil and equipment.

China: Identification of PCBs transformers and the technology to get rid of PCB are the problems encountered.

Philippines: Current PCB stocks are being exported for disposal to Europe.

Brunei: All PCBs containing equipment has been banned to be used and imported to Brunei since 1970. Problems are encountered to identify the old transformers whether they are containing PCBs or not.

Cambodia: Problems with PCB in old transformers where the oil is taken to the market for reuse.

A standardized protocol for the inventory of PCBs is requested from UNEP.

DDT REGIME TO ACHIEVE MAIN GOALS

China, India, Papua New Guinea, Bangladesh and the Philippines still use DDT for vector control against malaria.

India and China are the countries that still produce DDT

Papua New Guinea: An action plan is in place for DDT in the health sector however implementation needs to be checked. An inventory is done but recent information received indicates that not all stockpiles were included. Difficulties faced in preventing illegal use of DDT for agricultural purposes by farmers. No research and development plans though there is need for this.

Bangladesh: Still use DDT but under limited use, and has stopped production.

ASSESSMENT OF NEW AND EXISTING CHEMICAL AND PESTICIDES.

Bangladesh: IPM method has been tried for the last few years, but there is a lack of funds. Research facility is limited. Mainly depending on alternatives that are developed in other countries.

India: Developing pesticides that are biodegradable such as the use of substances from the neem tree. This is one of the actions taken. Additional funding is required for the continuation/extension of the project.

China: Stresses financial support to be provided from developed countries. China has difficulty in using the criteria in Annex D; lack of facilities to assess POPs because of laboratory requirements.

Philippines: Checks compliance with provisions into safe and environmental friendly pesticides, category 3 and 4. Big plantations use chemicals. Even with price balance plantations use active ingredients that are safe and environmental friendly.

It is suggested that the criteria be pre-tested to determine their efficiency in the respective areas or countries.

Papua New Guinea: Doesn't have the financial and technical capacity for testing and assessing new POPs. Need to rely on foreign generated data/results, which may not be relevant to the country's conditions.

Bhutan: Biochemical uses can be very difficult to assess. Needs the capability and manpower.

PROVISIONS FOR STOCKPILES AND WASTE.

Bangladesh: About 500 tons of DDT remain at the closed down DDT plant. As the present use is very limited, there is a problem with stockpiles and also with the plant machinery. No expertise or fund available to destroy the stockpiles. There is also a problem with the rehabilitation of the employees of the DDT plant.

China: Problems encountered; difficulties in identifying stockpiles of POPs lack of funding and technology to dispose of the stockpile, identifying and remediating areas polluted and the equipment that produced POPs in the past.

India: Dieldrin stocks are still there and sufficient for two years. As for contaminated sites for DDT, stores and storage buildings are a problem. There are no funds available to conduct a study to determine how big is the contamination in the country. Possible contaminated sites could be where DDT is produced or is stored.

Bhutan: A few tons of POPs pesticides await disposal in an environmentally sound manner.

Papua New Guinea: Need financial assistance for the Environmentally Sound Management and Environmentally Sound Disposal of stockpiles and wastes.

RECOMMENDATIONS:

On the general provisions, the funds are not just for the development of NIP. It should include other aspects in disposal, storage and transport and other aspects needed in the UNEP kit. For developed countries, their main issue is health care. If developed countries dump their wastes in developing countries, then the later should be compensated. Most POPs come from developed countries.

Countries need technical and logistical support from UNEP to cover NIPs for the convention. For intentional POPs financial assistance is needed for the inventory, transport and disposal of the POPs and also to the screening of new chemicals that enter our countries.

- Massive information dissemination will need funding. Both international bodies and our respective governments should provide the means to achieve the goals of the convention.
- Assistance in law enforcement and monitoring is needed.
- Training of manpower of all stakeholders is needed to come up with capability building activities for government and non-government, the vendors, end users etc.
- There is a need for subsidizing alternatives to POPs, require big multinationals to assist in the development of effective and economical, safe and environmental friendly alternatives.
- Need exchange of information at least in the subregion on how to produce and use alternatives. Containers need to be properly labelled political infrastructure must be in place and improve information mechanism.
- There is a liability of multinational companies to help fund the national programs.
- Concrete help is needed from UNEP to assist in including the other conventions that should be pushed for ratification.

Group 2 Unintentionally Produced POPs.

Participants

- Bangladesh
- Brunei
- Myanmar
- LAO PDR
- India
- Papua New Guinea
- Malaysia
- Cambodia
- Philippines
- Indonesia
- Singapore
- Mongolia
- Republic of Korea
- Nepal
- DPR Korea
- Thailand
- Vietnam
- IUCN - Pakistan
- Basel Convention Regional Centre

CURRENT SITUATION IN SUB-REGION CHARACTERIZED BY:

- Lack of laboratories for sampling and analysis
- Lack of standardised procedures on sampling and analytical techniques for dioxins, furans, PCBs, Hexachlorobenzene
- Lack of inventories on dioxins, furans PCBs, Hexachlorobenzene
- Lack of specific legal instruments to deal with unintentional releases in most countries.
- Lack of baseline data and technical know-how.
- Lack of expertise within various sectors and levels.
- Lack of involvement and commitment among stakeholders.
- Lack of resources and infrastructure
- Lack of political will

IDENTIFICATION OF NEEDS

- Regional and sub-regional centres for collection, exchange and sharing of information on legal instruments, standards, information on available facilities for treatment and disposal etc.
- Comprehensive training programmes including hands-on training required for sampling and analytical techniques for POPs
- Set up a list of inventory on sources of dioxins, furans, PCBs and HCBs
- Study on the impact on the economy to prioritise action plan based on emission sources of POPs.
- Existing regional centres for Basel Convention to be strengthened and upgraded to enable the enhancement of analytical capabilities
- Identification of control technologies for emission sources.
- Recognise the needs of developing countries for assistance in formulating action plans.
- Need for concerted efforts and coordination among the various stakeholders
- Expert assistance required in the preparation of the inventory.
- Provision of relevant software to assist in estimating the release.
- Need to assess and access suitable BAT and BEP
- New technologies to be provided at affordable cost.
- Technology transfer from developed countries.
- Encourage / Promote the development of indigenous technologies / alternatives.
- Capacity building programmes through workshops etc.
- Establishment of pilot centres to demonstrate new technologies for managing POPs emission in the country.

RECOMMENDATIONS AND CONCLUSION

- In view of the serious impact of POPs, every country should develop its National Implementation Plan.
- Financial and technical assistance should be made available to all countries in the preparation of their national implementation plans.
- Bilateral assistance should be provided to activities identified under the National Implementation Plan.
- UNEP and other IGOs' assistance required in providing advice for developing and fine-tuning legislative instruments and administrative measures.
- Provide assistance for strengthening infrastructure and institutional arrangements within the region.
- Provide assistance in capacity building programmes.
- Legislation needs to be framed taking into consideration the economic, social and cultural impact of each country for proper implementation.
- Flexibility in the utilization of the GEF funding not only for preparation of NIPs, but also for funding activities identified under the NIPs.
- The two Basel Convention Regional Centers should be strengthened in the first phase. Subsequently, other relevant institutions could also be identified and developed for strengthening sub-regional and regional cooperation.
- Regional UNEP office could monitor the activities undertaken in the implementation of the NIPs within the region.
- Raising public awareness through dissemination of information through media, education and training.

Financial Mechanism for the Stockholm Convention on POPs

ISSUES FOR GROUP DISCUSSION

SCOPE & OBJECTIVE

This WG discussion is concerned i) with the steps that countries need to take to access GEF funding for preparation of their NIP; and ii) the additional type of assistance that may be required from the GEF (in addition to funding for NIP; at the sub-regional level for example).

Participants should discuss and understand the process of developing proposals for a NIP, and make recommendations to the GEF (and its Agencies) on how best to assist countries in this interim period in the first years of the implementation of the Convention.

SOME LEADS FOR DISCUSSION

1. The GEF guidelines for enabling activities

Adequacy of the guidelines

Suggestions for improvements

2. The process of accessing GEF funding for NIP

Steps required to access funding

Need for assistance in developing a proposal / what type?

3. The GEF

Questions about the GEF. are they mostly covered by the workshop?

What other type of information would you like to see?

4. Assistance other than NIP at the regional/sub-regional level

Need for training / courses, regional centres of excellence, etc?

In this first phase of initial assistance, GEF's assistance will be focused on NIPs, which will serve as a basis for addressing priority issues in a further phase. However, the GEF guidelines recognise that there might be a need for some additional activities at the regional/sub-regional level. This workshop is an example of such activities.

5. Other efforts at the sub-regional level?

Preparation of action plans at the Subregional level

Support needed for what type of regional actions? (Laboratory facilities? Disposal facilities? etc?).

Working Group 1 Financial Mechanism for Stockholm Convention on POPs

Participants:

1. Bhutan
2. Bangladesh
3. China
4. Cambodia
5. India
6. Indonesia
7. Laos PDR
8. Malaysia
9. Mongolia
10. Myanmar
11. Papua New Guinea
12. The Philippines
13. Thailand
14. Viet Nam

ISSUES AND RECOMMENDATION:**1. Comments on Preparing NIPs**

a. Issue:

Information is not clear on the flexibility of the Framework of the NIP.

Recommendation.

There should be information on the flexibility in the elements of the framework of the NIPs. There should be a procedure for making amendments to NIP guidelines to suit country situations.

b. Issue:

Countries are concerned over the financial implications of implementing NIPs

Recommendation:

Need overall comprehensive analyses of all issues/implications to the country (e.g. socio-economic situation, etc) that may result from implementing the NIP. These need to be included for decision makers to make informed decisions.

c. Issue:

Capacity building in particular training for implementing priority areas in NIPs need to be looked into at the early stage of the project

Recommendation:

NIP should identify training needs not only for developing NIP but also to some extent, beyond NIP (certain skills for implementation need to be developed from the beginning).

Other Recommendations:

- GEF needs to provide information on e.g. technology for alternatives in various countries
- Proposed / approved NIPs should be on the website.

2. Comments on Access to GEF Funds for the Preparation of NIPs

Guidelines are not easily readable/understandable (lengthy).

Recommendation:

Simplified (e.g. diagrammatic form) guidelines on procedures should be made readily available to all countries for obtaining GEF funding (can be used in country for informing decision makers).

Countries do not have access to information/profile on the EAs/IAs (e.g. areas of expertise) that can assist in their NIP. Need some information/parameters from GEF for assisting countries in selecting Implementing Agencies or Executing Agencies.

Recommendation: GEF provide information on each IA/EA, which will be readily available.

3. Additional Types of Assistance

- a. At Country Level
 - Support for Capacity Building should be given, parallel to NIP development.

- b. At Regional/Sub-regional Level
 - UNEP should carry out a study on the current status of laboratory and disposal capabilities in the region.
 - Support for strengthening the above capacity including the regional centres for excellence is needed.
 - Inclusion of other regional organizations as stakeholders in this programme at early stage of the project is important.
 - Guidelines on standard laboratory procedures etc. should be set up.
 - A mechanism for exchange of information between countries in the region should be set up.

Working Group 2 Financial Mechanism for Stockholm Convention on POPs

MEMBERS:

1. Mr. B. R. Palikhe, Chairman Nepal
2. Ms. A. Brabante, Rapporteur Philippines
3. Mrs. Haruki Agustina Indonesia, Basel Regional Centre
in Jakarta
4. Ms. Martinanh Haji Tamit Brunei Darussalam
5. Mr. P. Vellayutham Malaysia
6. Ms. Rohaya Saharom Singapore
7. Mrs. D. Sodnom Mongolia
8. Ms. Khin La Pyi Won Soe Myanmar
Nyont
9. Mr. Bernardo Severino Philippines
10. Mr. Nguen Khac Kinh Vietnam
11. Mr. Jang Chol Gun DPR Korea
12. Mr. N. H. Hosabettu India
13. Mr. S. H. Lee R. Korea
14. Ms. Pornpimon Chareonsong Thailand
15. Mr. Jinhui LI Basel Regional Centre in Beijing
16. Mr. Ahmad Saeed IUCN-Pakistan
17. Mr. Harry Kore Papua New Guinea
18. Mr. Pak Sokharavuth Cambodia
19. Mrs. Sisouphanh Luangrath Lao P.D.R.

1. The GEF Guidelines for enabling activities

- The GEF guidelines seem adequate for enabling activities. The countries in the region may refer to other guidelines taking into consideration their national requirements.
- Elements of action plan on POPs needed:
 - Management guidelines
 - Investment guidelines for strengthening and establishing laboratory facilities
 - Law enforcement guidelines
 - Supporting guidelines capacity building (training, education et al.), R&D on POPs and POPs alternatives.

2. Process of accessing GEF funding for NIP

- Steps required to access funding
 - 1 Sign the Convention
 - 2 Establishing rapport with the Executing/Implementing Agency for better understanding and fine-tuning the proposal
 - 3 Propose that GEF prepare a brief write-up on each Executing/Implementing Agency's experience in environmental-related projects to enable the country to make the right choice.
 - 4 Inter-agency co-ordination and co-operation to prepare and put forward the NIP to GEF important.
 - 5 A flow chart of the GEF funding process would facilitate an easy understanding of the various steps
- Need for assistance in developing a proposal / what types?

Technical assistance is required to formulate and to pilot the project proposal.

3. The GEF

- Questions about GEF. Are they mostly covered by the workshop?

Sufficient information is provided, but it would be better if a model proposal was prepared by the secretariat of the GEF as reference.

- What other type of information would you like to see?

More open communication with GEF is necessary

ADDITIONAL TYPE OF ASSISTANCE REQUIRED FROM GEF:**4. Assistance other than NIP at the regional/sub-regional level**

- Clarification on the role of the Implementing Agency and Executing Agency at the regional/sub-regional level is needed.
- Providing hands-on training programs on more technical and specific issues of POPs to stakeholders (e.g. National operational agencies including Implementing Agency and Executing Agency)
- Transfer of Technology on BAT and BEP are needed.
- Promotion of R&D and use of cost-effective alternatives to POPs pesticides is needed.

5. Other efforts at the sub-regional level


- Clarification on the possibility of preparing action plan at sub-regional level
- Establishment of a regional/sub-regional network of "POPs Officers" (similar to the network of ODS officers) would be advantageous
- Propose strengthening the two Basel Regional Centres in the first phase. Subsequently, other relevant institutions could also be identified and developed for strengthening regional/sub-regional cooperation.
- Basel Regional/sub-regional Centres are suggested to play an important role for collection, exchange and sharing of information on legal instruments, standards, information on available facilities for treatment, disposal, laboratory, etc.

5. PRESENTATIONS

Overview of Programme and Discussion of Goals and Output *by Dr. Bo Wahlstrom*

Programme overview

Goals and Outputs




UNEP

MSP Workshop, Bangkok, 26-30
November 2001

General structure of the workshop

- I. Opening Session
- II. The Conventions
- III. Current status of legislation in the region
- IV. Stockholm Convention obligations for POPs and related instruments



UNEP

MSP Workshop, Bangkok, 26-30
November 2001

V. Basic features of chemicals legislation and management

VI. Future national action and regional cooperation (Working groups)

VII. Financial mechanism for the Stockholm Convention (including Working Groups)



MSP Workshop, Bangkok, 26-30
November 2001

Purpose

To make country officials familiar with the Stockholm Convention, its benefits and sources of support for its implementation in order for their countries to ratify the convention and take early action on POPs.



MSP Workshop, Bangkok, 26-30
November 2001

Objectives

Improve Government understanding of the Stockholm Convention, and the benefits of and the need to become a Party;

- Improve Government understanding of the nature of the problems caused by POPs;
- Help countries understand what their obligations are under the Stockholm Convention;
- Encourage and facilitate early ratification of the Convention;



MSP Workshop, Bangkok, 26-30
November 2001

Objectives, continued

·I

Identify some of the legislative, capacity building, investment and other infrastructural measures needed to support the implementation of the Stockholm Convention and related instruments (Basel and Rotterdam Conventions, regional agreements);

- Facilitate eligible countries' access to GEF resources for enabling activities, National Implementation Plan (NIP) development and the implementation of the Convention;



MSP Workshop, Bangkok, 26-30
November 2001

Objectives, continued

- Help Governments to begin the process of developing a NIP and other implementation/enabling activities under the Convention;
- Encourage co-operative partnerships among different sectors and stakeholders for the implementation of the Convention; and



MSP Workshop, Bangkok, 26-30
November 2001

Objectives, continued

Report on the current situation in countries of the subregion with regard to existing and planned measures for control and management of toxic substances, including plans to implement action on POPs and other toxic chemicals and to ratify the Stockholm Convention and related instruments.



MSP Workshop, Bangkok, 26-30
November 2001

Workshop Expectations from UNEP

by Mr James Willis

Workshop expectations from UNEP

Jim Willis, Director
UNEP Chemicals

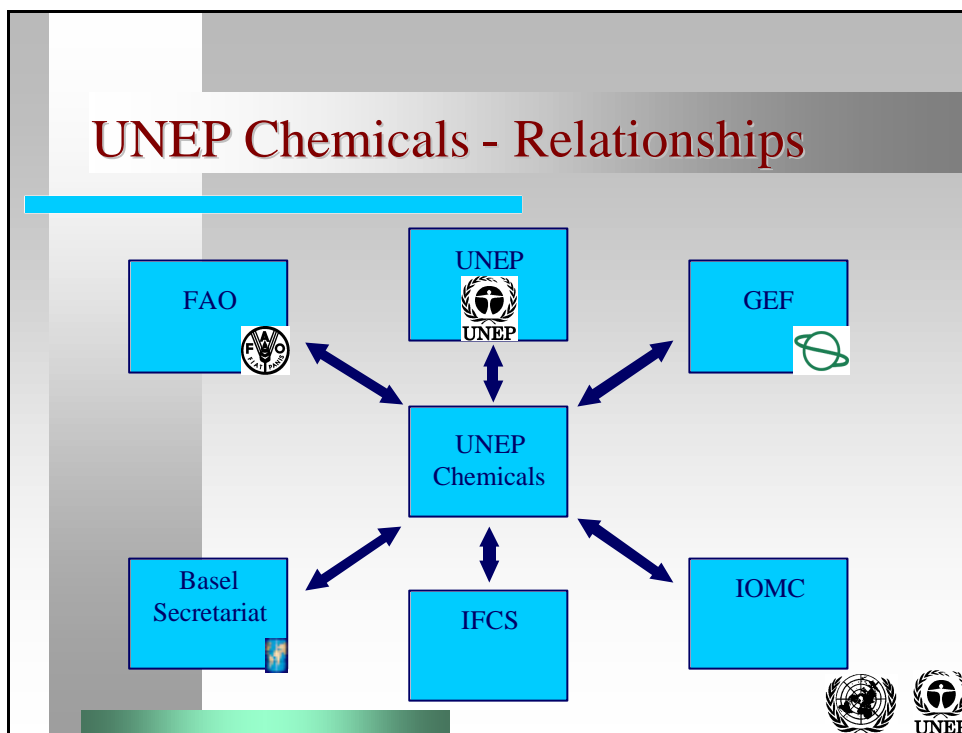


UNEP Chemicals - Functions

- **Main Functional Areas:**
 - Stockholm Convention Secretariat (May 2001)
 - Rotterdam Convention Secretariat (September 1998)
 - Capacity Building
 - Assessment (POPs, PTS, Mercury)
 - Policy Development
 - Technical Support
- **Clustered with Basel Convention Secretariat (1989)**
- **Capacity Assistance Network with GEF**



UNEP Chemicals - Relationships



UNEP Chemicals - Priorities

- **Entry into force of the Rotterdam Convention**
- **Entry into force of the Stockholm Convention**
- **Stockholm Convention implementation plans and support for implementation**
- **Capacity building**
- **Assessment: POPs, PTSs and Mercury**
- **Chemical strategy**

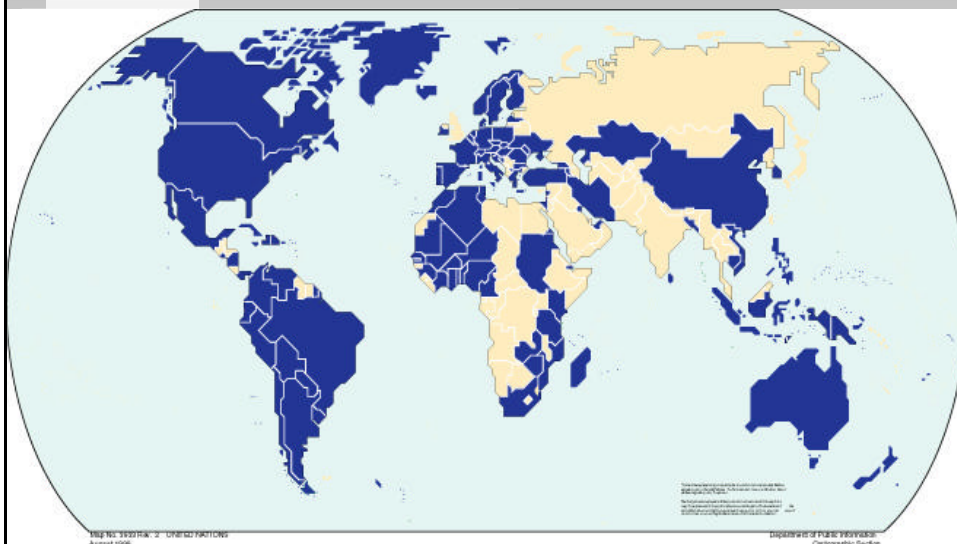


Status of signature and ratification

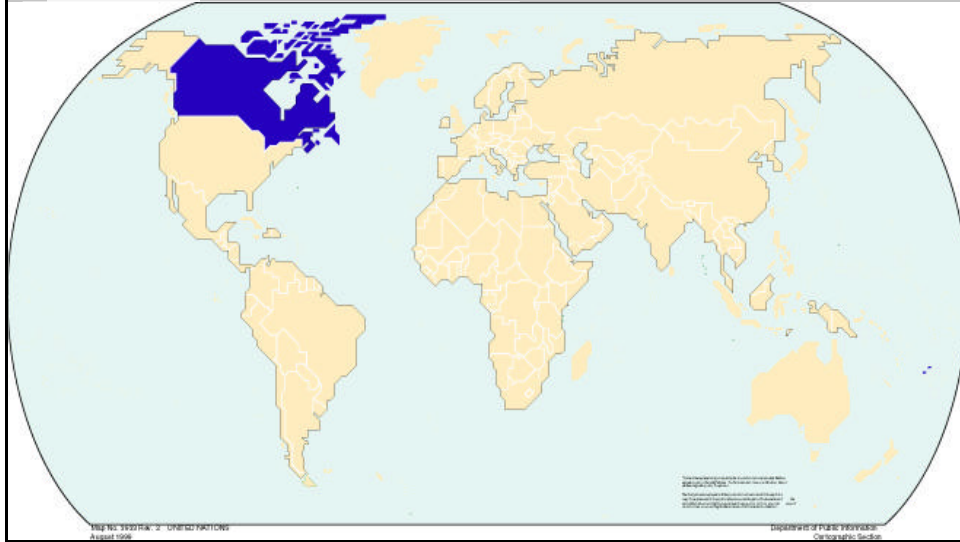
- **Stockholm**
- **Rotterdam**
- **Basel**



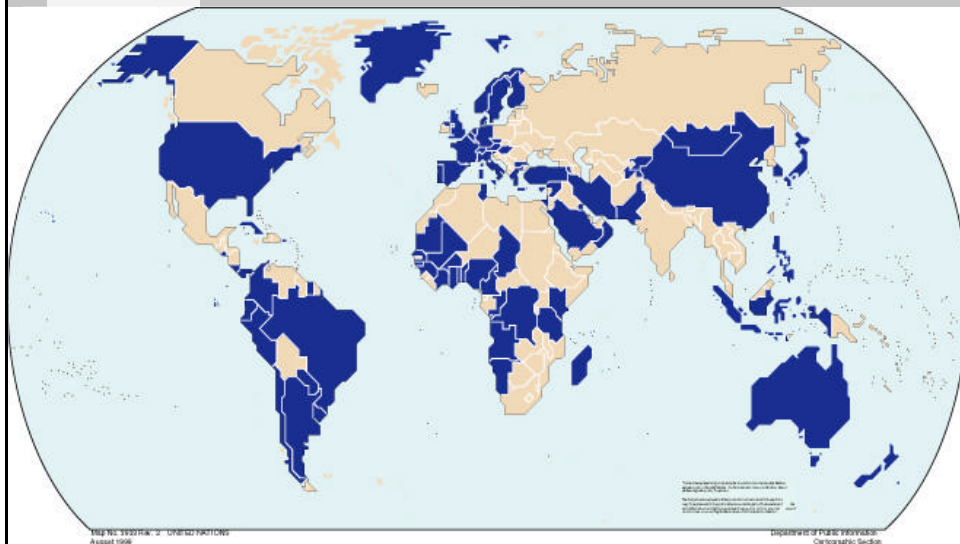
Stockholm Signatures -106



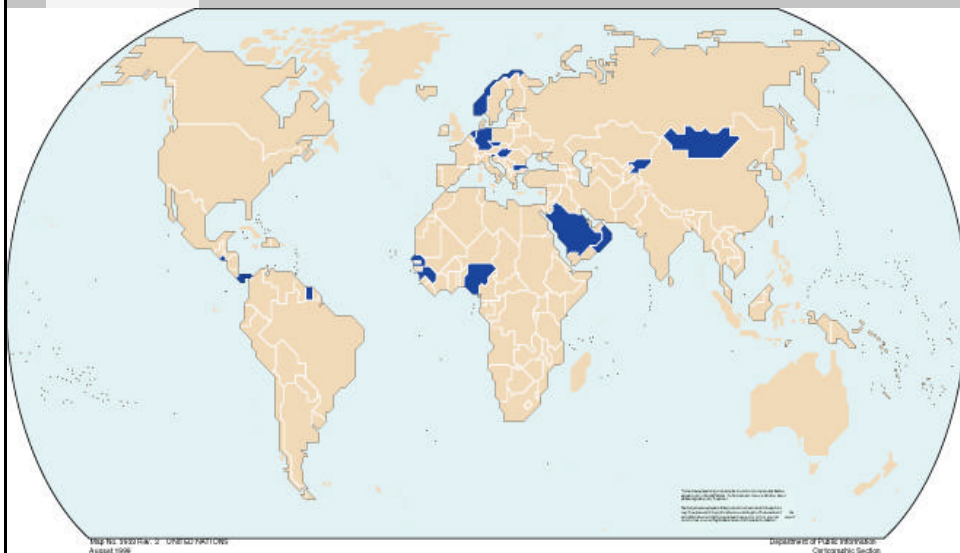
Stockholm Ratifications - 2



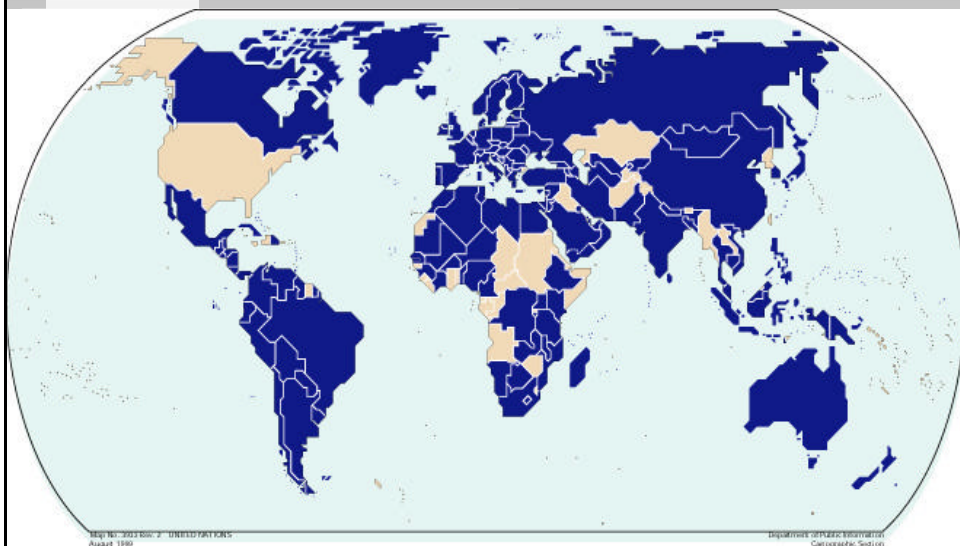
Rotterdam Signatures - 73



Rotterdam Ratifications - 17



Basel Ratifications - 148



Expectations for the workshop

- **Better understanding among all participants of the convention(s) and issues**
- **Signature of the Stockholm Convention**
- **Start of Stockholm Convention implementation plan (NIP) development process**
- **Ratification of the Rotterdam Convention**
- **Ratification of the Stockholm Convention**
- **Ratification of the Basel Convention**
- **Better PIC-POPs-Basel integration at the country and regional level**
- **Identification of capacity building steps**



The Global Environment Facility and POPs

by Dr. Laurent Granier

The slide features a dark header with the GEF logo and the title 'The Global Environment Facility and Persistent Organic Pollutants'. The background of the slide is a cloudy sky. The main content is a bulleted list under the heading 'What is the GEF?'.

The Global Environment Facility
and **Persistent Organic Pollutants**


What is the GEF?

- An independent financial mechanism that helps developing countries and economies in transition protect the global environment.
- 167 countries are members (May 2001).
- 36 countries contribute to the GEF trust fund, including developing countries.
- GEF partnerships unite governments, NGOs, scientists and the private sector.

The Global Environment Facility
and **Persistent Organic Pollutants**

Since 1991, the GEF
has funded more than 800
projects in 160 countries

\$3 billion in GEF grants
\$8 billion in co-financing




The Global Environment Facility
and **Persistent Organic Pollutants**

The GEF Fills a Unique Niche


- GEF funding complements, and does not substitute for existing aid programs.
- GEF supports projects with global environmental benefits for which official development funds are *not* available.
- GEF pays the added costs of making development projects friendly to the global environment.




 The
Global Environment Facility
and **Persistent Organic Pollutants**

What is the GEF?


- **Project types**
 - Biodiversity
 - Climate change
 - International waters
 - Ozone depletion
 - Land degradation
- **New initiatives**
 - Sustainable transportation
 - Integrated ecosystem management
 - Agro-biodiversity
 - Persistent organic pollutants (POPs)



 The
Global Environment Facility
and **Persistent Organic Pollutants**


The Role of the GEF

- GEF is the “interim financial mechanism” for the Stockholm Convention.
- Following Convention guidance, GEF will provide funding to developing and transition countries for the implementation of some activities to address POPs
- GEF’s approach builds on its previous experience addressing the issue of contaminants, including POPs, in international waterbodies.

 The
Global Environment Facility
and **Persistent Organic Pollutants**

GEF's Initial Assistance

1. GEF will initially help countries strengthen their capacity to prepare *National Implementation Plans (NIPs)*. This activity is known in the GEF as "enabling activities."
2. The NIP will help countries identify and prioritize capacity building, policy and regulatory reforms, and investments needed to address the issue of POPs.




 The
Global Environment Facility
and **Persistent Organic Pollutants**

GEF's Initial Assistance


3. See the GEF document "*Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants*" for information on NIP-eligible activities.
4. The "*Initial Guidelines*" document is available from the GEF website at www.gefweb.org.




 The
Global Environment Facility
and **Persistent Organic Pollutants**

How much funding is available from GEF?


- GEF will provide funds to cover the agreed full cost, up to US\$500,000 per country, for enabling activities.
- Requests for more than US\$500,000 will be considered on a case-by-case basis




 The
Global Environment Facility
and **Persistent Organic Pollutants**

How can I improve my country's technical capacity to prepare its NIP?


1. GEF will provide capacity building support to countries by organizing:
 - a. workshops to familiarize countries with the application of the GEF's initial guidelines for enabling activities;
 - b. specialized training at the regional or sub-regional level



 The Global Environment Facility
and **Persistent Organic Pollutants**

How can I apply for GEF funding?

- The “Initial Guidelines” document includes a proposal outline.
- Contact one of the GEF’s partner agencies to assist you throughout the application process and during the implementation of the enabling activities

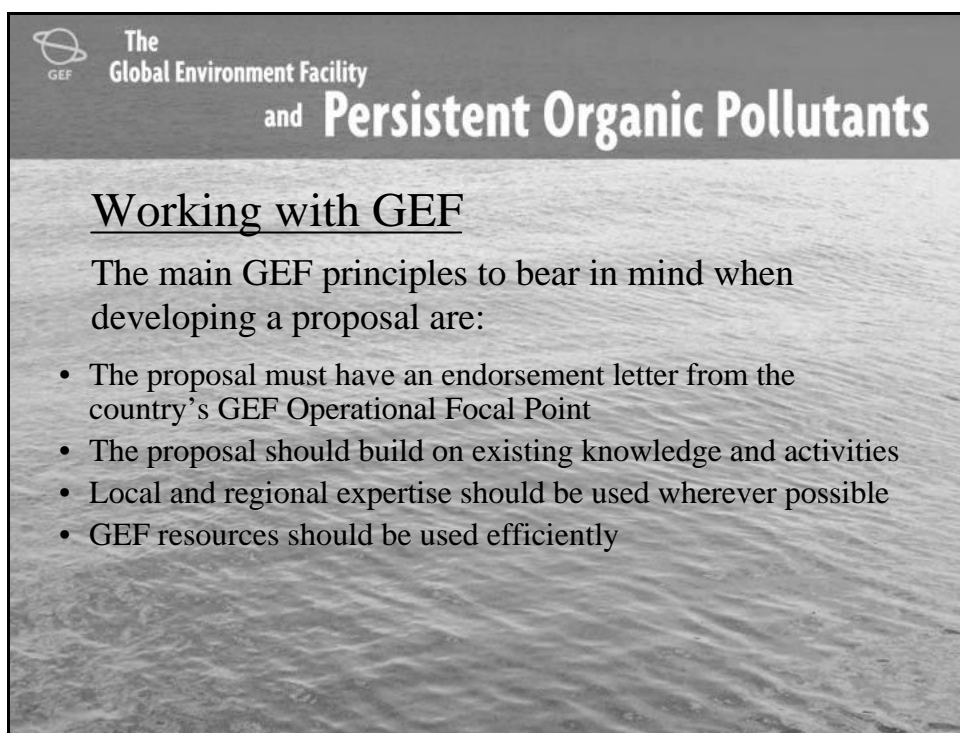



 The Global Environment Facility
and **Persistent Organic Pollutants**

GEF Partner Agencies

- United Nations Environment Programme
- United Nations Development Programme
- World Bank
- African Development Bank
- Asian Development Bank
- European Bank for Reconstruction and Development
- Food and Agriculture Organization
- Inter-American Development Bank
- UN Industrial Development Organization



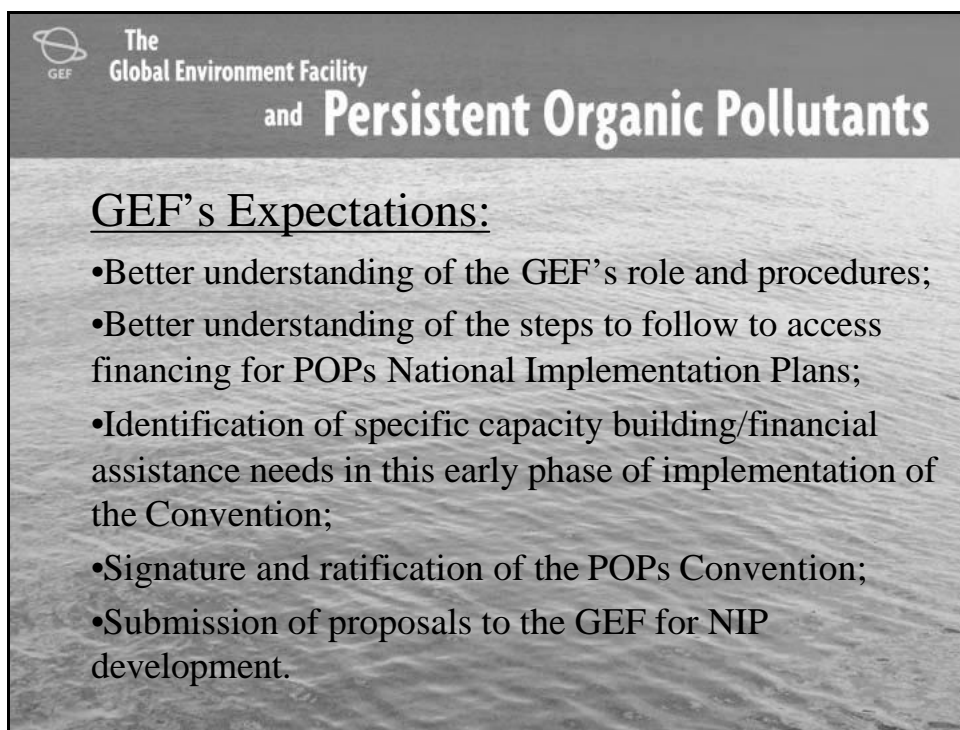



 The
Global Environment Facility
and **Persistent Organic Pollutants**

Working with GEF

The main GEF principles to bear in mind when developing a proposal are:

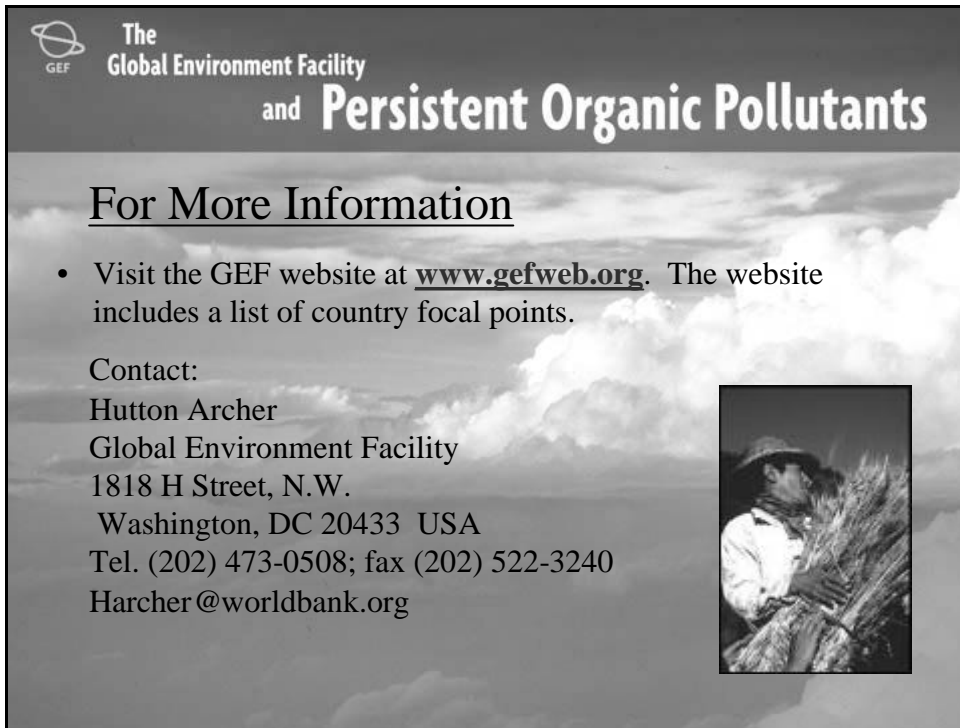
- The proposal must have an endorsement letter from the country's GEF Operational Focal Point
- The proposal should build on existing knowledge and activities
- Local and regional expertise should be used wherever possible
- GEF resources should be used efficiently




 The
Global Environment Facility
and **Persistent Organic Pollutants**

GEF's Expectations:

- Better understanding of the GEF's role and procedures;
- Better understanding of the steps to follow to access financing for POPs National Implementation Plans;
- Identification of specific capacity building/financial assistance needs in this early phase of implementation of the Convention;
- Signature and ratification of the POPs Convention;
- Submission of proposals to the GEF for NIP development.


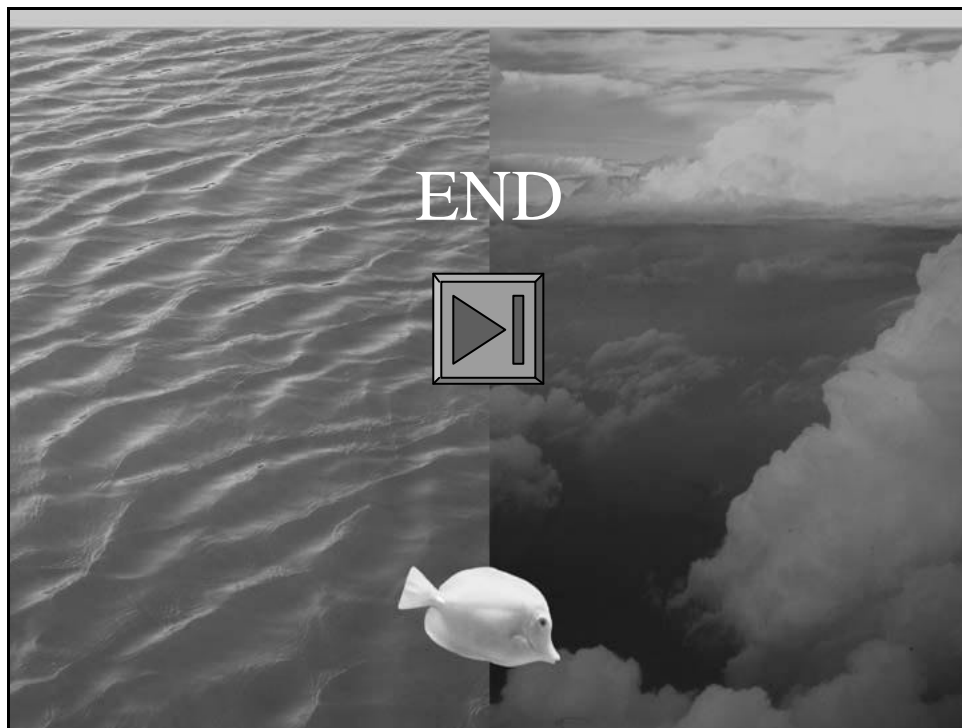


 **The
Global Environment Facility
and Persistent Organic Pollutants**

For More Information

- Visit the GEF website at www.gefweb.org. The website includes a list of country focal points.

Contact:
 Hutton Archer
 Global Environment Facility
 1818 H Street, N.W.
 Washington, DC 20433 USA
 Tel. (202) 473-0508; fax (202) 522-3240
Harcher@worldbank.org

Stockholm Convention on POPs

by Dr. John Buccini

Stockholm Convention on POPs

1. Background
2. Convention Provisions
3. Current Status

John Buccini
Chairman

UNEP POPs Intergovernmental Negotiating Committee
Ottawa, Canada

Background: What are POPs?

- POPs are organic compounds (*i.e.*, carbon-based)
 - natural or anthropogenic origin
- unique combination of physical & chemical properties:
 - resist degradation in environment (*i.e.*, persistent)
 - low, but significant, vapor pressure (“semi-volatile”) leads to distribution in all environmental media
 - low water solubility + high fat solubility
- ⑤ regional and global distribution by air, water, wildlife
- ⑤ long-term exposure to humans and wildlife
- ⑤ bioaccumulation in fatty tissues of living organisms
- ⑤ acute and chronic toxic effects on humans & wildlife

Background: The “UNEP 12”

Chemical	Pesticides	Industrial Chemicals	By-products
Aldrin	+		
Chlordane	+		
DDT	+		
Dieldrin	+		
Endrin	+		
Heptachlor	+		
Mirex	+		
Toxaphene	+		
Hexachlorobenzene	+	+	+
PCBs		+	+
Chlorinated dioxins			+
Chlorinated furans			+

Bangkok (26 Nov 2001)

Stockholm Convention

3

Background: INC Process

- UNEP Governing Council Mandates:
 - May 1995: Assess the need for international action
 - Feb. 1997: Negotiate a convention by 2000
- Negotiations:
 - INC1: Montreal (June 29 - July 3, 1998)
 - INC2: Nairobi (January 25 - 29, 1999)
 - INC3: Geneva (September 6 - 11, 1999)
 - INC4: Bonn (March 20 - 25, 2000)
 - INC5: Johannesburg (December 4 - 10, 2000)
 - Diplomatic Conference: Stockholm (May 22 - 23, 2001)

Bangkok (26 Nov 2001)

Stockholm Convention

4

Convention Provisions

Objective = protection of health and environment

[*Precaution* is acknowledged as an important element]

Main provisions:

- control measures
 - intentionally produced POPs
 - unintentionally produced POPs
 - stockpiles and wastes
- general obligations
- addition of new chemicals
- financial and technical assistance
- implementation aspects

Bangkok (26 Nov 2001)

Stockholm Convention

5

Intentionally Produced POPs

⑤ **Goal = elimination of production and use of all intentionally produced POPs**

- Chemicals slated for ***elimination*** are listed in Annex A:
 - aldrin, chlordane, dieldrin, endrin, heptachlor
 - hexachlorobenzene (HCB), mirex, PCBs, toxaphene
- Chemicals slated for ***restriction*** are listed in Annex B:
 - DDT (“acceptable purpose” for production and/or use in disease vector control programs)
- “specific exemptions” for these for some Parties
- other types of exemptions exist - some have conditions, accountability requirements, time limits (extensions)

Bangkok (26 Nov 2001)

Stockholm Convention

6

Intentionally Produced POPs

For PCBs (Annex A):

- **3 main goals:**
 - ⑤ cease production of new PCBs ***immediately***
 - *i.e.*, entry into force of the Convention
 - ⑤ eliminate use of in-place PCB equipment ***by 2025***
 - continued use is subject to conditions and restrictions
 - ⑤ achieve the environmentally sound management of PCB wastes ***as soon as possible and by 2028***
- **Parties must** report to the COP every 5 years on progress
- **COP will** review progress on 2025 & 2028 targets every 5 years

Bangkok (26 Nov 2001)

Stockholm Convention

7

Intentionally Produced POPs

For DDT (Annex B):

- **all Parties shall:**
 - eliminate production and use except for disease vector control programs:
 - special public DDT register
 - reporting and other obligations
 - promote research and development for alternatives to DDT
- **the COP will:**
 - review at its first meeting and every 3 years thereafter to see when DDT is no longer needed for disease vector control use (*i.e.*, technically and economically feasible alternative products, practices or processes are available)

Bangkok (26 Nov 2001)

Stockholm Convention

8

Intentionally Produced POPs

Trade will be restricted for all POPs in Annexes A & B

- Imports/exports between Parties are limited to shipments:
 - intended for environmentally sound disposal, or
 - to Parties with:
 - “Specific Exemptions” under Annex A or B, or
 - “Acceptable Purposes” under Annex B
- Exports to non-Parties may take place subject to:
 - conditions on both Non-Party and Party, and
 - accountability requirements for the use and disposal of POPs

Bangkok (26 Nov 2001)

Stockholm Convention

9

Intentionally Produced POPs

⑤ Goal = to identify possible POPs as early as possible in assessment programs and take action to reduce or eliminate generation and/or releases

- Parties with regulatory and assessment schemes for industrial chemicals and/or pesticides, shall, in conducting assessments of:
 - new substances, take “measures to regulate with the aim of preventing the production and use” of new POPs
 - in-use substances, consider the screening criteria for candidates for addition to Convention (Annex D)
- Convention does not require establishment of such programs

Bangkok (26 Nov 2001)

Stockholm Convention

10

Unintentionally Produced POPs

- ⑤ **Goal = continuing minimization and, where feasible, *ultimate elimination of total releases of chemicals in Annex C derived from anthropogenic sources***
[dioxins, furans, HCB, PCBs]

Parties shall:

- develop action plans within 2 years of entry into force
 - and implement their plans
- promote application of available, feasible and practical measures to achieve realistic and meaningful levels of release reduction or source elimination
- promote development and, where appropriate, require use of substitute or modified materials, products and processes to prevent formation and release of POPs

Bangkok (26 Nov 2001)

Stockholm Convention

11

Unintentionally Produced POPs

- **Convention lists 20 source types that have potential for formation and release of unintentionally produced POPs to environment [Annex C Parts II (7 high potential) & III]:**
 - combustion sources (incinerators, boilers, motor vehicles)
 - thermal sources in metallurgical industry
 - pulp production with elemental chlorine
 - some chemical production processes
 - textile and leather dyeing and finishing
 - several waste recovery and disposal practices
 - destruction of animal carcasses
 - crematoria

Bangkok (26 Nov 2001)

Stockholm Convention

12

Unintentionally Produced POPs

- For source categories with potential for comparatively high formation & release of POPs to environment, **Parties shall:**
 - for new sources,
 - promote and, as provided for in an action plan, require use of best available techniques (BAT), and
 - phase in BAT requirements as soon as practicable but no later than 4 years after Convention enters into force
 - promote use of best environmental practices (BEP)
 - for existing sources, promote use of BAT and BEP
- For other source categories (Annex C Part III), **Parties shall:**
 - for new and existing sources, promote use of BAT & BEP

Bangkok (26 Nov 2001)

Stockholm Convention

13

POPS in Stockpiles & Wastes

⑥ **Goal = environmentally sound management (ESM) of stockpiles, wastes, and products and articles upon becoming wastes that consist of, contain or are contaminated by POPs**

Parties must:

- develop and implement strategies to identify these 3 types of POP-containing materials
- manage stockpiles in a safe, efficient and ESM until they are deemed to be wastes
- take measures to
 - handle, collect, transport and store wastes in ESM, and
 - dispose of wastes by destroying POP content or otherwise in ESM taking into account international rules

Bangkok (26 Nov 2001)

Stockholm Convention

14

POPs in Stockpiles & Wastes

Parties must (continued):

- not allow recovery, recycle, reclamation, direct reuse or alternative uses of POPs
- not transport these materials across international boundaries without taking into account international rules (e.g., Basel Convention)
- develop strategies for identifying contaminated sites
 - remediation is not required by the Convention
 - if remediation is attempted, it must be done in an environmentally sound manner

Bangkok (26 Nov 2001)

Stockholm Convention

15

General Obligations

- Designate a National Focal Point
- Develop, implement and update an implementation plan
- Promote and facilitate a wide range of public information, awareness and education measures for policy makers and all stakeholders
- Encourage and, as resources permit, undertake research, development, monitoring and cooperation on all aspects of POPs and their alternatives
- Report to the COP on:
 - measures taken by Party to implement the Convention
 - effectiveness of the measures taken
 - data concerning trade in intentionally produced POPs

Bangkok (26 Nov 2001)

Stockholm Convention

16

Addition of New POPs

- **Agreed process** will be used to evaluate candidates nominated by Parties.
- **Scientific criteria** are specified (Annex D):
 - persistence, bio-accumulation, potential for long range transport, and adverse effects.
- **Precaution** will be incorporated in a number of ways to ensure that all proposed candidates are thoroughly considered on the basis of available data to see if they possess POPs properties.
- **POPs Review Committee** will be set up at the first COP to advise on proposals submitted by Parties.
- **Safeguards** will ensure that process is transparent and all Parties get a full hearing on any nominated candidate.

Bangkok (26 Nov 2001)

Stockholm Convention

17

Financial & Technical Assistance

Convention specifications:

- Developing countries and countries with economies in transition will need technical and financial assistance.
- Regional and subregional centres will be established for capacity building and transfer of technology to assist countries in need.
- Developed countries will provide technical assistance and new and additional financial resources to meet agreed full incremental implementation costs.
- Global Environment Facility (GEF) is named as the principle entity of the interim financial mechanism to handle funding of capacity building and other related activities.

Bangkok (26 Nov 2001)

Stockholm Convention

18

Implementation Aspects

- Convention will enter into force 90 days after 50th ratification
- COP will be established to oversee implementation:
 - must meet within 1 year of entry into force
 - thereafter at regular intervals
 - must review effectiveness of convention commencing four years after entry into force, and periodically thereafter:
 - COP1 will arrange for comparable monitoring data on presence of POPs and regional/global environmental transport, and for reports on monitoring on regional and global basis
 - COP1 to establish POPs Review Committee
- UNEP will provide secretariat

Bangkok (26 Nov 2001)

Stockholm Convention

19

Convention Status

- Opened for signature on May 23, 2001 (Stockholm)
 - 105 Parties have signed
 - 2 Parties have ratified (Canada, Fiji)
- INC-6 June 17 - 21, 2002 (Geneva)
 - preparations for COP1
 - implement Stockholm resolutions
- Available in 6 languages on UNEP POPs Home Page
www.pops.int

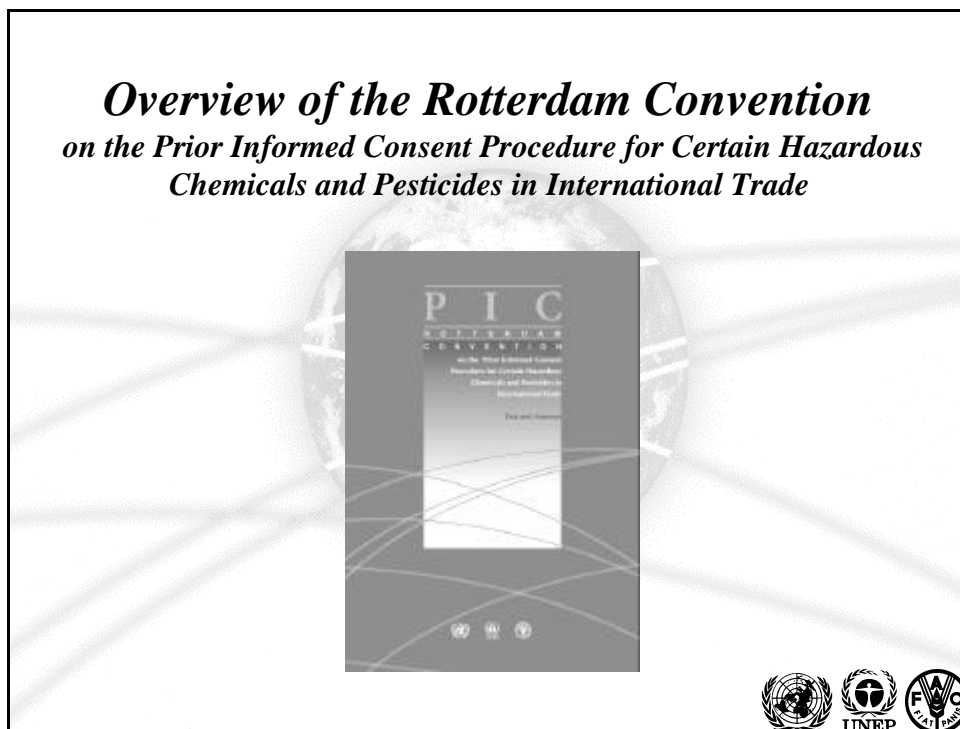
Bangkok (26 Nov 2001)

Stockholm Convention

20

Overview of the Rotterdam Convention

by Mr. James Willis



Origins

- 1985 - FAO International Code of Conduct on the Distribution and Use of Pesticides
- 1987 - UNEP London Guidelines for the Exchange of Information on Chemicals in International Trade
- 1989 - FAO/UNEP Joint Program on the Prior Informed Consent procedure
- 1992 - UNCED calls for adoption of a legally binding instrument by 2000
- 1996-1998 - Negotiations take place (5 sessions)
- 1998 - Convention adopted in Rotterdam



Rotterdam Conference

- Adoption of the Convention and start of signature process (73 signatories)
- Adoption and signature of the Final Act
 - Resolution on interim arrangements
 - Voluntary PIC procedure brought in line with Convention



Objective of the Convention

- To promote shared responsibility and cooperative efforts among Parties in the international trade of certain hazardous chemicals in order to protect human health and the environment from potential harm and to contribute to their environmentally sound use



Objective of the Convention

- How?
 - by facilitating information exchange about chemicals and their characteristics, and
 - by providing for a national decision-making process on their import and export.



What the Convention Achieves

- Early warning system
- Keeps chemicals-related problems from getting worse
- Empowers developing countries
- Ensures labeling and hazard communication
- Promotes communication and information exchange among countries



Scope of the Convention

- Applies to
 - Banned or severely restricted chemicals, and
 - Severely hazardous pesticide formulations
- Does not apply to:
 - Narcotic drugs and psychotropic substances
 - Radioactive materials
 - Wastes
 - Chemical weapons
 - Chemicals used as food additives
 - Food
 - Chemicals in small quantities for research and analysis



Key Players

- Designated National Authorities
- Conference of the Parties
- Chemical Review Committee
- Secretariat



Designated National Authorities (DNAs)

- Focal Point for operation of the PIC procedure
 - Responsible for the administrative functions required by the Convention
- May cover pesticides, or chemicals, or both
- As of 1 September 253 DNAs from 165 states



Conference of the Parties (COP)

- Highest Authority of the Convention
- Countries that have become Parties oversee implementation
 - Interim procedure – Intergovernmental Negotiating Committee (INC)
 - Just over 100 countries now participate
- Decides on inclusion of chemicals, establishes subsidiary bodies, defines PIC Regions, etc.



Chemical Review Committee (CRC)

- Expert Committee
- Review notifications and proposals from Parties
- Make recommendations to COP/INC on chemicals to be added to the Convention
- 29 Members from 7 “PIC Regions”
 - Africa, Asia, Europe, Near East, Latin America, North America, Southwest Pacific
- Interim procedure – interim Chemical Review Committee (iCRC)



Secretariat

- Provided by UNEP and FAO jointly
- Service Parties, eg, convene COP/INC and CRC/iCRC meetings
- Facilitate some aspects of procedures
 - Collect and review notifications
 - Maintain registers, eg, DNA lists
 - Communicate to Parties
- Assist Parties in the implementation of the Convention
- Coordinate with other secretariats
- Other functions as specified in the Convention



How It Works – Key Elements

- PIC Procedure:
 - mechanism for formally obtaining and disseminating the decisions of importing countries as to whether they wish to receive future shipments of those chemicals specifically subject to the Convention and for ensuring compliance with these decisions by exporting countries



How It Works – Key Elements

- Information Exchange
 - provisions for the *exchange of information* among Parties about a very broad range of potentially hazardous chemicals that may be exported and imported
- The provisions include:
 - parties must inform other Parties of each national control action to ban or severely restrict a chemical and
 - a Party that plans to export a chemical that is banned or severely restricted for use within its territory must inform the importing Party that such export will take place before the first shipment and annually thereafter;



How It Works – Key Elements

- Information Exchange provisions also include:
 - exporting Parties, when exporting chemicals to be used for occupational purposes, must ensure that a safety data sheet following an internationally recognized format is sent to the importer;
 - opportunities for developing country Parties to inform others that they are experiencing problems caused by a severely hazardous pesticide formulation under conditions of use in their territory; and
 - that exports of chemicals included in the PIC procedure, and other chemicals banned or severely restricted by the exporter, are subject to labelling requirements that ensure adequate availability of information on risks and/or hazards to human health or the environment.



Country Responsibilities

- Exporting Countries:
 - Not export the chemical without the consent of the importer
 - Unless there have been previous shipments or the chemical is approved in that country
 - Communicate import decisions to exporters, industry and other relevant authorities
 - Ensure that exports do not occur contrary to the decisions of importing countries
 - Provide Export Notifications to importing countries



Country Responsibilities

- Importing Countries:
 - Nominate a DNA
 - Provide notifications of final regulatory actions to ban or severely restrict a chemical
 - Submit proposals of severely hazardous pesticide formulations
 - Provide import responses
 - Acknowledge receipt of Export Notifications



Country Responsibilities

- Importing Countries:
 - Ensure that importers, relevant authorities and, where possible, users are informed of notifications received, and
 - Ensure that import decisions apply uniformly:
 - To imports from ALL exporting countries, and
 - To any domestic manufacture of the chemical



Interim Arrangements

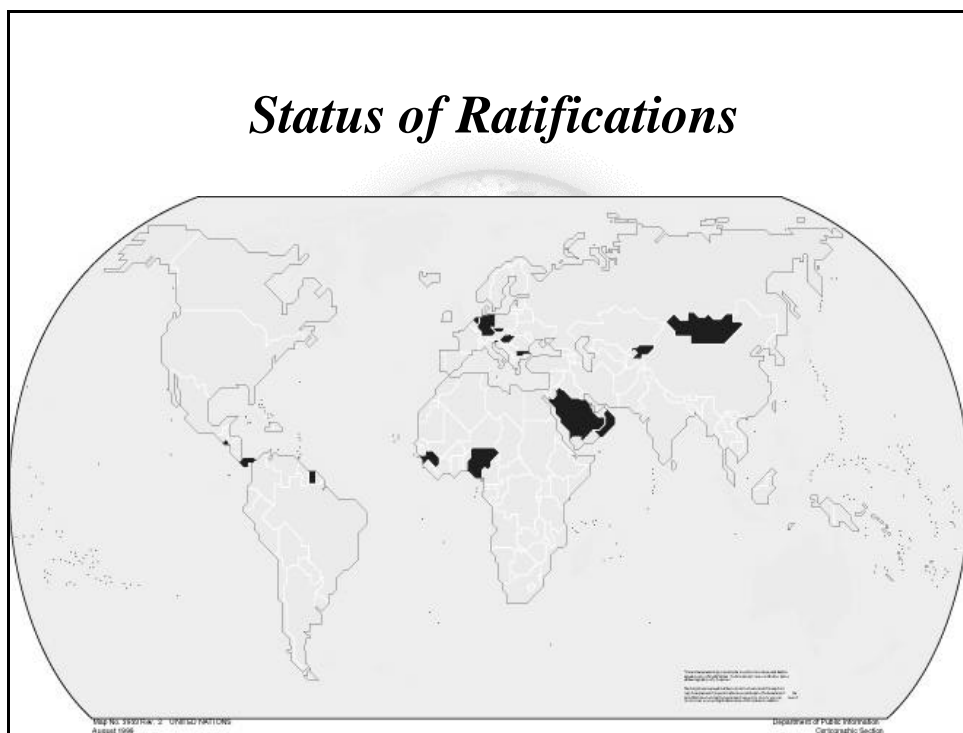
- The resolution on interim arrangements:
 - Brings the voluntary PIC procedure in line with the Convention (interim procedure)
 - Mandates the INC to oversee the implementation of the interim procedure and prepare for the Conference of the Parties;
 - All chemicals in Annex III of the convention are subject to the interim procedure;
 - Chemicals identified for inclusion under the original PIC procedure will be subject to the interim procedure as soon as the relevant Decision Guidance Document (DGD) has been adopted;
 - The INC can add new chemicals to the interim procedure in accordance with the provisions of the Convention
 - Establishes an interim Secretariat (UNEP/FAO).



Current Status

- 16 Parties to the Convention
- 27 chemicals listed in Convention:
 - 17 pesticides
 - 5 severely hazardous pesticide formulations
 - 5 industrial chemicals
- Four new pesticides added to the interim PIC procedure
- INC-8 held 8-12 October in Rome.
- INC-9 scheduled 30 September – 4 October in Bonn






Overview of the Basel Convention

by Mr. James Willis



**The Basel Convention
an overview**

UNEP/GEF
Subregional Workshop on Support for the
Implementation of the Stockholm
Convention
Bangkok 26-30 November




The Problem:

**Large movements of hazardous
wastes from *developed*
countries to *developing*
countries.**

2

The Response: The Basel Convention



- 1989 Adopted
- 1992 Entered Into Force
- 2001 147 States and the EU are Parties to the Convention

3

Goals of Basel Convention



- **Protect human health and the environment against hazardous wastes**
- **Safeguard the environment in the developing countries**

4

Key Objectives of Basel Convention

- **Reduce transboundary movements of hazardous wastes to a minimum consistent with their environmentally sound management;**
- **Dispose of hazardous wastes as close as possible to their source of generation;**
- **Minimize generation of hazardous wastes in terms of quantity and hazardousness.**

5

Pillars of Basel Convention

- I. Regulation of all Transboundary Movements of Hazardous Wastes**
- II. Environmentally Sound Management of Hazardous Wastes and Other Wastes and of Their Disposal**

6

Regulation of Transboundary Movements

•**1989 - Control System**: Requiring written notification from State of export to State(s) of import/transit.

•**1995 - Ban Amendment**: Banning export of hazardous wastes from developed countries (OECD members) to developing ones.

•**1999 - Protocol on Liability and Compensation**: Establishing rules on liability and compensation for damages caused by accidental spills of hazardous wastes during export or import.

7

Waste Controlled Under the Convention

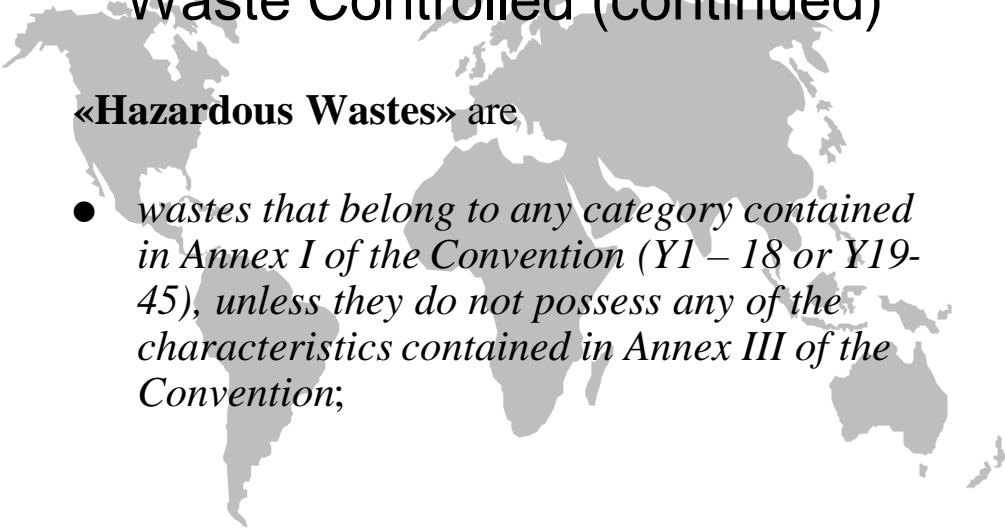
- Transboundary movements
- Which wastes are covered by the Convention
 - Hazardous waste
 - Basel waste (Article 1(1) a)
 - Nationally defined hazardous wastes (Article 1(1)b)
 - Other waste

8

Waste Controlled (continued)

«**Hazardous Wastes**» are

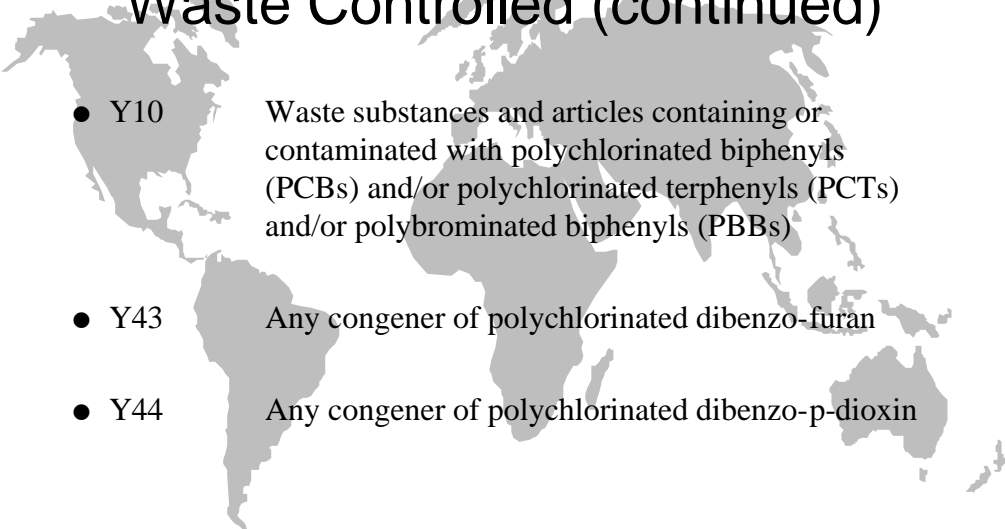
- *wastes that belong to any category contained in Annex I of the Convention (Y1 – 18 or Y19-45), unless they do not possess any of the characteristics contained in Annex III of the Convention;*



9

Waste Controlled (continued)

- Y10 Waste substances and articles containing or contaminated with polychlorinated biphenyls (PCBs) and/or polychlorinated terphenyls (PCTs) and/or polybrominated biphenyls (PBBs)
- Y43 Any congener of polychlorinated dibenzo-furan
- Y44 Any congener of polychlorinated dibenzo-p-dioxin



10



The Control System

- A procedure for the **notification** of transboundary movements of hazardous wastes or other wastes, based upon the **prior written consent** procedure.
- Each shipment of hazardous waste or other waste shall be accompanied by a movement document from the point at which a transboundary movement begins to the point of disposal.

11



The Basel Ban Amendment

A new Article 4A:

- Immediate export ban from Annex VII to non-Annex VII countries for disposal
- Phase in export ban for recycling and recovery from 1998
- Ratified by 24 countries so far

12

Other Restrictions on Transboundary Movements


- Transboundary movements only among parties
- The state of export shall prohibit export if
 - the state of import has an import ban,
 - OR
 - the state of import has not given its consent to the shipment.

13

Other Restrictions (continued)

- Non – environmentally sound management
- Exports for disposal to the area of 60° South latitude

14



Focus

- **First Decade:** Develop global environmental regime for controlling transboundary movements of hazardous wastes.
- **Second Decade:** Strengthen existing political, legal, technical, and institutional efforts while taking on six major challenges:

15



Six Challenges for the Next Decade

- 1. Environmentally sound management and minimization**
- 2. Effective implementation and enforcement**
- 3. Capacity building**
- 4. Partnership building**
- 5. Greater efficiency through economic incentives**
- 6. Enhanced collaboration**

16

Supporting tools for implementation

- Manuals and guidelines
 - Model legislation on control and management of hazardous wastes
 - Implementation Manual
 - Instruction Manual on the Control system
 - Technical Guidelines
- The Basel Convention Regional Centres
- The Basel Secretariat Web Site

17

A POPs Focus

- Guidelines for the environmentally sound management of persistent organic pollutant wastes;
- PCB guidelines
- Stockpiles of obsolete pesticides

18



Stockholm Convention Provision on Intentionally Produced POPs

by Dr. John Buccini

Stockholm Convention Provisions for Intentionally Produced POPs

John Buccini
Chairman
UNEP POPs Intergovernmental Negotiating Committee
Ottawa, Canada

OUTLINE

Measures to reduce or eliminate releases from intentional production and use:

- Articles 3, 4 and 15(2)
- Annexes A and B
- Specific exemptions, and the Register
- Acceptable purposes
- General exemptions
- Trade restrictions
- Assessment of new and existing chemicals
- Summary

Elimination & Restriction

Convention Goal = elimination of production and use of all intentionally produced POPs

- *i.e.*, industrial chemicals and pesticides

Parties shall: [Article 3, para. 1]

(a) “prohibit and/or take the legal and administrative measures necessary to eliminate”:

- production and use of chemicals in Annex A, and
- import and export of chemicals in Annex A

- *i.e.*, trade is restricted [see paragraph (2)]

(b) “restrict its production & use” of chemicals in Annex B

- “acceptable purposes” specified for these chemicals

Bangkok (27 Nov 2001)

Intentionally Produced POPs

3

Elimination & Restriction

Annex A (elimination)

- aldrin
- chlordane
- dieldrin
- endrin
- heptachlor
- hexachlorobenzene
- mirex
- polychlorinated biphenyls
- toxaphene

Annex B (restriction)

- DDT

Bangkok (27 Nov 2001)

Intentionally Produced POPs

4

Specific Exemptions

- “Specific exemptions” are identified with regard to production and/or use of the chemicals in Annexes A and B
 - during the negotiations, several countries indicated the need for these
 - Note: none are specified for endrin or toxaphene
- A State, on becoming a Party, may register for one or more of the *specific exemptions* listed in Annexes A and B
- Parties register by informing the Secretariat
- Secretariat will maintain a publicly available Register identifying Parties that have registered for *specific exemptions* [Article 4]
- The Register will not include the names of Parties for those *specific exemptions* that are available to all Parties (e.g., PCBs)

Bangkok (27 Nov 2001)

Intentionally Produced POPs

5

Specific Exemptions

Duration:

- period of 5 years after Convention enters into force for a particular chemical, unless a Party specifies an earlier date
- may be withdrawn by a Party at any time
- may be extended for 5 years, based on request from a Party
 - COP will review each request and any information submitted by requesting Party justifying continued need for exemption

Condition:

- Parties intentionally producing or using POPs under the “specific exemptions” or “acceptable purposes” provisions must take measures to prevent or minimize human exposure and releases to the environment [Article 3, para. 6]

Bangkok (27 Nov 2001)

Intentionally Produced POPs

6

Annex A

Chemical	Activity	Specific Exemption
Aldrin	Production	None
	Use	Local ectoparasiticide Insecticide
Chlordane	Production	As allowed for the Parties listed in the Register
	Use	Local ectoparasiticide Insecticide Termiticide Termiticide in buildings and dams Termiticide in roads Additive in plywood adhesives

Bangkok (27 Nov 2001)

Intentionally Produced POPs

7

Annex A

Chemical	Activity	Specific Exemption
Dieldrin	Production	None
	Use	In agricultural operations
Endrin	Production	None
	Use	None

Bangkok (27 Nov 2001)

Intentionally Produced POPs

8

Annex A

Chemical	Activity	Specific Exemption
Heptachlor	Production	None
	Use	Termiticide Termiticide in structures of houses Termiticide (subterranean) Wood treatment In use in underground cable boxes
Hexachloro benzene	Production	As allowed for the Parties listed in the Register
	Use	Intermediate Solvent in pesticide Closed system site-limited intermediate

Bangkok (27 Nov 2001)

Intentionally Produced POPs

9

Annex A

Chemical	Activity	Specific Exemption
Mirex	Production	As allowed for the Parties listed in the Register
	Use	Termiticide
Toxaphene	Production	None
	Use	None

Bangkok (27 Nov 2001)

Intentionally Produced POPs

10

Annex A

Chemical	Activity	Specific Exemption
PCBs	Production	None
	Use	Articles in use in accordance with the provisions of Part II of Annex A

Note (iv): All Parties are entitled to the PCB specific exemption

N.B. Parties using the PCB specific exemption will not be listed in the register [Article 4, para. 1]

Annex A, Part II (PCBs)

Annex A requires all Parties to cease production of new PCBs immediately (*i.e.*, entry into force)

All Parties using the (Part II) PCB specific exemption shall:

- eliminate use of in-place equipment containing PCBs **by 2025:**
 - make determined efforts to identify, label & remove from use equipment with >10% or >0.05% and >5 litres of PCB
 - endeavour to identify & remove from use equipment with >0.005% (50ppm) and >0.05 litres of PCB
 - give higher priority to equipment with higher PCB levels

Annex A, Part II (PCBs)

All Parties using the PCB specific exemption shall:

- promote measures to reduce exposures and risk:
 - use PCBs only in intact and non-leaking equipment and only in areas where risk of environmental release can be minimized and quickly remedied
 - forbid use in food and feed production and processing areas
 - when used in populated areas (schools, hospitals, etc.)
 - take all reasonable measures to protect from electrical failure which could result in a fire
 - inspect regularly for leaks in equipment

Bangkok (27 Nov 2001)

Intentionally Produced POPs

13

Annex A, Part II (PCBs)

All Parties using the PCB specific exemption shall:

- not export or import PCB equipment, except for the purpose of environmentally sound management (ESM) of waste
- not recover liquids with more than 0.005% PCBs for reuse in other equipment, except for maintenance and servicing
- make determined efforts to achieve ESM of wastes containing >0.005% PCBs ASAP, and **by 2028**
- endeavour to identify articles with >0.005% PCB for ESM
- report to the COP every five years on their progress in eliminating PCBs [per Article 15]

COP will review progress toward the 2025 and 2028 targets at 5 year intervals, taking into account reports from Parties

Bangkok (27 Nov 2001)

Intentionally Produced POPs

14

Annex B		
Chemical	Activity	Acceptable Purpose or Specific Exemption
DDT	Production	<u>Acceptable purpose:</u> Disease vector control use in accordance with Part II of this Annex <u>Specific exemption:</u> Intermediate in production of dicofol Intermediate
	Use	<u>Acceptable purpose:</u> Disease vector control in accordance with Part II of this Annex <u>Specific exemption:</u> Production of dicofol Intermediate

Bangkok (27 Nov 2001)
Intentionally Produced POPs
15

- | Annex B, Part II (DDT) |
|--|
| <ul style="list-style-type: none"> • All Parties shall eliminate DDT production and use <u>except</u> Parties that notify the Secretariat of their intention to produce and/or use DDT in disease vector control programs (an “acceptable purpose” in Annex B): <ul style="list-style-type: none"> – these Parties will be included in a special publicly available DDT Register maintained by the Secretariat <ul style="list-style-type: none"> • a Party may withdraw from the DDT Register at any time – production and/or use must be in accordance with WHO recommendations and guidelines on use of DDT, and only when locally safe, effective and affordable alternatives are not available to the Party • Two “specific exemptions” are allowed for DDT, related to its use as an intermediate in the manufacture of other chemicals |
- Bangkok (27 Nov 2001)
Intentionally Produced POPs
16

Annex B, Part II (DDT)

Each Party in the DDT Register shall:

- report every 3 years [per Article 15] on:
 - quantities used
 - conditions of use, and
 - relevance of DDT to the Party's disease control strategy
- develop national action plan [per Article 7] to:
 - confine use of DDT to disease vector control
 - explore alternatives to DDT, and
 - take measures to strengthen health care and reduce incidence of disease

Bangkok (27 Nov 2001)

Intentionally Produced POPs

17

Annex B, Part II (DDT)

- All Parties, within their capabilities, are encouraged to promote research and development to seek alternatives to DDT
- DDT use will be allowed until technically and economically feasible alternative products, practices or processes are available to countries that are currently reliant on DDT
- COP will review at its first meeting and every 3 years thereafter to see whether DDT continues to be needed for disease vector control

Bangkok (27 Nov 2001)

Intentionally Produced POPs

18

Exemptions

Chemicals in Annex A or B, are exempt in quantities:

- used for laboratory-scale research [Article 3, para. 5]
- used as a reference standard [Article 3, para. 5]
- occurring as unintentional trace contaminants in products and articles [Annexes A & B, Note (i)]
- occurring as constituents of articles manufactured or already in use before or on date of entry into force of an obligation concerning that chemical [Annexes A & B, Note (ii)]
 - provided Party notifies Secretariat that a particular type of product remains in use within that Party
 - Secretariat will make notification publicly available

Bangkok (27 Nov 2001)

Intentionally Produced POPs

19

Exemptions

- HCB or DDT may be produced or used as closed-system site-limited intermediates that are chemically transformed in manufacture of other chemicals that do not exhibit POPs properties [Annexes A and B, Note (iii)]
- Party shall notify Secretariat of:
 - total amounts produced or used
 - nature of site-limited process, and
 - amount of HCB or DDT present in final product
- These notifications will be made publicly available
- Such production or use is not considered a *specific exemption*
- Production/use will cease after 10 years unless Party submits a new notification to Secretariat, in which case period will be extended for another 10 years, subject to COP approval

Bangkok (27 Nov 2001)

Intentionally Produced POPs

20

Trade Restrictions

**Convention imposes trade restrictions for all POPs
in
Annexes A and B [Article 3, para. 2]**

**Imports and exports between Parties are limited to
shipments:**

- intended for environmentally sound disposal [per Article 6, paragraph 1(d)], or
- to Parties with:
 - “specific exemptions” under Annex A or B, or
 - “acceptable purposes” under Annex B

Bangkok (27 Nov 2001)

Intentionally Produced POPs

21

Trade Restrictions

**Exports to non-Parties may take place but there are conditions
on both Non-Party and Party**

- **Non-Party shall** provide annual certification to exporting Party
 - specifying the intended use of the chemical
 - expressing commitment to:
 - protect health and environment by minimizing or preventing releases
 - comply with the requirements of Article 6, paragraph 1 concerning POPs stockpiles and wastes
 - comply with Annex B, Part II, paragraph 2 (DDT production and/or use in accordance with WHO recommendations, etc.)
 - supplying information on domestic legislation, regulation, etc.
- **Exporting Party shall** send certification to secretariat within 60 days

Bangkok (27 Nov 2001)

Intentionally Produced POPs

22

Trade Restrictions

Parties shall provide the following information: [Article 15, para. 2]

- data on, or estimates of, total quantities of POPs in Annexes A and B that were produced, imported and exported, and
- a list of States from which it has imported or to which it has exported POPs in Annexes A and B

COP will specify the frequency & format of such reports

Assessment of Chemicals

Parties with regulatory and assessment schemes for industrial chemicals and pesticides shall, in conducting assessments of: [Article 3, para. 3 and 4]

- **new substances**, take “measures to regulate with the aim of preventing the production and use of” new POPs
- **in-use substances**, consider the screening criteria for candidates for addition to Convention (Annex D)

Note: These provisions

- will allow the identification of possible POPs as soon as possible in these assessment programs, but
- do not require Parties to set up schemes for assessment and regulation of industrial chemicals or pesticides

Summary

Chemical	Production	Use
Endrin	No	No
Toxaphene	No	No
Aldrin	No	2 Specific Exemptions
Dieldrin	No	1 Specific Exemption
Heptachlor	No	5 Specific Exemptions
PCBs	No	All Party Specific Exemption

Bangkok (27 Nov 2001)

Intentionally Produced POPs

25

Summary

Chemical	Production	Use
Chlordane	Restricted	6 Specific Exemptions
HCB	Restricted	3 Specific Exemptions Site-limited Intermediate
Mirex	Restricted	1 Specific Exemption
DDT	Restricted	Specific Exemptions Acceptable Purposes Site-limited Intermediate

Bangkok (27 Nov 2001)

Intentionally Produced POPs

26

Summary

Considerations for ratification include:

- legal or administrative measures to eliminate and/or restrict production and/or use of POPs in Annexes A and B
- determine need for specific exemptions
 - inform Secretariat at time of ratification and get into the Register
 - take measures to prevent/minimize human exposure and environmental releases
- needs for site-limited intermediate and other exemptions
- measures to comply with trade restrictions
- reporting requirements

Summary

Considerations for ratification include:

- special regimes for PCBs and DDT require detailed examination of national circumstances
- if Party has assessment program(s) for new and/or existing chemicals or pesticides, must evaluate substances for POPs properties using criteria in Annex D

Stockholm Convention Provision for Unintentionally Produced POPs

by Dr. John Buccini

Stockholm Convention Provisions for Unintentionally Produced POPs

John Buccini
Chairman
UNEP POPs Intergovernmental Negotiating Committee
Ottawa, Canada

OUTLINE

Measures to reduce or eliminate releases of unintentionally produced POPs:

- Article 5
 - action plan
 - release reduction or source elimination
 - substitute materials, products, processes
 - source categories (new and existing):
 - best available techniques (BAT)
 - best environmental practices (BEP)
- Annex C
- Summary

Unintentionally Produced POPs

Convention Goal = “continuing minimization and, where feasible, ultimate elimination” of the total releases of chemicals in Annex C derived from anthropogenic sources

Annex C, Part I

Chemical
Dioxins and furans (PCDD/PCDF)
Hexachlorobenzene (HCB)
Polychlorinated biphenyls (PCB)

Article 5

Parties shall, at a minimum, take measures to address the following:

- action plan
- release reduction or source elimination
- substitute materials, products, processes
- new and existing sources
 - best available techniques (BAT)
 - best environmental practices (BEP)

Action Plan

An action plan shall: [Article 5, para. (a)]

- be developed within 2 years of entry into force
 - may be national, regional, or subregional
 - constitutes part of the overall implementation plan in Article 7
- identify, characterize and address release of chemicals in Annex C
- facilitate implementation of other requirements in Article 5
- be implemented!

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

5

Action Plan

The action plan shall: [Article 5, para. (a)]

- evaluate current and projected releases, including development & maintenance of source inventories and release estimates, noting source categories in Annex C
- evaluate efficacy of Party's laws and policies to manage such releases
- develop strategies to reduce releases
- promote education and training on strategies
- review success of strategies every 5 years
 - include this in reports to COP [Article 15]
- include a schedule for implementation of action plan

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

6

Other Measures

Parties must:

- promote application of available, feasible and practical measures to achieve *expeditiously* realistic and meaningful levels of release reduction or source elimination [Article 5, para. (b)]
- promote development and, where appropriate, require use of substitute or modified materials, products and processes to prevent formation and release of POPs in Annex C [Article 5, para. (c)]
 - note the general guidance in Annex C
 - guidelines will be adopted by COP

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

7

Source Categories

The following industrial source categories have the potential for comparatively high formation and release of POPs to the environment: [Annex C, Part II]

- waste incinerators
 - municipal, hazardous or medical wastes
 - sewage sludge
- cement kilns firing hazardous wastes
- pulp production involving elemental chlorine
- thermal processes used in metallurgical industry
 - secondary production of aluminum, copper or zinc
 - sinter plants in iron and steel industry

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

8

Source Categories

For industrial sources that Party identifies as having **potential for comparatively high** formation & release of POPs to environment (*including* those in categories in Annex C Part II), Party must:

- for new sources warranting such action:
 - promote, and as provided for in an action plan, require use of best available techniques (BAT) [Article 5, para. (d)]
 - phase in any BAT requirements for new sources in categories in Annex C Part II as soon as practicable but *no later than 4 years after entry into force*
 - promote use of best environmental practices (BEP) [Article 5, para. (d)]
- for existing sources, promote use of BAT & BEP [Article 5 (e)]

Source Categories

The following industrial source categories have the **potential** for formation and release of POPs to the environment: [Annex C, Part III]

- open burning of wastes (including landfill sites)
- thermal processes in the metallurgical industry not specified in Part II
- residential combustion sources
- fossil-fuel fired utility and industrial boilers
- firing installations for wood and other biomass fuels
- motor vehicles, especially those burning leaded gasoline

Source Categories

The following industrial source categories have the potential for formation and release of POPs to the environment (continued): [Annex C, Part III]

- chemical production processes releasing unintentionally produced POPs (e.g. production of chlorophenols and chloranil)
- textile and leather dyeing and finishing
- shredder plants for the treatment of end-of life vehicles
- destruction of animal carcasses
- smouldering of copper cables
- waste oil refineries
- crematoria

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

11

Source Categories

- **For both new and existing industrial sources in categories in Annex C Part III, Parties must promote use of BAT & BEP** [Article 5, para. (e)]
- **Parties should** take into consideration the guidance on BAT and BEP in Annex C, guidelines that will be adopted by the COP, and definitions in Article 5, para. (f)
- **Note:** Convention defines new sources [Article 5, para. (f)]
 - = construction or substantial modification of source commences >1 year after
 - convention enters into force for Party, or
 - entry into force for Party of amendment to Annex C

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

12

Annex C

Part IV: Definitions of chemicals

Part V (A): General preventive measures (BAT & BEP)

- use of low-waste technology
- use of less hazardous substances
- promote recovery & recycling of materials and wastes
- replacement of feedstocks that are POPs or give rise to POPs releases
- good housekeeping and preventive maintenance
- improvements in waste management practices
- minimize presence of POPs contaminants in products
- avoid using elemental chlorine in bleaching operations

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

13

Annex C

Part V (B): BAT

- general considerations
- general release reduction measures

Part V (C): BEP

- COP may develop guidance

Bangkok (27 Nov 2001)

Unintentionally Produced POPs

14

Summary

Considerations for ratification include:


- measures to reduce and/or eliminate releases of POPs in Annex C (dioxins, furans, HCB, PCB)
- action plan to be developed within 2 years of entry into force
 - part of Article 7 implementation plan
- action plan to be implemented
 - progress reports provided to COP (per Article 15)
- inventories or estimates of current and projected releases

Summary

Considerations for ratification include:

- for new sources in Annex C:
 - Part II, promote and require BAT (within 4 years)
 - Part III, promote BAT
- for existing sources in Annex C:
 - Parts II and III, promote BAT
- for all types of new and existing sources
 - promote BEP


The Thailand Dioxin and Furans Release Inventory
by Ms. Pornpimon Chareonsong



**The Thailand Dioxin and Furan
Release Inventory**

Pornpimon Chareonsong
Pollution Control Department

1



**The Thailand
Dioxin and Furan Release Inventory**

Background

Thailand has recognized the problem of chemical hazards as a high priority, particularly the importance of the chemical management under the Chapter 19, Agenda 21.

2

The Thailand Dioxin and Furan Release Inventory

- **decisions 18/32 and 19/13C of the UNEP Governing Council on the establishment of legally binding instrument for implementing international action on POPs**

3

The Thailand Dioxin and Furan Release Inventory

- **IFCS, Ottawa, 1997 Thailand has actively taken actions to reduce or eliminate impacts on human health and the environment related to productions and uses of Persistent Organic Pollutants (POPs)**

4

The Thailand Dioxin and Furan Release Inventory

- **Taking action to reduce or eliminate problems related to the POPs chemicals**
- **decided to establish a national inventory of sources of dioxin and furan emissions and a monitoring program for polychlorinated dibenzo-*p*-dioxins and dibenzofurans (PCDD/PCDF)**

5

The Thailand Dioxin and Furan Release Inventory

Project Description

Thailand has requested assistance from the government of Germany through German Technical Cooperation (GTZ), Pilot Project Chemicals Management.

6

The Thailand Dioxin and Furan Release Inventory

- **Thailand has set up a steering committee. The members have represented several relevant agencies including :**
 - **Pollution Control Department (PCD)**
 - **Department of Industrial Works (DIW)**
 - **Department of Agriculture (DOA)**

7

The Thailand Dioxin and Furan Release Inventory

- **Department of Health (DOH)**
- **Department of Science Service (DSS)**
- **Bangkok Metropolitan Administration (BMA)**
- **The Industrial Estate Authority of Thailand (IEAT)**
- **The Federation of Thai Industries (FTI)**

8

The Thailand Dioxin and Furan Release Inventory

- identify the relevant sources of dioxins and furans in Thailand using the checklist and the statistical data or estimates on industrial activities
- The annual dioxin and furan releases into air will be calculated.
- The result will allow to establish a relative ranking of the sources based on emissions per year.

9

The Thailand Dioxin and Furan Release Inventory

Activities

Assistance activities include :

- Set-up of an inventory with the assistance of an expert from Germany;
- Training of staff members to identify potential sources of dioxin and furan emissions;
- Holding an awareness raising and planning workshop in Bangkok with stakeholders involved;

10

The Thailand Dioxin and Furan Release Inventory

- **Validating the theoretical findings of the inventory by selected representative measurements of emission concentrations in accordance to international standards with the assistance of GTZ, UNEP Chemicals and the Chemicals Industry Association;**

11

The Thailand Dioxin and Furan Release Inventory

- **Advice to establish a monitoring program according to the identified needs;**
- **Expert support in the development and planning of a strategy to reduce identified sources of dioxin and furan emission.**

12

PCDD/PCDF Source Inventory

Waste Incineration

- Municipal solid waste incineration
- Hazardous waste incineration (HWI)
- Medical Waste incineration
- Light-fraction shredder waste incineration
- Sewage sludge incineration
- Waste wood and waste biomass incineration
- Combustion of animal carcasses

13

PCDD/PCDF Source Inventory

Ferrous and Non-Ferrous Metal Production

- Iron ore sintering
- Coke production
- Iron and steel production and foundries
- Copper production
- Aluminum production
- Lead production

14

PCDD/PCDF Source Inventory

Ferrous and Non-Ferrous Metal Production

- Zinc production
- Brass production
- Magnesium production
- Other non-ferrous metal production
- Shredders
- Thermal wire reclamation

15

PCDD/PCDF Source Inventory

Power Generation and Heating

- Fossil fuel power plants
 - : Lignite
 - : Diesel, LPG
 - : Natural gas
- Biomass power plants
- Landfill , biogas combustion

16

PCDD/PCDF Source Inventory

Power Generation and Heating

- Household heating and cooking (biomass)
- Household heating and cooking (fossil fuels)
 - : Charcoal stoves outside BKK
 - : Charcoal fired stoves in BKK
 - : Oil fired stoves
 - : Natural gas fired stoves

17

PCDD/PCDF Source Inventory

Mineral Product

- Cement production
- Lime production
- Brick production
- Glass production
- Ceramics production
- Asphalt mixing

18

PCDD/PCDF Source Inventory

Transportation

- **4-Stroke engines**
 - : Unleaded without cat.
 - : Unleaded with cat.
- **2-Stroke engines**
- **Diesel engines**
- **Heavy oil fired engines**
 - : Trains
 - : Ships

19

PCDD/PCDF Source Inventory

Uncontrolled Combustion processes

- **Biomass burning**
- **Waste burning and accidental fires**
 - : Landfill fires
 - : Accidental fires in houses
 - : Uncontrolled domestic waste burning
 - : Accidental fires of vehicles
 - : Open burning of wood

20

PCDD/PCDF Source Inventory

Production and Use of Chemicals and Consumer Goods

- **Pulp and paper mills**
 - : Sludges (Cl_2) , (Cl_2O) , (Recycling)
 - : Water (Kraft old) , (Kraft new) , (Recycling)
 - : Pulp and paper Products

21

PCDD/PCDF Source Inventory

Production and Use of Chemicals and Consumer Goods

- **Chemicals Industry**
 - : Old technology , EDC / VCM, PVC
 - : New technology, EDC / VCM and / or EDC / VCM / PVC , PVC only

22

PCDD/PCDF Source Inventory

Production and Use of Chemicals and Consumer Goods

- Petroleum Industry
- Textile plants
- Leather plants

23

PCDD/PCDF Source Inventory

Miscellaneous

- Drying of biomass
- Crematoria
- Smoke houses
- Dry cleaning
- Tobacco smoking

24

PCDD/PCDF Source Inventory

Disposal / Landfill

- Landfills and waste dumps
- Sewage and sewage treatment
- Open water dumping
- Waste oil disposal (non-thermal)

25

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
1. Dyestuffs plants	257/36	14.01
2. Leather plants	157/12	7.64
3. Pulp and paper plants	87/29	33.33
4. Chemical plants	246/74	30.08
5. Pesticides plants	36/14	38.89
6. Plastic plants	66/21	31.82
7. Petroleum plants	9/5	55.56

26

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
8. Asphalt mixing plants	47/18	38.30
9. Glass plants	88/16	18.18
10. Lime plants	264/68	25.76
11. Steel plants	482/87	18.05
12. Non-ferrous plants	534/76	14.23
Total	2,273/456	20.06

Source : Department of Industrial Works (DIW)

27

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
1. Cement plants	7/5	71.43
2. Petroleum plants	5/2	40.00
3. Steel plants	103/31	30.10
4. Electricity plants	144/25	19.44
5. Glass plants	18/6	33.33
6. Ceramic plants	59/10	16.95
7. Textile plants	87/20	26.44
8. Leather plants	40/2	5.00

28

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
9. Pulp and paper plant	18/9	44.04
10. Aluminum plants	21/3	14.29
11. Chemical plants	153/48	32.68
12. Plastic plants	146/32	21.23
13. Furniture plants	64/6	9.38
14. Plywood plants	26/2	7.69
Total	891/207	23.23

Source : Federation of Thai Industries (FDI)

29

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
1. MAP TA PUT I.E.	25/14	56.00
2. EASTERN SES BOARD I.E.	8/1	12.50
3. EASTERN I.E.	7/3	42.86
4. CHONBURI I.E.	3/1	33.33
5. BANGPAKONG I.E.	15/7	46.67
6. WELL GROW I.E.	14/4	28.57
7. SAMUTSAKHON I.E.	11/1	9.09
8. NONGKHAIE I.E.	3/1	33.33

30

Questionnaires on Dioxins and Furans Inventory

Types of Industries	No.of Questionnaires/Answer	%
9. LARDKRABANG I.E.	10/6	60.00
10. BANGCHAN I.E.	11/2	18.18
11. BANGPLEE I.E.	16/1	6.25
12. SAHARATTANANAKORN I.E.	5/1	20.00
13. BAN-WA I.E.	2/1	50.00
Total	130/43	33.08

Source : Industrial Estate Authority of Thailand (IEAT)

31

PCDD/PCDF Source Inventory

Source Categories	Annual Release (g TEQ/a)				
	Air	Water	Land	Product	Residue
1. Waste Incineration	247.2	0	0	0	30
2. Ferrous and Non-Ferrous Metal Production	20.04	0	0	0	1
3. Power Generation and Heating	40.2	0	0	0	0
4. Production of Mineral Products	10.0	0	0	0	0.14
5. Transportation	7.3	0	0	0	0
6. Uncontrolled Combustion Processes	632.3	0	0	0	292
7. Production of Chemicals and Consumer Goods	0.4	1.35	0	8.4	382
8. Miscellaneous	27.2	0	0	0	0
9. Disposal/Landfilling	0	0	0	0	0
Total for Categories 1-9	985	1	0	8	705

32

Overview of sample and analyses

Crematory (Bangkok)

- 3 emission samples after furnace
- 3 emission samples at front door ventilation duct
- 3 bottom ash samples from furnace
- 2 mercury emission testing

33

Overview of sample and analyses

Brass Plant (Samutprakarn)

- 3 emission samples from clean gas after wet scrubber
- 3 ambient air samples from working hall
- 2 sludge samples from waste water treatment
- 1 slag sample from furnace

34

Overview of sample and analyses

Steel Plant (BSI, Samutprakarn)

- 3 emission samples after baghouse
- 3 emission samples from primary duct
- 3 ambient air samples from working hall
- 1 fly ash sample (mixed sample)

35

Overview of sample and analyses

Cement Plant (Saraburi)

- 3 emission samples, kiln 3, normal operation
- 3 emission samples, kiln 3, co-firing of waste oil / solvents and tires
- 3 emission samples, kiln 5, normal operation

36

Overview of sample and analyses

Cement Plant (Saraburi)

- 3 emission samples, kiln 5, co-firing of waste oil / solvents
- 2 SO₂ emission samples
- 2 mercury emission samples
- 4 fuel samples (total Cl, S)

37

Overview of sample and analyses

Secondary Lead Smelter (Saraburi)

- 3 emission samples during normal operation (each line)
- 2 lead emission samples
- 4 SO₂ emission testing

38

Overview of sample and analyses

Hospital Waste Incinerator (Bangkok)

- 6 emission samples from both lines, 3 each
- 3 bottom ash samples (furnace A & B)
- 3 sludge samples (furnace A & B)

39

Overview of sample and analyses

Solid Waste Incinerator (Phuket)

- 3 emission samples during normal operation
- 6 fly ash and bottom ash samples, 3 each
- 2 SO₂ emission testing
- 2 mercury emission testing
- 2 lead emission samples

40

Stockholm Convention Provision for Stockpiles and Wastes

by Dr. John Buccini

Stockholm Convention Provisions for Stockpiles and Wastes

John Buccini
Chairman
UNEP POPs Intergovernmental Negotiating Committee
Ottawa, Canada

OUTLINE

Measures to reduce or eliminate releases from stockpiles and wastes:

- Article 6
- Related Issues
 - Trade [Article 3]
 - Unintentionally produced POPs [Annex C]
 - PCB Issues [Annex A, Part II]
 - Adding new POPs [Annex F]
- Summary

Stockpiles & Wastes

Convention Goal = to ensure that:

- stockpiles that consist of or contain a POP in Annex A or B, and
- wastes, including products and articles upon becoming wastes, that consist of, contain or are contaminated with a POP in Annex A, B or C

are managed in a manner protective of human health and the environment

Note: 2 differences between “stockpiles” and “wastes”

Article 6: Stockpiles

Parties shall:

- develop and implement strategies to identify stockpiles [para. 1 (a)(i) and 1 (b)]
- manage stockpiles in a safe, efficient and environmentally sound manner (ESM) until they are deemed to be wastes [paragraph 1 (c)]
 - *i.e.*, no remaining uses by Party
 - no *specific exemption* or *acceptable purpose*
 - does not apply to stockpiles that may be exported
 - per Article 3, para. 2

Article 6: Wastes

Parties shall: [para. 1 (a)(ii)]

- develop strategies to identify
 - products and articles in use, and
 - wastes

that consist of, contain or are contaminated with a POP in Annex A, B or C

Article 6: Wastes

Parties shall: [para. 1 (d)]

- handle, collect, transport and store wastes in an ESM
 - dispose of wastes
 - in such a way that POP content is destroyed or irreversibly transformed, or
 - otherwise in an ESM when
 - destruction or irreversible transformation is not the environmentally preferred option, or
 - POP content is “low”,
- taking into account international rules, standards, etc.

Article 6: Wastes

Parties shall: [para. 1 (d)]

- not allow disposal operations leading to recovery, recycle, reclamation, direct reuse or alternative uses of POPs
- not transport wastes across international boundaries without taking into account international rules, standards and guidelines (e.g., Basel Convention)

Bangkok (27 Nov
2001)

Stockpiles and Wastes

7

Article 6: Contaminated Sites

Parties shall: [para. 1 (e)]

- endeavour to develop strategies for identifying sites contaminated by POPs in Annex A, B or C and,
- if remediation is attempted, do it in an ESM

Note: Remediation is not required by the Convention

Bangkok (27 Nov
2001)

Stockpiles and Wastes

8

Article 6: COP Activities

COP shall cooperate with appropriate bodies of Basel Convention to establish: [para. 1 (e)]

- levels of destruction and irreversible transformation for purposes of paragraph 1 (d)
- methods that constitute ESM
- levels of POPs in Annexes A, B and C that are considered “low” for the purposes of paragraph 1 (d)

Bangkok (27 Nov
2001)

Stockpiles and Wastes

9

Related Issues: Trade

Convention imposes trade restrictions for all POPs in Annexes A and B: [Article 3, para. 2]

Imports & exports between Parties are limited to shipments:

- intended for environmentally sound disposal [per Article 6, paragraph 1(d)], or
- to Parties with:
 - “specific exemptions” under Annex A or B, or
 - “acceptable purposes” under Annex B

Bangkok (27 Nov
2001)

Stockpiles and Wastes

10

Related Issues: Trade

Exports to non-Parties may take place but there are conditions on both Non-Party and Party

- Non-Party shall provide annual certification to exporting Party:
 - expressing commitment to *inter alia*:
 - protect health and environment by minimizing or preventing releases
 - comply with the requirements of Article 6, paragraph 1 concerning stockpiles and wastes
- Exporting Party shall transmit certification to Secretariat within 60 days of its receipt

Bangkok (27 Nov
2001)

Stockpiles and Wastes

11

Related Issues: Trade

Parties shall provide the following information: [Article 15, para. 2]

- data on, or estimates of, total quantities of POPs in Annexes A and B that were produced, imported and exported, and
- a list of States from which it has imported or to which it has exported POPs in Annexes A and B

Note: COP will specify frequency & format of such reports

Bangkok (27 Nov
2001)

Stockpiles and Wastes

12

Related Issues: PCB

Parties using PCB specific exemption shall: [Annex A Part II]

- eliminate use of in-place PCB equipment PCBs **by 2025**
- not export or import PCB equipment, except for the purpose of ESM of waste
- not recover liquids with more than 0.005% PCB for reuse in other equipment, except for maintenance and servicing
- make determined efforts to achieve ESM of wastes containing >0.005% PCB ASAP, and **by 2028**
- endeavour to identify articles with >0.005% PCB for ESM
- report to the COP every 5 years on their progress in eliminating PCB [per Article 15]

Bangkok (27 Nov
2001)

Stockpiles and Wastes

13

Related Issues: Unintentional POPs

Annex C, Part II identifies the following among the industrial source categories having the potential for comparatively high formation and release of POPs to the environment:

- waste incinerators
 - municipal, hazardous or medical wastes
 - sewage sludge
- cement kilns firing hazardous wastes

Bangkok (27 Nov
2001)

Stockpiles and Wastes

14

Related Issues: Unintentional POPs

Annex C, Part III identifies the following among the industrial source categories having the potential for formation and release of POPs to the environment:

- open burning of wastes (including landfill sites)
- shredder plants for the treatment of end-of-life vehicles
- smouldering of copper cables
- waste oil refineries

Bangkok (27 Nov
2001)

Stockpiles and Wastes

15

Related Issues: Unintentional POPs

Annex C, Part V (A) identifies the following among general preventive measures to minimize production of POPs (BAT & BEP):

- use of low-waste technology
- promote recovery & recycling of materials and wastes
- improvements in waste management practices

Bangkok (27 Nov
2001)

Stockpiles and Wastes

16

Related Issues: Adding New POPs

- **Annex F requests information** on waste disposal implications in evaluating socio-economic information prior to deciding whether a chemical should be added to Annex A, B or C

Bangkok (27 Nov
2001)

Stockpiles and Wastes

17

Summary

Considerations for ratification include:

- **Stockpiles containing POPs in Annex A or B:**
 - develop and implement strategies for identification
 - manage in ESM until they become wastes
- **Wastes containing POPs in Annex A, B or C:**
 - develop strategies for identification
 - handle, collect, transport and store in ESM
 - disposal such that POP content is destroyed or irreversibly transformed, or otherwise in an ESM, taking into account international rules, standards, etc.

Bangkok (27 Nov
2001)

Stockpiles and Wastes

18

Summary

Considerations for ratification include:

- **Wastes containing POPs in Annex A, B or C:**
 - prevent recovery, recycle, reclamation, direct reuse or alternative uses of POPs
 - transport across international boundaries must take into account international rules, standards and guidelines (e.g., Basel Convention)
- **Sites contaminated by POPs in Annex A,B or C:**
 - endeavour to develop strategies for identifying sites
 - if remediation is attempted, do it in an ESM

Bangkok (27 Nov
2001)

Stockpiles and Wastes

19

Summary

Considerations for ratification include:

- **Trade restrictions:**
 - must implement measures in Article 3, para (2) and reporting requirements in Article 15, para. (2)
- **PCB measures:**
 - must implement measures in Annex A Part II
- **Unintentionally produced POPs**
 - address source categories in Annex C, Parts II and III
 - implement BAT and BEP using guidance in Annex C Part V

Bangkok (27 Nov
2001)

Stockpiles and Wastes

20

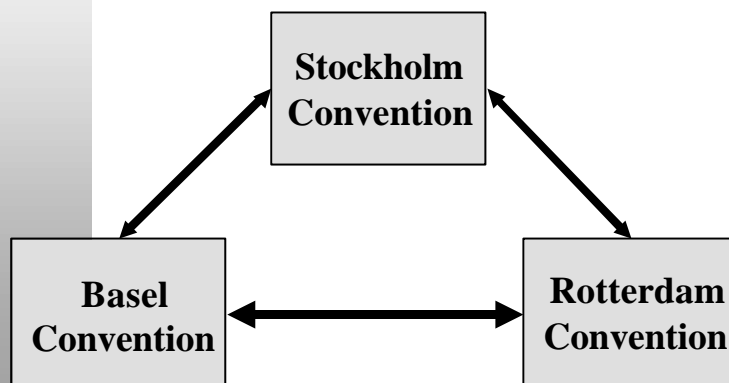
Relationship of the Stockholm Convention to the Basel and Rotterdam Conventions *by Mr. James Willis*

Relationship of the Stockholm Convention to the Basel and Rotterdam Conventions

Overview

- **Life Cycle Management**
 - The 3 treaties together cover elements of “cradle-to-grave” management
 - Common thread = POPs
- **Interlocking scope and coverage**
- **“Bridging” elements**
- **“Clustering” and governance issues**

Overview



Scope and Coverage

- Evaluating/regulating new chemicals (PIC and POPs)
- Evaluating/regulating existing chemicals (PIC and POPs)
- Import/export controls (PIC, POPs and Basel)
- Disposal (POPs and Basel)
- Hazard communication (PIC, POPs and Basel)
- Environmental releases (POPs)
- Other links, eg, regional treaties

New and Existing Chemicals

- **New Chemicals**
 - “regulate with the aim of preventing the production and use of new pesticides or new industrial chemicals which... exhibit the characteristics of persistent organic pollutants”
- **Existing Chemicals**
 - “take into consideration within these schemes the criteria in paragraph 1 of Annex D when conducting assessments of pesticides or industrial chemicals currently in use”
- **Banned or severely restricted chemicals must be notified under the Rotterdam Convention**

Import/Export Controls (1)

- **Rotterdam Convention is a first line of defence (keeps POPs problems from spreading or getting worse)**
- **8 POPs are included in both Conventions**
 - Aldrin
 - Chlordane
 - DDT
 - Dieldrin
 - Heptachlor
 - Hexachlorobenzene
 - PCBs
 - Toxaphene*
- **Possible future POPs are also included (or can be included)**

Import/Export Controls (2)

- **Stockholm Convention Article 3(2) controls import/export**
- **Rotterdam Convention provides an “extension”**
 - Reporting for trade under Stockholm Convention exemptions
 - Trade with Stockholm Convention non-Parties
 - Period until the Stockholm Convention enters into force
 - Trade in possible future POPs
 - Monitoring trade
 - Harmonized System Custom Codes
- **Should be implemented consistently**

Import/Export Controls (3)

- **Rotterdam Convention/Basel Convention**
- **Covers trade in toxic chemicals and hazardous wastes**
- **Masquerades (wastes travelling as chemicals)**
- **Stockpiles (eg, prevention)**
- **Illegal traffic**
- **Customs matters**

Waste Management (1)

- **Destroying POPs wastes**
- **Stockholm Article 6(1)(d)**
 - “Picked up” by Basel
- **Stockholm Article 6(2)**
 - A – irreversible transformation
 - B - Environmentally sound disposal
- **Stockholm Resolution 5**
 - technical guidelines for the environmentally sound management of persistent organic pollutant wastes

Waste Management (2)

- **Preventing the creation of POPs in waste management practices**
- **Stockholm Article 5**
- **Annex C**
 - **Relevant Part II Source Categories:**
 - Waste incinerators, including co-incinerators of municipal, hazardous or medical waste or of sewage sludge
 - Cement kilns firing hazardous waste
 - **Relevant Part III Source Categories:**
 - Open burning of waste, including burning of landfill sites
 - Waste oil refineries
 - Possibly others???

Waste Management (3)

- **Basel Technical Guidelines:**

- PCBs
- Dioxins
- Furans
- Others?

Bridging Elements

- **Technical Assistance**
- **Technology Transfer**
- **Regional Centres**
- **Financial Mechanism**
- **National Implementation Plans**
- **Policy Development (INCs, COPs and subsidiary bodies)**

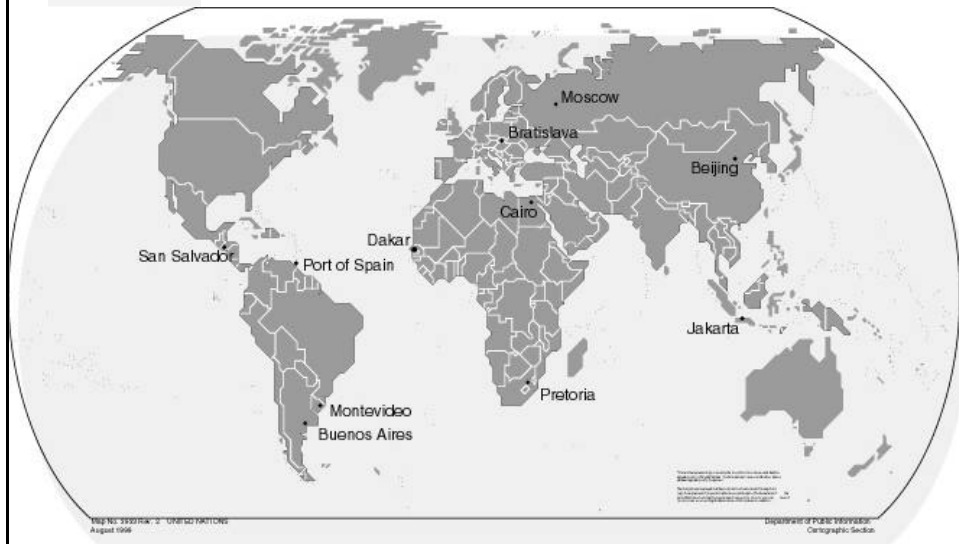
Technical Assistance/Technology Transfer

- **Article 12, Paragraph 3**
 - **Bilateral technical assistance**
 - **Other technical assistance as agreed by COP**
- **Article 12, Paragraph 4**
 - **Technical assistance**
 - **Technology transfer**
 - **As agreed by COP**
 - **Regional Centres**

Regional Centres

- **Established by the Basel Convention**
- **Required by the Stockholm Convention**
- **Interim period – use of BRCs for the Stockholm Convention?**

Basel Regional Centres



Financial Mechanism

- **Stockholm Convention**
 - **Financial Mechanism**
 - GEF
 - Other sources of funds
- **Rotterdam Convention**
 - **Informal**
- **Basel Convention**
 - **Technical Cooperation Trust Fund**

Financial Mechanism

- **Leveraging resources**
- **Control of POPs production, import and use**
- **Disposal of POPs**
- **Waste disposal technologies**
- **Implementation Plans**

Clustering

- **International Environmental Governance**
- **Process also looking at MEAs**
- **Decision to pilot a Chemicals and Waste Cluster**
- **Agreement on approach to be taken in Montreal on 1 December**
- **First steps – administrative and policy linkages**

Summary


- **Framework for life cycle management**
- **Leveraged resources**
- **Strengthened programmes**
 - **Infrastructure**
 - **Risk Assessment**
 - **Risk Management**
 - **Public participation**
 - **Customs**
 - **Sustainable development**
- **Global/regional/national levels**

Legislating Chemicals

by Mr. Masa Nagai

...

LEGISLATING CHEMICALS



Masa Nagai
Environmental Law Branch
UNEP

...

...

Setting objective

To reduce risks to human health and the environment by:

- Regulating certain chemicals
- Regulating certain human activities causing the release of certain chemicals into the environment or introduction of such risks

...

⋮

Linkage to sectoral laws

Relevant sectoral laws may cover:

- Water pollution (surface and ground water)
- Marine environmental pollution
- Air pollution
- Soil contamination
- Harm to wild fauna and flora
- Development or land use planning

⋮

⋮

Lifecycle approach

Target regulatory actions at:

- Research, Development & Testing
- Manufacture
- Transport, Storage
- Distribution, Trade
- Use
- Disposal
- Unintentional generation

⋮

⋮

Socio-Economic Consideration

- Ensure that regulatory measures on certain chemicals are identified taking fully into account development needs and the need to protect human health and the environment.
- ⋮

⋮

Responsibility

- Identify persons who are responsible for risks associated with certain chemicals
 - Make such persons accountable in taking actions required to achieve the legislative objectives
 - Make such persons bear administrative costs for implementing legislation
- ⋮

⋮

Institutional arrangements

- Identify an authority or authorities responsible for implementing legislation
- Identify the relationship with other existing laws, and define jurisdiction among authorities
- Establish institutional mechanisms for inter-sectoral coordination and review

⋮

⋮

Manufacture & Use Ban/Restriction

- Prohibition or restriction of chemicals causing unacceptable risks
- Address manufacture, import and use
- Differentiated regulatory actions for different types of chemicals

⋮

⋮

Emission/Release Control

- Emission/release control of certain chemicals
 - Set emission/release standard
 - Regulate certain types of activities and facility
- ⋮

⋮

Wastes Management

- Regulate generation, collection, transport, storage, treatment, recycling and disposal of wastes
 - Distinct regulatory measures for municipal wastes and industrial wastes
 - Regulate the persons and installations involved, and phases of related activities
- ⋮

⋮

Means to Enforce

- Record keeping
- Document to track movement
- Permit & License
- Reporting
- Inspection
- Penalties
- Incentive measures

⋮

Towards Prevention

- Building knowledge basis
- Health and environmental risk assessment
- Awareness of existing risks
- Planning for the sites of hazardous installations
- Preparedness for accidents
- Funds for pollution prevention

⋮

⋮

Restoration of Damage

- Compensation schemes for injury
 - Procedures and funds for clean-up contaminated sites
 - Procedures for settlement of disputes
- ⋮

⋮

International Issues

Bring national legislation in line with:

- Stockholm Convention (persistent organic pollutants)
 - Rotterdam Convention (hazardous chemicals in international trade)
 - Basel Conventions (transboundary movements of hazardous wastes)
- ⋮

Chemical Legislation: A Model

by Mr. Masa Nagai

Chemicals Legislation: A Model

Masa Nagai
Environmental Law Branch
UNEP

Setting objective

Establish procedures to assess health and environmental impact of certain chemicals

Regulate the chemicals posing unacceptable risks

Scope

- Define the categories of chemicals to be covered
- Combination of characteristics for the categories:
 - Persistent
 - Bioaccumulative
 - Toxic

Exemptions

- Exemption may be accorded to:
 - Chemicals already covered by other existing laws (e.g. pharmaceuticals)
 - Chemicals for specific use (e.g. research)
 - Chemicals in the quantity under a given threshold

Lists

- Lists of categories of chemicals
 - First priority for regulation
 - Second priority for regulation
 - Others
- Inventory of existing chemicals
- Practical means to amend the lists
- New chemicals - Not on the lists

Authority

- Identify the authority responsible to implement the legislation
 - Minister(s) with executing power to issue and undertake regulatory measures
 - Minister(s) with whom coordination is required (e.g by notifying measures taken)

Responsibility

- Identify persons who are to be governed by the legislation:
 - Manufacturers
 - Importers or traders
 - Users
- Make them responsible to take measures required under the legislation

Information Gathering

- Notification to the authority of the intent of manufacture, import or sale, or use
 - Name, address, amount of chemicals, purposes
- Submission of chemicals information by manufacturers or importers

Assessment

- Assessment by the authority of impact to health and environment, based on the chemicals information submitted and/or its own tests
- Assessment to be done in a given period
- Observe transparent process

Measures

- Prohibit manufacture, import or sale, or use
- Permit with certain regulatory measures:
 - Licensing
 - Compliance with certain technical standard
 - Bookkeeping and report
- Permit

Differentiated Measures

- Regulatory measures may be differentiated according to the assessed risks
- Lists of different categories of chemicals, posing different levels of risks, may provide a basis for such differentiated treatment

Enforcement

- Recommendation
- Administrative order
- Mandatory submission of reports
- Onsite inspection
- Administrative and criminal punishment

Financial means

- Administrative costs may be partially borne by:
 - those who intend to manufacture, import or sale, or use, upon application
 - those who are permitted, upon, e.g. licensing

Regulations

- Lists of individual chemicals may be published under regulations issued by the authority, e.g. Minister(s)
- Such lists maybe amended from time to time to keep them updated
- Other matters that require regular update (e.g. technical standard or administrative fees) may be covered by regulations

Linkage to other laws

- Waste management
- Agricultural chemicals
- Air quality
- Water quality
- Marine and coastal environment
- Soil quality
- Environmental impact assessment

Chemical Controls: Responsibilities, Management, and Institutions
by Dr. Bengt Bucht

Chemicals Control

**Responsibilities, management,
institutions**

**Bengt Bucht
Swedish National Chemicals Inspectorate**

1

**CHEMICALS CONTROL
SPHERE**

Health and Environment and Safety

Consumers

Workers

Ecosystems

Property

2

CHEMICALS CONTROL SPHERE

Interdisciplinary area

Need for different types of qualifications/expertise

- **toxicology and ecotoxicology, chemistry, physical chemistry, engineering, medicine, economy, law, agriculture, ..**
- **public health, occupational health, ecology**
- **fire prevention, accident prevention**

- **Hazard/risk assessors - risk managers**

3

PRECAUTIONARY APPROACH

- **Openness/Information - prerequisites for precaution and for trust**

- **Clean products - the first step to precaution**

- **RIO Declaration on The Precautionary Principle**

4

PRECAUTIONARY PRINCIPLE

RIO Declaration

Principle 15

”Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation”

5

OPENNESS - INFORMATION

**The users need more information
(employers, employees, consumers)**

*

Openness - prerequisite for trust

6

Cleaner Products and Production

SUBSTITUTION - Avoid hazardous chemicals which may be replaced by less hazardous ones



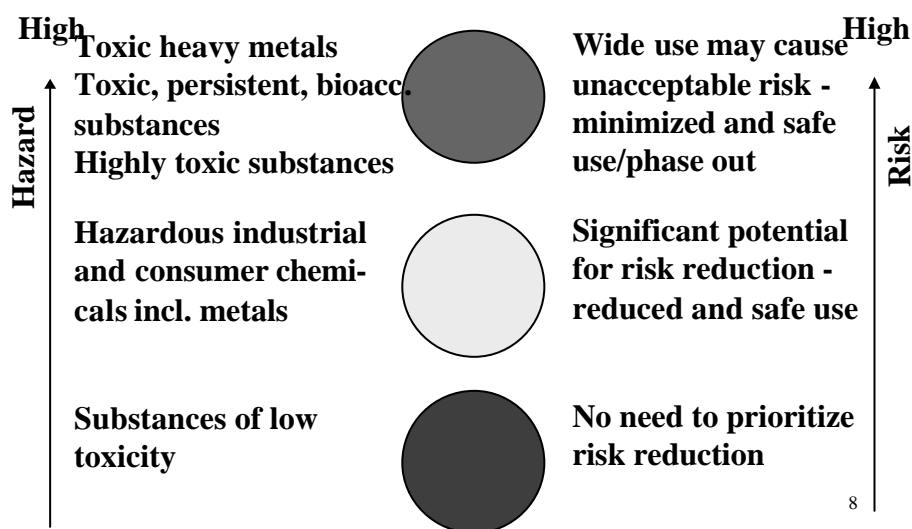
Use less chemicals with care



RESTRICTIONS/BANS -When necessary

7

Reduced use - risk reduction



8

Chemicals control - basic parts

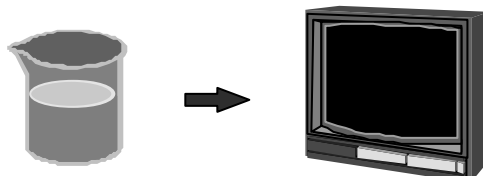
1. **Getting knowledge of hazardous properties of chemicals** (*testing, hazard assessment, classification,...*)
2. **Disseminating knowledge on chemicals** (*labelling, safety data sheets, ...*)
3. **Choice of chemicals** (*bans, restrictions, voluntary substitution, ...*)
↓
4. **Assessing risks and taking measures for risk reduction** (*technical measures for pollution and exposure prevention, protective equipment, use instructions etc.*)

Producers/importers/users are responsible!

9

From Chemicals to Products

- **Huge product flows =material flows**
- **Producers of chemicals - producers of products**
- **”Responsible Care”-”Product Stewardship” in all industrial production ?!**



10

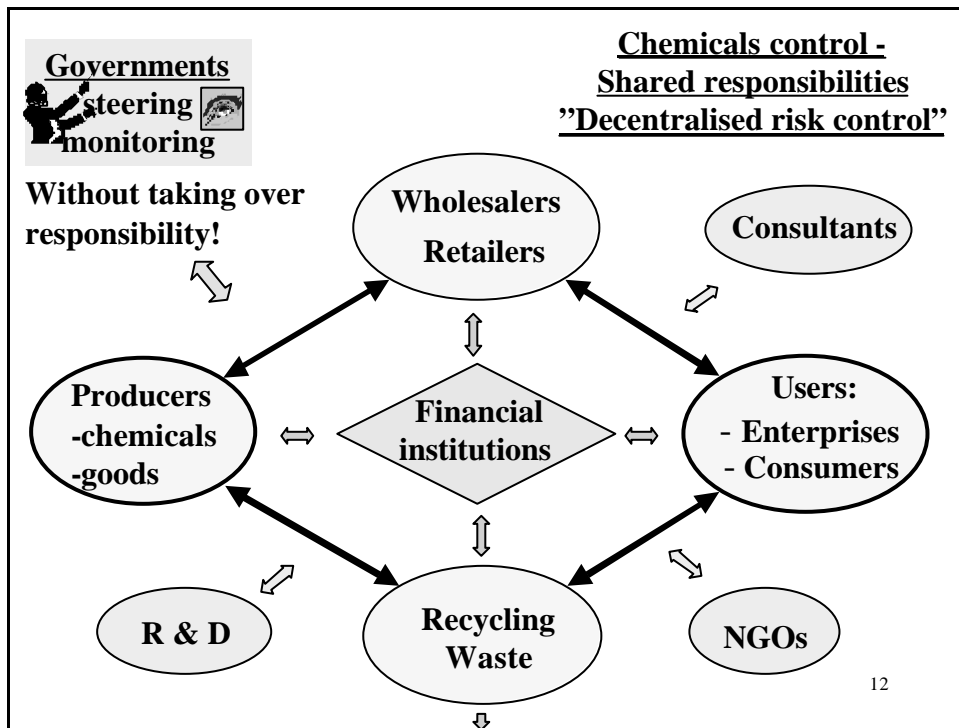
Role of Trade and Industry

- Trade & industry and consumers have the main responsibility for a safe marketing and use of chemicals
- Government/agencies steer and supervise

Regular dialogue between ministries/agencies and trade&industry is necessary

- Recognise the separate roles of public institutions and trade&industry! Do not mix them!!

11



Chemicals Control National infrastructure needed

Legislation

Primary & Secondary

- Allocation of basic responsibilities
- Delegation (!) of responsibilities
- Specific regulations

Institutional set up

Capability & Capacity

- Organisation
- Responsibilities/tasks
- Qualifications
- Co-operation
- Co-ordination

13

Institutional set up

- Policy level: main ministry ? - co-ord./co-op.
- Agency level: “special management unit”? - co-op
- Inspectorates: co-op.
- Poison Information Centre

14

Organisation of institutions

- Clarify allocation of responsibilities/co-ordination/co-operation - avoid duplication of tasks
- Concentrate responsibility and resources
(*PPP's, biocides, other chemicals*)

↓
make a cost-effective use of existing resources

- Additional resources as needed
- Benchmarking with other states

15

Why ministries of environment as responsible bodies for chemicals control?

Increasing focus on environmental effects or environmentally mediated health effects due to use of chemicals

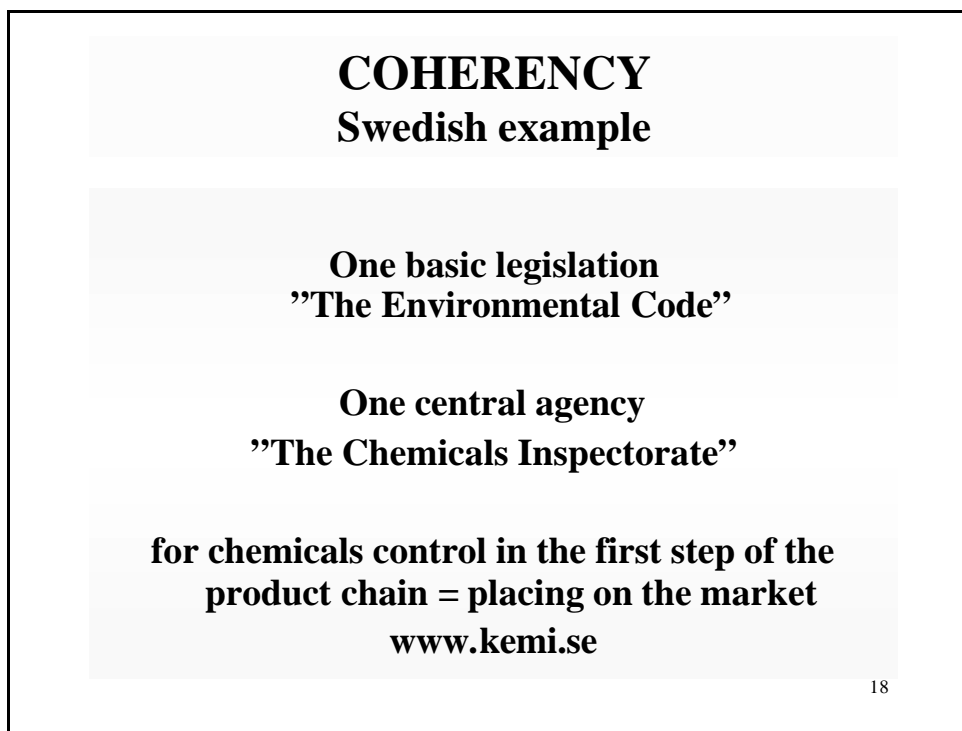
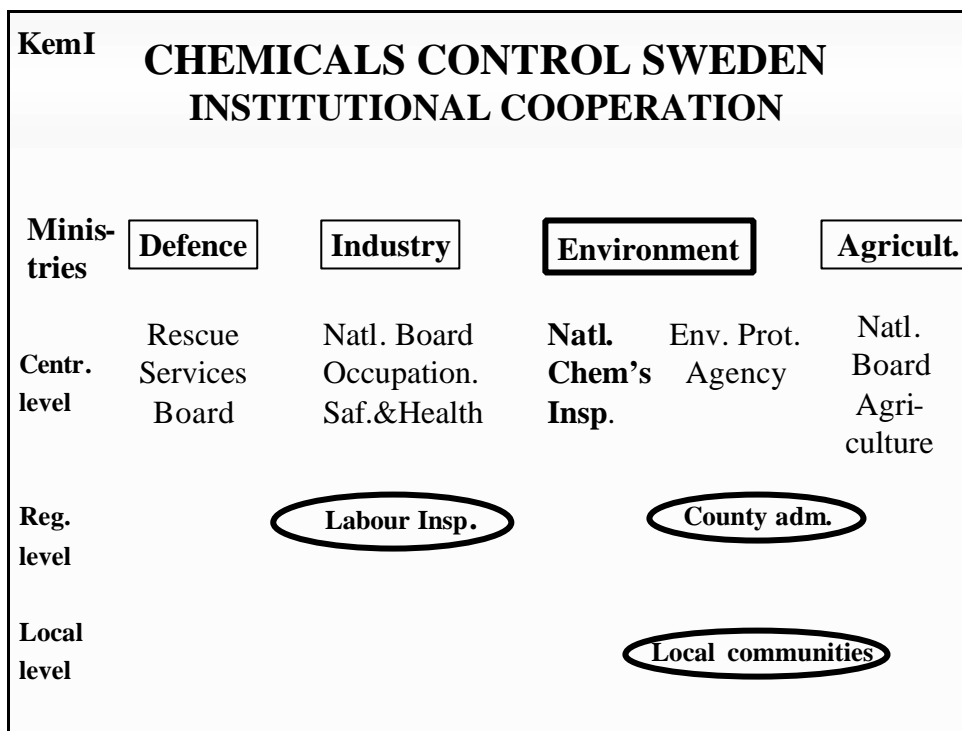
+

Min's of environment are familiar with issues concerning risk assessment and management.

but

Other alternatives possible!

16



Possible policy related tasks for main Ministry

- **Propose/issue basic legislation (classific./label./SDS, restrictions, new/exist. subst., export/import, biocides, PPPs, ..)**
- **Policy issues as regards control of chemical hazards and risks**
- **Co-ord. between and co-op. with other ministries**
- **International co-operation as regards policy issues**

!Placing on the market!

19

Possible tasks for a "Chemicals managing unit"

- **Propose/prepare decisions to be taken at higher level.**
- **Other support to the government in policy issues**
- **Monitor/assess domestic use of chemicals (H&E)**
- **License enterprises placing chemicals on the market**
- **Register pesticides (biocides, PPPs)**
- **Co-operate with other state institutions**
- **Co-operate with trade, industry and other stakeholders**
- **Guide and advice supervision agencies**
- **International activities on expert/management level**

ENFORCEMENT - WHAT IS NEEDED?

- **Clear legal responsibilities for enterprises**
- **Sanctions in case of violation of law**
- **Instructions for inspectorates: clear tasks**
- **Legal rights for inspectorates: to get information, to site visits, to issue orders**
- **Knowledge of enterprises to inspect**
- **Resources and qualifications**
- **Guidance/support to inspectorates: methodology, training,**

21

Chemicals Control Product and information flows

*FIND DATA, (TEST)
ASSESS and CLASSIFY
CHOOSE CHEMICALS*

*LABELLING
SAFETY DATA SHEETS*

*SEARCH DATA ?
ASSESS RISKS
CHOOSE CHEMICALS
ORGANISE SAFE USE*

**PRODUCERS
IMPORTERS**



TRADERS



USERS

Numbers

n

>10xn

>100xn

22

Producers/importers

To think of ← Responsibilities → To check

As regards products

- **Organisation, routines**
- **Qualifications** (*own or access to external expertise*)
- **Documentation on chemicals to be placed on the market**
(*test data, literature, foreign and domestic suppliers, ...*)
- **Compliance with regulations and EMS(H,E&S)**
 - **Classification, Labelling, Safety Data sheets**
 - **Bans, restrictions**
 - **License**
 - **Approvals. Etc.**
- **Demands of customers!!**

23

Users and other handlers*

To think of ← Responsibilities → To check

As regards handling: * *incl. producers/importers/traders*

- **Organisation, routines of enterprises - purchasing?**
- **Qualifications of personnel?**
- **Which chemicals are used?**
- **Is hazard and other information from traders available?**
- **Is use, storage, transport etc. organised safely?**

↓

Compliance with regulations, EMS, precaution?

- **use instructions, workers informed, labelling, etc.** -
- **emission/exposure limits complied with**
- **technical measures applied**
- **personal protective equipment available and used**
- **waste taken care of properly**
- **effects (workers health/environment)taken note of**

National profiles an IFCS/UNITAR effort

- **Countrywise assessment and diagnosis of existing infrastructure for sound management of chemicals**
 - legislative
 - institutional
 - administrative
 - technical
- **2002**

25

National profiles Objectives - benefits

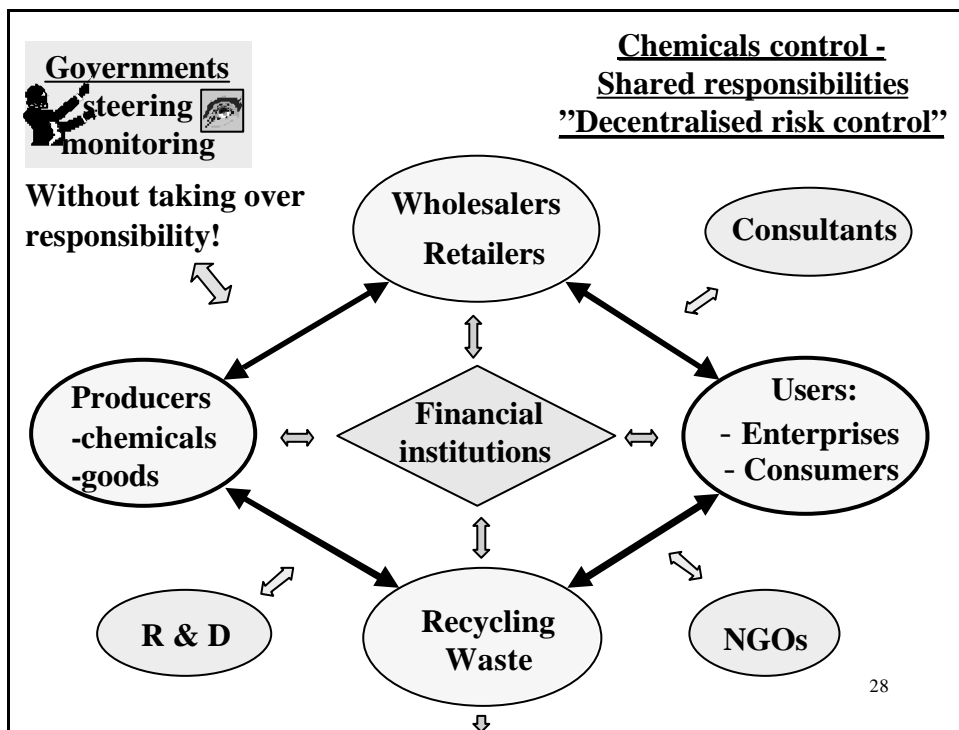
- **Improved efficiency of governmental management of chemical risks**
- **Social benefits**
- **Economic/trade benefits**
- **More effective international co-operation**

26

National profiles preparation of

- National co-ordinator
 - Planning meeting
 - National co-ordinating team
 - Work plan
 - Contact points – network
 - Research –assessment
 - Draft Reports Reviews
 - National Profile Follow up
- Inform.: www.unmar.org/cwm/homepage/a/np

27



28

UNITAR; Preparation of National Profile to Assess the National Infrastructure for the Management of Chemicals

by Mr. Brandon Turner

Preparation of National Profiles to Assess the National Infrastructure for the Sound Management of Chemicals

UNITAR

Training and Capacity Building Programmes in
Chemicals and Waste Management

United Nations Institute for Training and Research (UNITAR)
Palais des Nations
1211 Geneva 10

Tel: +41 22 917 1234
Fax: +41 22 917 8047
Email: cwm@unitar.org



National Profiles for the Sound Management of Chemicals

Z:cwm.08/PTF8/presentations/National Profiles.ppt

What is a National Profile?

- A comprehensive and systematic documentation of the national infrastructure for the management of chemicals, including identification of existing gaps and weaknesses.



National Profiles for the Sound Management of Chemicals

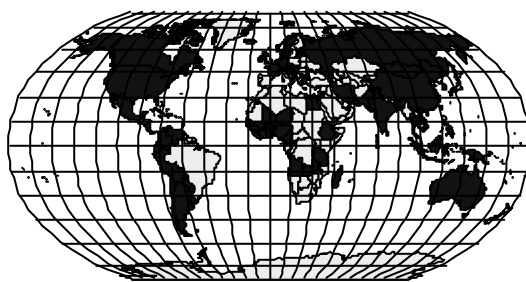
A National Profile includes Information on...

- Chemical production, import, export and use
- Priority concerns related to chemical production, import, exports and use
- Chemicals legislation and non-regulatory mechanisms
- Responsibilities and activities of governmental and non-governmental bodies
- Existing interministerial bodies and national coordinating mechanisms
- Available data sources
- Technical infrastructure
- Resources available and needed



National Profiles for the Sound Management of Chemicals

National Profile Preparation Worldwide



Legend	
□	National Profile in Preparation (28)
■	National Profile Prepared (67)



National Profiles for the Sound Management of Chemicals

References to National Profiles

- **Priorities for Action, Intergovernmental Forum on Chemical Safety, 1994...**

"National Profiles to indicate the current capabilities and capacities for management of chemicals and the specific needs for improvements should be elaborated as soon as possible and no later than 1997."

- **Priorities for Action, Intergovernmental Forum on Chemical Safety, 2000...**

"By 2002, most countries, through a multi-stakeholder process, will have developed a National Profile on chemicals management."

- **May 2001 Global Environment Facility (GEF) Council Meeting...**

Countries recognised the utility of National Profiles with regard to the successful implementation of POPs-related activities and encouraged their development.

Initial Guidelines for Enabling Activities for the Stockholm Convention on Persistent Organic Pollutants (GEF/C.17/4) encourages countries that have not prepared a National Profile to do so using UNITAR/IOMC guidance.



National Profiles for the Sound Management of Chemicals

Key Principles for Preparing a National Profile

- Involvement of all concerned parties (multi-stakeholder approach)
- Country-driven process (*by countries for countries*)
- Ongoing process (living document – should be updated on a regular basis)
- Presentation in a standard but flexible reporting format



National Profiles for the Sound Management of Chemicals

Possible Benefits of Preparing a National Profile

- Integration of scattered information into one single national document
- Initiation of a comprehensive and transparent process to define national priorities
- Enhanced co-operation of all interested parties within and outside of government
- Broadened network of contacts
- Increased mutual awareness and promotion of information exchange among concerned parties



National Profiles for the Sound Management of Chemicals

Possible Benefits of Preparing a National Profile

- Support reporting under international reporting schemes, including the Stockholm Convention on Persistent Organic Pollutants
- Important component of an Integrated National Programme for the Sound Management of Chemicals



National Profiles for the Sound Management of Chemicals

**UNITAR Programme to Assist Countries
in Preparing National Profiles
to Assess their National Infrastructure
for the Sound Management of Chemicals**

- Conducted under the umbrella of the IOMC
- Guidance Document published in English, French, Spanish
- Support programmes in place for developing countries



National Profiles for the Sound Management of Chemicals

UNITAR/IOMC National Profile Programme Support

- Assistance for countries to translate the Guidance Document into the local language
- Grants for a national university, research institute, or ministry to assist in collecting the relevant national and local information
- Support of the organisation of national and local meetings
- Consultancy support to facilitate a participatory process in preparing the National Profile



National Profiles for the Sound Management of Chemicals

UNITAR/IOMC National Profile Programme Support

- Support for publication, both hard copy and electronic, of the National Profile
- With country permission, National Profiles are added in the UNITAR/ECB National Profiles Homepage
- Eventual addition of future editions of UNITAR National Profiles CD ROM



National Profiles for the Sound Management of Chemicals

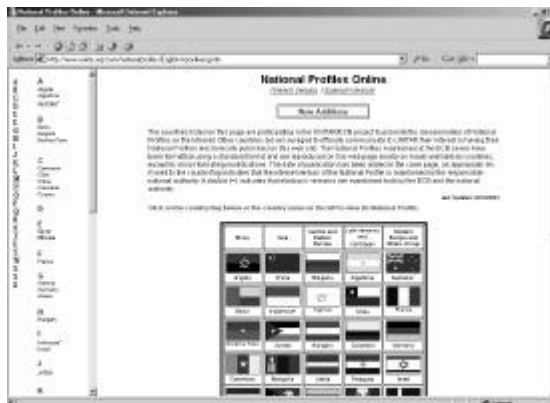
Preparing a National Profile to Assess the National Infrastructure for Management of Chemicals: A Guidance Document

- PART A: The international and National Policy Frameworks for the Sound Management of Chemicals and for the Preparation of National Profiles
- PART B: Organising the Preparation of a National Profile
- PART C: Suggested Structure and Contents of a National Profile



National Profiles for the Sound Management of Chemicals

National Profiles Homepage



National Profiles for the Sound Management of Chemicals

How to Apply for Support through National Profile Programme

- Application form available from UNITAR
- One application per country
- At least two co-sponsoring Ministries
- Can also be undertaken as part of a POPs Implementation Plan



National Profiles for the Sound Management of Chemicals

Issues and Problems of Obsolete and Banned Pesticides by

Dr. Alemayehu Wodageneh

Pesticides and leaking and corroding pesticides containers is a worldwide and serious environmental issue. They exist in both urban areas and mainly in populated zones. Most of the rural landscapes of developing countries are littered with both obsolete stocks, pesticides and empty and contaminated containers of all types and sizes. These chemical leftovers are constant threats to the human health in the agricultural world that they were designed to help. They are affecting not only the agriculture and its environment, but also the health of people and consequently development. The global environmental tragedy is a direct result of several decades of mishandling and is most dramatic in the developing world where there are no funds or facilities for cleaning up the toxic waste. Conservative estimates find well over 500 000 tonnes of obsolete pesticides in developing countries and of this total over 120,000 tonnes is confirmed to exist in Africa.

The alarming inventory information gathered during surveys over the last few years has provided concrete evidence of the real and immediate danger resulting from stockpiles in many of the countries covered. The collaborative programme on disposal of obsolete pesticides underlines the urgency, the importance and the need for both commitment and concerted international effort to solve this problem. Considering that at least over 500 million dollars will be required to clean up critical areas of the developing world, the cost of disposal is high. Not only, but cleaning up the toxic mess is also a complex task. It is technical, dangerous and expensive. Operation has to be handled by professional staff with skills and adequate background and, for this to be achieved, adequate financial resources will be required. If the problem is delayed or left without solution, it will be more expensive and the potential for environmental disaster will be much greater.

Causes for accumulation of obsolete pesticide stocks

The causes of accumulation stockpiles are many and differ from country to country including the variety or types of toxic waste involved. The following are some of the known causes:

1. Inadequate storage facilities and improper pesticide containers. This is true that some 96% of the stores in the developing world are substandard including stores owned by governments, state and private farms and also those owned and managed by the pesticide vendors or distributors.
2. Pesticides banned while in storage
3. Prolonged storage of products with short shelf-life
4. Inability to forecast pest outbreaks such as locusts, birds, grasshoppers, armyworms, etc.
5. Poor or no ability to make correct assessment of pesticide requirements
6. Unawareness of the inherent danger of pesticides and associated short and long-term environmental consequences
7. Poor stock management and lack of record-keeping in almost all cases
8. Inappropriate pesticide provisions or unethical dumping under a pretext of donations

9. Uncoordinated donations of pesticides arriving from different sources at about the same time for the same purpose
10. Over-purchase through government budget allocations
11. Ineffective distribution system or lack of means and facilities for coordinated actions
12. Aggressive profit motive by vendors
13. Illegal cross-border trading, etc.

The first line of action in addressing the issue of stockpiles

The first line of action in addressing the problem is to conduct countrywide surveys and to take appropriate inventory of stocks. The following should be taken into consideration.

1. The issue of obsolete pesticides is complicated but at least the points listed (a) to (g) need to be understood:
 - (a) Knowledge of causes of accumulation of stockpiles in each case.
 - (b) How and by what means further accumulation can be avoided?
 - (c) Studying how to get prepared to get rid of accumulated stocks and to find the means to do it.
 - (d) What alternative methods of pest control are available for use?
 - (e) What policies should be put in place to minimise the use of pesticides and move to other alternative methods of agricultural and vector pest control?
 - (f) How soon governments concerned can enact the identified measures?
 - (g) What resources are available and how to implement effectively new or existing rules or regulations?
2. Studying and analysing the above few but basic questions so as to find solutions to recurring problems of stockpiles causing widespread environmental havoc.
3. Study and understand disposal methods available. Disposal by means of incineration is increasingly opposed by Non-Governmental Organizations (NGOs), the Civil Society, the public awareness group, Green Peace, etc. Opposition is stiffer when cement-kilns are chosen for destruction of waste. Basically this is not acceptable because a certain level of dioxin emissions into the environment is unavoidable. Dioxins are highly dangerous, more than a given set of pesticide waste intended for destruction.
4. Ensuring the exercise of inventory taking by including the following four categories of waste directly related to stockpiles:
 - (a) **Obsolete and banned pesticides:** These are pesticides that are no longer useful for the purpose for which they were intended. They might exist in various forms such as *liquids, granules, powders, emulsions, gasses, etc.*
 - (b) **Empty and contaminated pesticide containers:** These are equally as dangerous as pesticides and therefore should be taken into consideration when taking inventories. In many countries and specifically in developing

countries pesticide containers are used for domestic purposes and thus often cause major environmental and health disasters.

- (c) ***Heavily contaminated soils:*** These are major sources of water contamination particularly ground water. Often contamination takes place from run off following rainy seasons, etc.
- (d) ***Buried pesticides:*** These are often found in unmarked sites or in the middle of populated zones with little or no marks to trace. This leads to soil contamination and therefore represents a source of high hazard to.

FAO has developed a format that is widely used for inventory taking. It is simple and useful to initiate disposal operations and allows to exchange information and is also necessary for updating the global database on stockpiles. The inventory format should be completed in Excel format for easy conversion to a database as might be needed.

Survey activities

FAO started gathering information and taking inventories of obsolete stocks since 1994. Between 1994 and 2001, the FAO Collaborative Programme on Disposal of Obsolete Pesticides, identified stockpiles in many countries mainly in Africa and the Near East. Currently information on inventories and stock data is available from 46 countries in Africa, nine in the Near East, seven in the Far East and 12 in Latin and Central America and the Caribbean. However, in almost every case, inventories need to be revised and updated from time to time, as more waste is still being discovered or identified in each and every country.

Destruction of waste

Destruction often requires high temperature incineration in dedicated hazardous waste facilities. At least at the moment these are the preferred means of destruction. There are a number of different facilities but almost all are either under development or are not widely used or accepted in many countries. These are:

1. Chemical treatment
2. Engineered landfill
3. Long term controlled storage
4. Reuse/reformulation
5. New technology
 - Gas phase hydrogenation
 - Electrochemical Oxidation
 - Molten Metal
 - Molten salt
 - Solvated Electron Process
 - Supercritical Water Oxidation
 - Plasma Arc

The above methods of destruction can be debated by listing advantages and disadvantages each of them can provide. The methods are nonetheless being tested and revised or updated while a few are used on a limited scale in limited countries.

The method of engineered landfilling is often available if Government policies support them. However, owing to long-term negative effects on the environment and the need to constantly maintain buried waste, the use of landfilling is gradually discouraged. In fact many developed countries are avoiding their widespread use. In many developed countries old landfilled sites are being excavated and decontaminated at much higher cost. What are currently being used widely despite oppositions from different sectors are dedicated high temperature incinerators. Such dedicated facilities usually have emission control mechanisms backed by monitoring and supervisions to ensure safety of operations. But since such reliable and sophisticated incinerators are expensive to install, they do not exist in developing countries. The usual practice therefore is to clean up stockpiles professionally, repackage them in new UN approved repackaging materials, transport them overland to a major port and then tranship them overseas or to countries where waste destruction facilities exist. It is estimated that the cost of such operations varies between US\$3 000 and US\$4 500 per tonne depending on many factors. However, with increased competition among waste treatment companies, the cost of disposal per unit weight is expected to decrease.

Policy Issues

Past mistakes have been recognised and measures are being taken to prevent repetition. But still large quantities of obsolete pesticides remain as a heritage since over 30 years of misuse. Unless coordinated international action is taken, the current situation will continue to worsen. The following are ongoing efforts that are currently being implemented:

1. Organizing a global effort to dispose of existing hazardous chemicals and to avoid further accumulations.
2. Providing monitoring services to ensure that contractors comply with international safety and environmental standards.
3. Establishing more cooperation among donor governments and aid agencies, recipient governments and agrochemical companies. Each needs to assume some of the responsibilities for the current situation by giving high priorities.
4. Promoting methods of pest management that will reduce the reliance on pesticides by providing guidelines that should limit stock of pesticides to short-term requirements
5. Recommending or enforcing agrochemical companies to take back and dispose of unused or substandard products they supplied at their own cost.
6. Seeking funding sources for disposal operations establishing joint funding arrangements when necessary.

Provisions

FAO provided guidance and assistance in a number of ways such as the following:

- Surveying and monitoring of potential problems of existing stockpiles.
- Developing and distributing guidelines for safe storage, for preventing accumulation and for removal and destruction of waste.
- Initiating and formulating disposal projects for member countries.
- Organising local, national and regional training, seminars, workshops and group discussions.
- Sensitising and mobilizing the public through awareness raising.
- Supervision, monitoring and follow-up of disposal operations at field level.
- Raising awareness by sharing information, etc.

Guidelines on obsolete stockpiles

FAO has produced and published a series of guidelines and related documents on the management and proper storage of pesticides, safe disposal operations, etc. The following are available in hard copies, in electronic formats and on the Internet.

1. Prevention of Accumulation of Obsolete Pesticide Stocks,
2. Pesticide Storage and Stock Control Manual,
3. Disposal of bulk quantities of obsolete pesticides in developing countries
4. Guidelines for the management of small quantities of unwanted and obsolete pesticides
5. Assessing soil contamination (A reference manual)
6. Baseline study on the problem of obsolete pesticide stocks
7. Training manual in waste management,
8. Country guidelines to help governments in developing countries as to how to address the problem and to how to coordinate the various stakeholders, etc.

Most of these guidelines are already available in English, French, Spanish and Arabic and those that are not will soon be available.

Other related documents such as results of a series of consultations/meetings on prevention and disposal are also available. Most of the guidelines can be referred to and downloaded at the FAO homepage on the Internet: <http://www.fao.org> at the following website:

http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/index_en.htm

In addition, various basic information resources such as CD-ROMs, posters, database on stocks, brochures, etc. are also available.

There are a series of videos too for demonstrational purposes and for raising awareness. They provide information on the effect of pesticides and problems caused showing actions on disposal operations at the field level.

Activities of the Asia-Pacific Regional Centre for Hazardous Waste Management Training and Technology Transfer.

by Dr. Li Jinhui

1. Introduction

NEPA (National Environmental Protection Agency of China) established National Training and Technology Transfer Centre for Hazardous Waste Management and Disposal of China (NTTTC) in March 1993, in Tsinghua University, aiming at accumulating experiences on the operation of regional centre. The COP3 to the Basel Convention officially selected China to establish a regional centre for hazardous waste management in the Asia-Pacific region in September 1995. The Asia-Pacific Meeting on Establishing Regional Centres for Training and Technology Transfer for Environmentally Sound Management of Hazardous Waste was held in July 1996. The workshop thinks it is feasible to establish regional centre in Beijing. APCHW was established on 11-13 November 1997, at the same time, the First Meeting of the Board of Directors for Asia-Pacific Regional Centre for Hazardous Waste Management Training And Technology Transfer, which marks the beginning of operation for APCHW.

2. Current Institutional Framework

For APCHW, the current legal framework is shown in figure 1. The future institutional structure depends on the final decision of Basel Convention, and is under consideration.

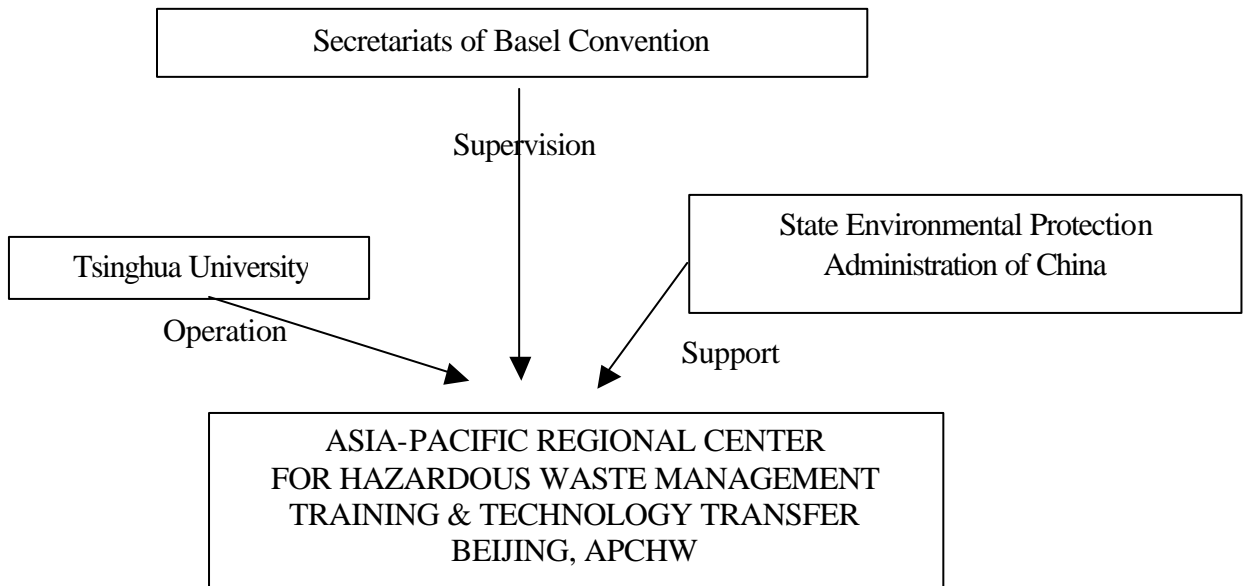


Figure 1 Current institutional structure of APCHW

The centre is located in Tsinghua University, and administratively operated by the University. The centre is benefiting from its strong technology support on solid and hazardous wastes. The available support institution to APCHW in Tsinghua University is shown in figure 2. From this figure, the support to the centre on the other aspects, such as POPs, Chemicals, is also available. In order to facilitate the research and related elimination technology development on POPs, the POPs Research Centre of Tsinghua University has been established. It has organized all the scientists in the University whose research fields are related to POPs, and I am also one of the key members of the organization.

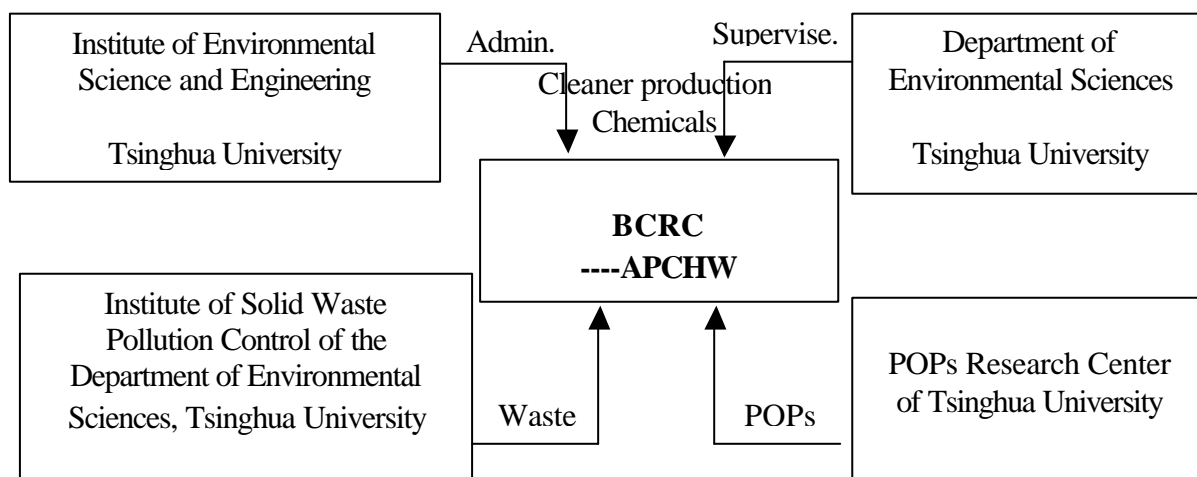


Figure 1 Support institution of APCHW in Tsinghua University

Key Resource Persons to APCHW

- Ms. Qian Yi, Academician of Chinese Engineering, Professor, the related support is in cleaner production and POPs
- Dr. Hao Jiming, Professor, the related support is cleaner production and hazardous waste management
- Dr. Chen Jining, Professor, the related support is in POPs and cleaner production
- Dr. Yu Gang, Professor, the related support is in POPs and toxic chemicals management
- Mr. Nie Yongfeng, Professor, the related support is in hazardous waste management and toxic chemicals management

3. Previous Achievements of APCHW

1.1 Research Programs

Now the research programs of APCHW mainly focus on resolving the problems that China is confronting. APCHW is trying to help resolve the problems in the region and the countries that the countries in the region are confronting. Now the main programs include:

- National Technological Policy on the Pollution Prevention and Control of Hazardous Wastes, 2000-2001, SEPA
- National Technological Policy on the Pollution Prevention and Control of Waste Batteries, 2001-2002, SEPA
- Guideline on Operation Capability of Hazardous Wastes, 2000-2001, SEPA

- China National Strategic Plan on Hazardous Waste Management, World Bank Project, Conducted by APCHW and Demark COWI, 1998-1999;
- National Act Plan on Hazardous Waste Management, the State Key Project, 1998-2000, Ministry of Science and Technology.
- Regional Decision-making Support System on Hazardous Waste Management, the State Key Project, 1998-2000, Ministry of Science and Technology.
- Structure and Technological Research of Landfill, the State Key Project, 1990-1995.
- The Characteristics Research of Liner Material of Landfill, the State Key Project, 1990-1995, Ministry of Science and Technology.
- China National Management Countermeasure for Municipal Solid Wastes, 1998-1999, SEPA
- China National Management Countermeasure for Waste Batteries, 1998-1999, SEPA
- Rules for the Implementation of the Law of the People's Republic of China on the Prevention and Control of Hazardous Waste Pollution to the Environment, 1998-1999.

3.2. Technology Development and Transfer

Material Recovery

- Recovery Technology of Waste Ni-Cd Batteries, 1998-
- Recovery Technology of Waste electro-circuit board, 1999

Landfills

- Design of Shenzhen Hongmei Landfill for Hazardous Wastes, 1994-1995. This is the first security landfill of hazardous waste in China that can meet the international high standards. A picture on this landfills in shown in figure 3
- Feasibility Research of Hazardous Waste Safety Landfill of Shanghai, 1998-1999
- The Feasibility Research of Municipal Solid Waste Landfill of Zhuzhou, Hunan, 1998.
- Feasibility Research of Municipal Solid Waste Landfill of Wan'an Jiangxi, 1999

Incineration

- Technological Research and Design of Incineration Facilities of Municipal Solid Wastes, Taiyuan, Shanxi, 1998-. The incinerator with the capacity 100t/d, is shown in figure 4. It is questionable if it can have a good control for dioxin because China have not had the monitoring capability for dioxin.
- Technological Research and Design of Incineration Facilities of Light Industry in Nanhai, Guangdong, 1998-

3.3. Training Programs in Recent Years

Organizing

- The First Asia-Pacific Regional Training Workshop for Hazardous Waste Management and Practice, March 8-12, 1999, APCHW, Beijing, China. Financial support from Japanese Government.

- The Workshop for China National Strategic Plan on Hazardous Waste Management. Beijing, China, September 21-27, 1999.
- The Workshop for China National Management Counter-measure on Waste Batteries, October, 21, 1999
- The Second Asia-Pacific Regional Training workshop for Hazardous Waste Management and Practice, Nov. 8-12, 1999, APCHW, Beijing, China. Financial support from Japanese Government.
- The Third Asia-Pacific Regional Training workshop for Hazardous Waste Management in Mining Industry, Sept. 4-8, 2000, APCHW, Beijing, China. A part of the workshop is shown in movie 1.
- The First National Training Workshop on Solid Waste Management, Beijing, April 11-15, 2001. Financial support from Environment Australia and the Secretariat of the Basel Convention.
- The Second National Training Workshop on Solid Waste Management, Shenyang, October 19-22, 2001

Movie 1 A part of the workshop in mining industry

Co-organizing:

- The Custom Official Workshop on Hazardous Waste (With SEPA and Hong Kong EPB)
- Workshop on Building National Capacity in Rapidly Industrializing Countries on Sustainable Management of Recoverable Material/Resources, Bangkok, 20-22 September 2001

Taking part in (by Providing Resource person):

- The Training Workshop on Hazardous Waste Management, 1999, Sri Lanka
- The Training Workshop on Hazardous Waste Management for the Implementation of Basel Co

3.4 The Activities related POPs

- Legal Counter-measure for Enforcing POPs Convention in China, Supported by Tsinghua University, 2001-2003
- Environmental behaviour and remove mechanism of POPs, Supported by Institute of Environmental Science and Engineering Tsinghua University, 1999-2002
- The First National Workshop on POPs Issue (in Tsinghua University), September 19, Beijing
- Internet Web-site open to the public: <http://www.china-pops.net>,
- Regional Assessment of PTS, resource person to the project, Supported by GEF, 2000-2002
- Environmental behaviour and characteristics of POPs, Supported by Tsinghua University, 2000-2002

4. Main functions of the regional centres

In a recent document on strengthening the capacity building of the regional centre of Basel convention, the main functions of the regional centres is as follows:

- Develop and conduct training courses, workshops, seminars and associated projects
- Gather, assess and disseminate data and information;
- Collect information on new or proven environmentally sound technologies and know-how
- Identify, develop and strengthen mechanisms for the transfer of technology
- Provide scientific, technical and legal assistance and advice the Parties of the Region at their request
- Cooperate with the United Nations and its bodies, in particular UNEP and the Specialized Agencies, and with other relevant organizations
- Establish and maintain regular exchange of information and networking;
- Encourage the best approaches, practices and methodologies;
- Promote public awareness;
- Mobilize human, financial and material means in order to meet the urgent needs at the request of the Party (ies)
- Perform any other functions assigned to it by the decisions of the Conference of the Parties.

5. Remarks

APCHW is trying to find donors to strength the capacity building on hazardous wastes in the region, and establish a broad partnership for the hazardous waste management. APCHW is also ready to cooperate with other agencies, organizations and governments for the capacity building on POPs and Chemicals management and pollution control.

Activities of the Jakarta Basel Regional Training and Technology Transfer Centre *by Mrs. Haruki Augustina*

JAKARTA BASEL REGIONAL TRAINING AND TECHNOLOGY TRANSFER CENTRE

HARUKI AGUSTINA, M. ENG. SC.
ASIA PACIFIC REGIONAL CENTRE FOR HAZARDOUS WASTE
MANAGEMENT TRAINING AND TECHNOLOGY TRANSFER

CENTRE FOR SOLID WASTE AND HAZARDOUS SUBSTANCE
MANAGEMENT, BAPEDAL

TEL: 62 21 8590 4932

FAX: 62 21 8590 4932

EMAIL: haruki@indo.net.id

HISTORICAL OF THE BRTTTC

- DECISION III/19 OF THE COP 3, 1995 ESTABLISHMENT OF THE REGIONAL AND SUB REGIONAL CENTRE

CHINA AND INDONESIA HAVE CHOOSSED AS CENTER FOR ACIA PACIFIC REGION

- IMPLEMENTING AGENCY OF THE JAKARTA REGIONAL CENTRE IS THE ENVIRONMENTAL IMPACT MANAGEMENT AGENCY (BAPEDAL)

UNDER CENTRE FOR SOLID WASTE AND HAZARDOUS SUBSTANCE MANAGEMENT

OBJECTIVE OF THE BRTTTC

- TO ENSURE AN EARLY IMPLEMENTATION OF THE BASEL CONVENTION
- TO IDENTIFY THE SPECIFIC NEEDS OF DIFFERENT REGIONS AND SUB REGIONS FOR TRAINING AND TECHNOLOGY TRANSFER
- TO FACILITATE THE ENVIRONMENTALLY SOUND MANAGEMENT OF HAZARDOUS WASTE AND MINIMIZATION IN THE REGION
- TRANSFER OF TECHNOLOGY ON RECOVERY HAZARDOUS WASTE MINIMIZATION AND CLEANER PRODUCTION
- TO ENSURE THE ESM OF HAZARDOUS WASTE MANAGEMENT IN THEIR REGION IS BEEN IMPLEMENTED

CAPACITY BUILDING OF THE JAKARTA BRTTTC

- ENVIRONMENTAL MANAGEMENT CENTRE (SERPONG-BAPEDAL)
 - LABORATORY FACILITY FOR HZW & HS ANALYSIS
 - LIBRARY
 - RESEARCH PROJECT SPONSORED BY JICA-JAPAN (STUDY ON AGRICULTURE PESTICIDE(CHLORDANE), BIOREMEDIATION PROJECT)
 - DORMITORY
 - AUDITORIUM, MEETING ROOM, CLASS ROOM
 - SPORT FACILITY
 - HRD (STAFF)

KEY ISSUES FOR THE TRAINING AND TRANSFER TECHNOLOGY

- IMPLEMENTATION OF THE BASEL CONVENTION IN THE REGION
- IMPLEMENTATION OF THE BASEL BAN AMENDMENT
- HAZARDOUS WASTE MANAGEMENT AND TECHNOLOGY
- HAZARDOUS WASTE MANAGEMENT IN MINING INDUSTRY
- RECOVERY, HAZARDOUS WASTE MINIMIZATION AND CLEANER PRODUCTION
- CUSTOM AND PORT OFFICIAL TRAINING FOR CONTROL OF TRANSBOUNDARY MOVEMENT OF HZW
- RAISING PUBLIC AWARENESS ON HAZARDOUS WASTE MANAGEMENT

FINANCIAL MECHANISM

- DONOR AGENT
 - JAPAN (GRANT)
 - SWEDISH
 - HOST GOVERNMENT
 - AUSTRALIA (TO BE)
 - NETHERLAND (TO BE)

ACHIEVEMENT

ORGANIZING:

- TRAINING COURSE ON HAZARDOUS WASTE MANAGEMENT AND THE IMPLEMENTATION OF THE BASEL CONVENTION IN THE ASIA PACIFIC REGION, JAKARTA, JUNE 2000
- TRAINING WORKSHOP ON THE IMPLEMENTATION OF THE BASEL CONVENTION AND THE BASEL BAN AMENDMENT, BANGKOK, MARCH 2001
- WORKSHOP ON ENVIRONMENTAL TOXICOLOGY AND RISK ASSESSMENT AND RISK MANAGEMENT WITH IN ASEAN COUNTRY
- WORKSHOP ON HAZARDOUS DELISTING AND CHRONIC PROCEDURE

FUTURE PROGRAM

- CONTINUING TO ORGANIZE THE TRAINING WORKSHOP RELATED TO THE ABOVE ISSUES
- PILOT PROJECT ON RECYCLE, RECOVERY, WASTE MINIMIZATION AND CLEANER PRODUCTION OF HWZ
- REQUEST FROM BASEL OR PARTIES

ACTIVITIES RELATED TO THE POPS

- STRENGTHENING DATA BASE OF THE HAZARDOUS CHEMICALS
- SETTING UP INTERNET WEBSITE TO THE PUBLIC (ON PROCESS)
- PROVIDE NATIONAL TECHNICAL GUIDELINE ON POPS
- TRAINING AND SOCIALISATION OF THE HAZARDOUS SUBSTANCE REGULATION AND THE CONVENTIONS

MAIN FUNCTIONS ON THE REGIONAL CENTRE

- DEVELOP AND CONDUCT TRAINING COURSE, WORKSHOP AND SEMINAR;
- COLLECT AND DISSEMINATION OF INFORMATION ON NEW ENVIRONMENTALLY SOUND TECHNOLOGY;
- IDENTIFY, DEVELOP AND STRENGTHEN MECHANISM OF TRANSFER TECHNOLOGY;
- PROVIDE SCIENTIFIC, TECHNICAL AND LEGAL ASSISTANCE AND ADVISE THE PARTIES IN THE REGION AS THEIR REQUEST;
- INFORMATION EXCHANGE;
- PROMOTE PUBLIC AWARENESS

Stockholm Convention: General Obligations

by Dr. John Buccini

Stockholm Convention: General Obligations

John Buccini
Chairman
UNEP POPs Intergovernmental Negotiating Committee
Ottawa, Canada

OUTLINE

General obligations include the following Articles:

- 7 - Implementation plans
- 9 - Information exchange
- 10 - Public information, awareness & education
- 11 - Research, development & monitoring
- 15 - Reporting

Summary

Article 7: Implementation Plans

Parties shall:

- develop & endeavour to implement an implementation plan [para. 1 (a)]
- submit plan to COP within 2 years of entry into force of Convention for the Party [para. 1 (b)]
- review and update plan on a periodic basis, in a manner to be specified by COP [para. 1 (c)]
- cooperate with other Parties directly, or through intergovernmental organizations, and consult stakeholders in all these actions [para. 2]
- endeavour to utilize and integrate these plans in national sustainable development strategies [para. 3]

Bangkok (28 Nov 2001)

General Obligations

3

Article 7: Implementation Plans

As part of its implementation plan under Article 7:

- Party in the DDT Register shall develop national DDT action plan to: [Annex B Part II]
 - confine use of DDT to disease vector control
 - explore alternatives to DDT, and
 - take measures to strengthen health care and reduce incidence of disease
- Party shall develop an action plan within 2 years of entry into force to identify, characterize and address releases of unintentionally produced POPs in Annex C and facilitate implementation of the requirements of Article 5

Bangkok (28 Nov 2001)

General Obligations

4

Article 9: Information Exchange

Parties shall:

- facilitate or undertake information exchange on the reduction or elimination of the production, use and release of POPs and alternatives to POPs [para. 1]
 - exchange information directly or through secretariat [para. 2]
 - designate a national focal point to facilitate this exchange of information on POPs and their alternatives [para. 3]
 - protect confidential information as mutually agreed [para. 5]
 - health & environmental information are not confidential
- Secretariat serves as clearing house mechanism** [para. 4]

Bangkok (28 Nov 2001)

General Obligations

5

Article 10: Public Information

Parties shall, within their capabilities, promote and facilitate the following as they relate to POPs and alternatives to POPs: [para. 1]

- awareness among policy and decision makers
- provision of available up-to-date information to the public
- development and implementation of educational and public awareness programs
- public participation in developing and implementing measures to address POPs
- training and development programs for stakeholders
- development, exchange and implementation of education and training programs at national and international levels

Bangkok (28 Nov 2001)

General Obligations

6

Article 10: Public Information

Parties shall, within their capabilities:

- ensure public has access to up-to-date information [para. 2]
- encourage industry and professional users to promote and facilitate provision of information at national & other levels [para. 3]

Parties may:

- use range of approaches to provide information, and may establish information centres at national & regional levels [para. 4]
- develop mechanisms (such as PRTRs) to collect and disseminate information on annual amounts of POPs in Annex A, B or C that are released or disposed of [para.5]

Bangkok (28 Nov 2001)

General Obligations

7

Article 11: Research, etc.

Parties shall, within their capabilities, encourage and/or undertake research, development, monitoring and cooperation on all aspects of POPs, their alternatives and candidate POPs, including on: [para. 1]

- sources and releases to environment
- trends in levels in the environment and humans
- environmental transport, fate and transformation
- effects on human health and the environment
- socio-economic and cultural impacts
- release reduction and/or elimination
- methods for source inventories & for analysis of POPs

Bangkok (28 Nov 2001)

General Obligations

8

Article 11: Research, etc.

Parties shall, within their capabilities, in undertaking the actions in paragraph 1: [para. 2]

- support and further develop international programmes, networks and organizations to define, conduct, assess and finance research, data collection and monitoring
- support national and international efforts to:
 - strengthen national scientific and technical research capabilities, particularly in developing countries and countries with economies in transition, and
 - promote access to and exchange of data & analyses
- undertake research work on alleviating effects of POPs on reproductive health

Bangkok (28 Nov 2001)

General Obligations

9

Article 11: Research, etc.

Parties shall, within their capabilities, in undertaking the actions in paragraph 1: [para. 2]

- take into account concerns and needs, particularly financial and technical resources, of developing countries and countries with economies in transition, and cooperate in improving their capability to participate in these efforts
- make the results of these activities accessible to the public on a timely and regular basis
- encourage and/or undertake cooperation with regard to storage and maintenance of pertinent information

Bangkok (28 Nov 2001)

General Obligations

10

Article 15: Reporting

Parties shall report to the COP on: [para 1]

- measures taken by Party to implement the Convention
- effectiveness of the measures taken

Parties shall provide the Secretariat: [para 2]

- data on, or estimates of, total quantities of POPs in Annexes A and B that were produced, imported and exported
- list of States from which it has imported or to which it has exported POPs in Annexes A and B

COP will specify frequency, format of such reports [para 3]

Bangkok (28 Nov 2001)

General Obligations

11

Article 15: Reporting

- Parties that make use of the PCB specific exemptions [Annex A Part II] shall report to the COP every 5 years on their progress in eliminating PCBs
- Parties in the DDT Register [Annex B Part II] shall report to the COP every 3 years on:
 - quantities of DDT used
 - conditions of use, and
 - relevance of DDT to Party's disease control strategy
- Parties shall report to the COP every 5 years on the success of its strategies in reducing releases of unintentionally produced POPs in Annex C

Bangkok (28 Nov 2001)

General Obligations

12

Summary

Considerations for ratification include:

- Information Exchange [Article 9]
 - establish National Focal Point
 - means to exchange information
 - Parties and Secretariat
 - protection of confidential information
- Public Information [Article 10]
 - raise awareness of stakeholders and policy makers
 - information, education, training & development
 - engage all stakeholders in POPs activities

Summary

Considerations for ratification include:

- Research, Development and Monitoring [Article 11]
 - information will be needed to:
 - assess status quo (inventories, etc.)
 - set baseline levels for humans and environment
 - monitor effectiveness of actions taken
 - cooperation with other countries and IGOs
 - capacity building in developing countries
- Note: Effectiveness Evaluation provision will require national and regional inputs [Article 16]

Summary

Considerations for ratification include:

- Reporting [Article 15]
 - reports to COP:
 - implementation measures and their effectiveness
 - success of Party's strategies in reducing releases of unintentionally produced POPs (5 years)
 - elimination of in-use PCB & PCB wastes (5 years)
 - amounts of DDT used, conditions of use, relevance to disease control strategy (3 years)
 - report to Secretariat:
 - trade data for POPs in Annexes A and B

Bangkok (28 Nov 2001)

General Obligations

15

Summary

Considerations for ratification include:

- Implementation Plans [Article 7]
 - required 2 years after entry into force, but needed earlier because:
 - ties together all aspects of Convention
 - will guide early actions and setting of priorities
 - plans for DDT and unintentionally produced POPs to be incorporated
 - stakeholder involvement will be achieved
 - engagement of other countries and IGOs
 - important element of this workshop!

Bangkok (28 Nov 2001)

General Obligations

16

Interim Activities and INC-6
by Dr. Bo Wahlstrom

Interim Activities and INC-6



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Final Act

- I. Meeting report of DIPCON**
- II. Resolutions**
- III. The Stockholm Convention**



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Resolutions

- Interim Arrangements
- Interim financial arrangements
- Capacity building and capacity assistance network
- Liability and redress
- Issues related to the Basel Convention
- Secretariat



MSP Workshop-Bangkok, Thailand, 26-
30 November 2001

Interim arrangements

- Financial and technical assistance
- UNEP to convene further sessions of INC
- INC to focus on activities that will facilitate a rapid entry into force and effective implementation
- Rules of procedures etc. for the POPs Review Committee
- Guidance on current and projected releases of unintentionally produced POPs
- Guidance on best environmental practices



MSP Workshop-Bangkok, Thailand, 26-
30 November 2001

Interim arrangements, cont.

- Preparatory work for the listing of new POPs**
- Scoping document by secretariat on issues in 1(d) of Article 6**
- Establish any subsidiary bodies, as appropriate**
- Apply the provisions on a voluntary basis**
- UNEP to provide secretariat during the interim period**
- Countries to contribute to UNEP trust fund for interim activities**



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Interim financial arrangements

- Requests GEF to establish a new focal area to supplement the Convention**
- Requests GEF to establish an operational programme on POPs**
- GEF to report to COP-1 on measures taken to ensure transparency and simple, flexible and expeditious procedures**
- Donors to provide additional financial resources**



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Interim financial arrangements

- Interim secretariat to invite funding institutions to provide information on how to support the Convention**
- COP-1 to review availability of financial resources additional to those from GEF and how to channel these into support for the Convention**



MSP Workshop-Bangkok, Thailand, 26-30 November 2001

Capacity building and Capacity assistance network

- INC invited to focus on arrangements for capacity building in signatory countries**
- GEF and UNEP to develop modalities for establishing a capacity assistance network**
- Identify and maintain inventory of sources of assistance**
- Assist signatories to identify sources**
- Provide information to signatories on categories, sources and requirement**



MSP Workshop-Bangkok, Thailand, 26-30 November 2001

Capacity building and Capacity assistance network

- Encourage involvement of private sector and NGOs
- Other entities providing assistance urged to contribute to this effort
- Invites GEF to take into account the needs for the implementation of the Convention in developing its capacity building strategy and to report to INC-6



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Liability and redress

- Welcomes Austria's offer to host a workshop
- Governments and IGOs to provide secretariat with information on measures and agreements on liability and redress
- Secretariat to organize workshop in 2002
- COP-1 to consider report and decide on further action



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Resolutions related to the Basel Convention

- Basel Convention should make work on technical guidelines for managing POPs wastes a priority**
- Basel and Stockholm to co-operate closely on issues related to 1(d) of Article 6**
- INC and secretariat to co-operate with Basel bodies**
- SBC invited to report on managing POPs wastes to POPs INC**



MSP Workshop-Bangkok, Thailand, 26-30 November 2001

Resolutions related to the secretariat

- Offers from Switzerland and Germany welcomed**
- Countries to provide full details of offers**
- UNEP to provide secretariat functions of the Convention**
- UNEP to consider offers, including other offers, and prepare a comparative analysis for COP-1 in consultation with the INC**



MSP Workshop-Bangkok, Thailand, 26-30 November 2001

INC-6

- Preparations for COP-1 according to the Convention
- Preparation of interim activities according to resolutions
- Reports on intersessional work



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Preparations for COP-1 according to convention

Decisions required on:

- measures to reduce or eliminate releases from intentional production
- measures to reduce or eliminate releases from unintentional production
- guidelines on best available techniques and best environmental practice



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Preparations for COP-1 according to convention

Decisions required on:

- reporting and effectiveness evaluation
- listing of chemicals
- establish the POPs Review Committee
- technical assistance and financial resources



30 November 2001

Preparations for COP-1 according to convention

Decisions required on:

- administration of COP
- rules of procedure and financial rules
- further guidance regarding technical assistance and technology transfer to developing country Parties and Parties with economies in transition
- develop and approve procedures and mechanisms for determining non-compliance



MSP Workshop-Bangkok, Thailand, 26-
30 November 2001

Implementation of interim activities

Relating to measure to reduce or eliminate releases from stockpiles and wastes

- Scoping document on Article 6 issues
- Cooperative activities between the Stockholm Convention and the Basel Convention

Implementation plans

- Guidance on preparation of implementation and action plans



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Implementation of interim activities

Issues relating to technical assistance and financial resources

- Request for the establishment of a new focal area within the GEF
- Efforts on arrangements for capacity building for the implementation of the Convention in developing countries
- UNEP and GEF in cooperation to develop modalities for a capacity assistance network and report to INC-6
- Prompt start of the Capacity Assistance Network



MSP Workshop--Bangkok, Thailand, 26-
30 November 2001

Implementation of interim activities

Relating to liability and redress

- Governments and relevant international organizations provide secretariat on liability and redress
- Workshop on liability and redress in the context of the Stockholm Convention



MSP Workshop-Bangkok, Thailand, 26-
30 November 2001

Introduction to the Global Environment Facility*by Dr. Laurent Granier*

**Introduction to the GEF
Subregional Workshop to support
the POPs Convention
Bangkok, 26-30 November 2001**

**The Global Environmental
Focal Areas of the GEF**

- ❖ Biodiversity
- ❖ Climate Change
- ❖ International Waters
- ❖ Ozone Depletion (only countries in transition)
- ❖ Cross cutting: Land Degradation as it relates to the above focal areas
- ❖ [Persistent Organic Pollutants – POPs – to be determined]



The GEF and the Global Environmental Conventions

- ❖ The GEF is the designated “financial mechanism” for the:
 - Convention on Biological Diversity (CBD)
 - Convention on Climate Change (UNFCCC)
 - POPs Convention
- ❖ The GEF collaborates closely with other treaties and agreements to reach common goals (International Waters, CCD, Montreal Protocol)



Convention on Biological Diversity (CBD)

- ❖ Objectives of the Convention
 - Conservation
 - Sustainable use
 - Fair and equitable sharing of benefits
- ❖ Financial Mechanism
 - GEF is the financial mechanism of the Convention



UN Framework Convention on Climate Change (UNFCCC)

- ❖ Requires developing country states (non-Annex I Countries) to prepare National Reports on their:
 - greenhouse gas emissions
 - national climate policies
 - vulnerability to climate change
- ❖ Financial Mechanism
 - GEF is the financial mechanism of the Convention and provides funding for preparation of these reports
- ❖ The Convention is also the source of guidance for GEF funding of climate projects.



International Waters

The coastal oceans and transboundary fresh water basin are under siege from:

- ❖ Unsustainable irrigation diversion of fresh water
- ❖ Pollution discharge from industry, sewage, agriculture
- ❖ Over fishing
- ❖ Habitat loss and Wetland conversion
- ❖ Persistent Organic Pollutants (POPs)

- ❖ The GEF is not a financial mechanism for International Waters. However it supports Regional Sea Conventions, UNCLOS, and selected maritime conventions



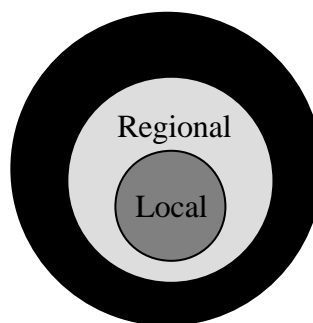
Land Degradation & GEF's Role

- ❖ Support country driven activities that prevent/ control land degradation through its interface with the GEF's Focal Areas.
- ❖ Addresses LD as part of national sustainable development plan
- ❖ Complements, rather than substitutes other financing available
- ❖ Possible if project design is from the bottom up (local needs as well as conservation)



Linkages

- ❖ The environment is interconnected through all levels
- ❖ Local, national, regional, global
- ❖ Country projects funded by the GEF need to focus on preserving the integrity of the global environment - improving environmental conditions and ensuring sustainability at all levels



History of the GEF – A Timeline

- ❖ GEF Pilot Phase
 - 1991 - 1994
 - \$1 Billion US Dollars

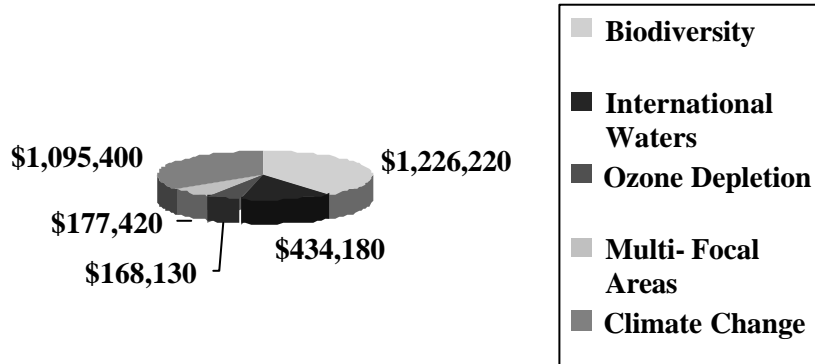
- ❖ Replenishment:
 - 1995 - 1998
 - \$2.2 Billion US Dollars
 - 1999 - 2001
 - \$2.8 Billion US Dollars

- ❖ World Bank is the Trustee of the GEF Trust Fund



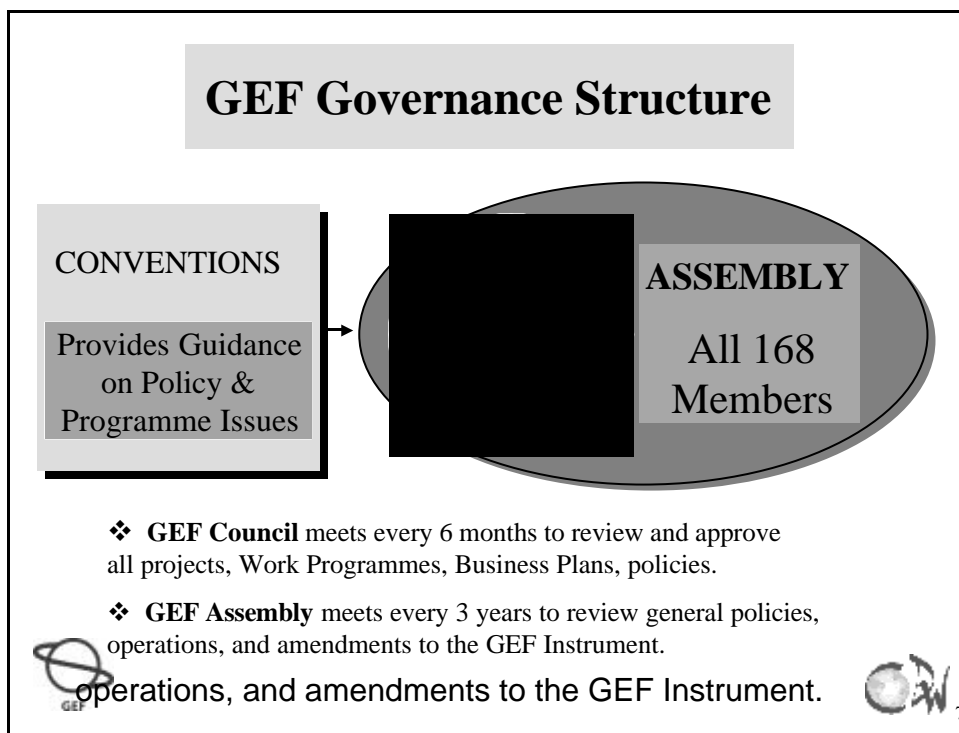
GEF Portfolio (July 2000)

in millions of US dollars



Total GEF	\$ 3,101.341
Total Co-Financing	\$ 8,443.100
TOTAL	\$11,544.441



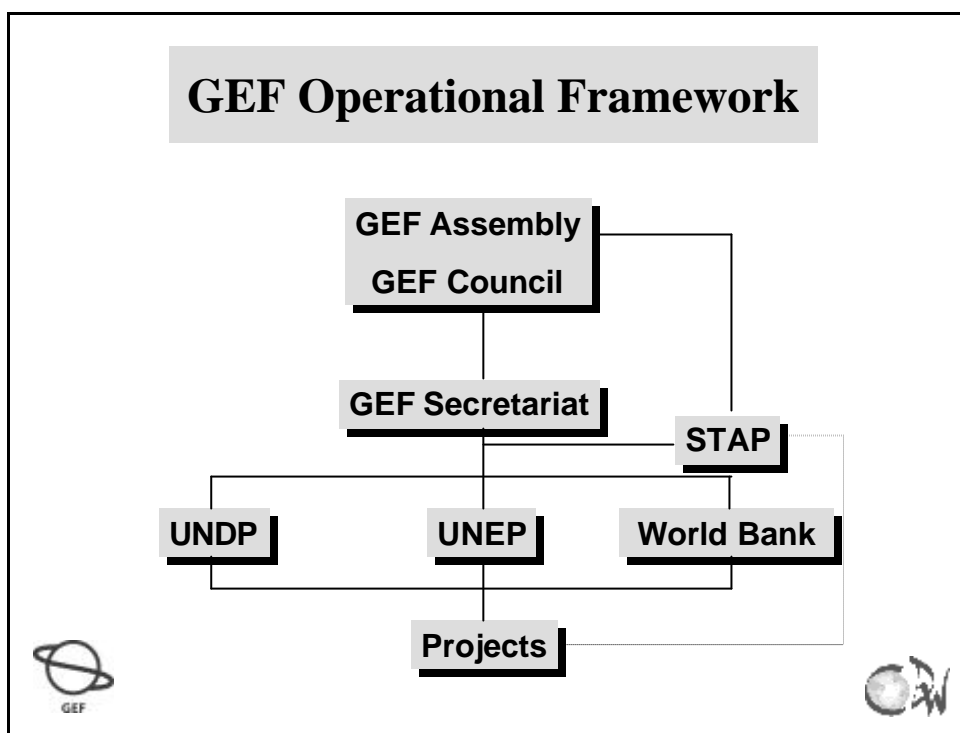


Overview of member countries of the GEF

Countries grouped according to their Constituency

❖ AFRICA	6	Constituencies
❖ ASIA	6	Constituencies
❖ LAT & CARIB	4	Constituencies
❖ EAST EUR	2	Constituencies



Executing Agencies with shared responsibility for GEF Project Cycle Management

- ❖ FAO
- ❖ UNIDO
- ❖ African Development Bank
- ❖ Asian Development Bank
- ❖ European Bank for Reconstruction and Development
- ❖ Inter-American Development Bank



Projects can also be executed by:

- ❖ Government Agencies
- ❖ UN Specialized Agencies
- ❖ Non-Governmental Organizations
- ❖ Bilateral Development Cooperation Agencies
- ❖ Others from the private sector/institutes



Key National Focal Points

- ❖ Political Focal Point / Member
- ❖ Operational Focal Point
- ❖ Convention Focal Point



Cooperation at National Level

- ❖ Operational Focal Point
- ❖ Stakeholders
- ❖ NGOs
- ❖ General Public
- ❖ Implementing Agencies



Responsibilities GEF Political Focal Point

- ❖ Ensure overall policy consistency
- ❖ Ensure GEF policies consistent with national policies
- ❖ Communicate Government views
- ❖ Act as in-country Government contact point
- ❖ Report on GEF Council Meetings



Responsibilities Operational Focal Point

- ❖ Ensure GEF-activities consistent with national policies
- ❖ Identify project ideas to meet country priorities
- ❖ Facilitate in-country consultations
- ❖ Provide feedback on projects



Responsibilities Convention Focal Points (CBD & FCCC)

- ❖ Receive and distribute Convention documentation
- ❖ Coordinate national policies consistent with the Conventions
- ❖ Communicate Government views
- ❖ Act as in-country contact point for consultations
- ❖ Report on FCCC and CBD



Non-Government Stakeholders

- ❖ Non-Governmental Organizations
- ❖ Private Sector (business/banks/local and foreign investors)
- ❖ Research and Academic Community
- ❖ Country public involvement



Non-Governmental Organizations

- ❖ Advise on Governmental and GEF decisions
- ❖ Assist in shaping GEF policies
- ❖ Attend GEF council meetings and comment on operational strategies and programs
- ❖ Assist in designing and execute GEF projects and inform on monitoring work



Private Sector

- ❖ Provides access to private capital
- ❖ Provides access to know how and training
- ❖ Encourages shift from public to private sector investment
- ❖ Provides link with economic activities that effect the global and local environment e.g., energy, transport, agriculture, fisheries



Research and Academic Community

- ❖ Scientific and Technical Advisory Panel (STAP)
- ❖ Members and Roster of Experts
- ❖ STAP Activities
- ❖ Targeted Research
- ❖ Need to Incorporate and Coordinate Local Scientists



Why Country public involvement?

- ❖ Country's own priorities are addressed
- ❖ Projects more responsive to local needs
- ❖ Strengthens ownership and accountability
- ❖ Opportunity to build local partnerships
- ❖ Improves awareness and knowledge



Country Public Involvement

Constraints:

- ❖ National coordination to include all opinions is not easily established
- ❖ Involvement of many groups could slow down the project development and approval process
- ❖ Increased institutional capacity may be required at government level

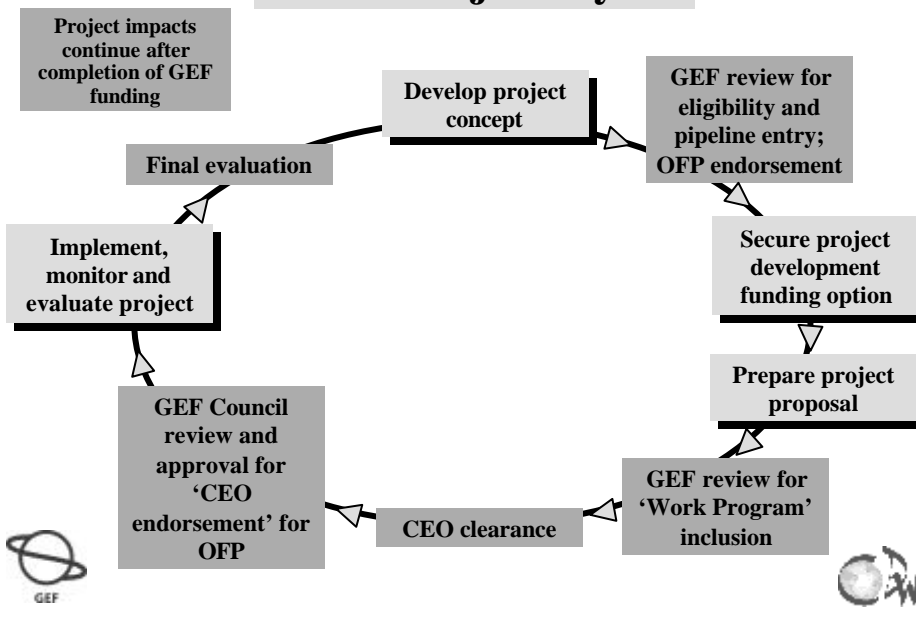


GEF and Strengthening Country Coordination

- ❖ How to improve communication with the GEF Council through the Constituency?
- ❖ How to better link the OFP to stakeholders?
- ❖ How to make effective use of the Internet?
- ❖ How to strengthen a continuing dialogue at National level?
- ❖ How to use the media to improve public awareness and involvement?



Basic Project Cycle



“Coarse Filter” criteria for GEF funding

- ❖ How do I tell whether my project idea meets basic criteria for GEF eligibility?



1. The Eligibility Test

- ❖ To be eligible for GEF financing, a country must:
 - have ratified the Convention on Biodiversity or Framework Convention on Climate Change (or, in the interim period, signed the POPs Convention for eligibility for NIPs)
 - be eligible for assistance from the UN system or the World Bank



2. The Global Significance Test

- ❖ Does the project idea deal with globally significant biodiversity, transboundary international waters resources, or reduction of greenhouse gas emissions?



3. The National Priority Test

- ❖ Does your project concept reflect national environmental priorities and commitments?
 - GEF focal point endorsement is a requirement.



4. Co-funding Test

- ❖ Does your project concept have co-funding from other sources? If not, is there a good potential for creating co-funding partnerships?
- ❖ Remember GEF financing is co-financing.



5. The Portfolio Test

- ❖ Does your idea have the potential to be a catalytic and innovative project in the overall GEF portfolio?
 - Learn about existing or planned GEF projects in your country.



GEF is a Co-financier

- ❖ GEF encourages partnerships by bringing together multiple sources of funding for projects
- ❖ **Key Concept:** the GEF is not a project financier, but a project Co-financier providing “new and additional” funds to address global environmental issues



“Incremental Costs”

- ❖ Cost of activities for the global environment beyond what is required for national development
- ❖ GEF projects must complement national programmes and policies to maximize global benefits
 - 1) Establish the baseline
 - 2) Determine cost of GEF alternative
 - 3) Incremental cost (project budget) = GEF alternative -- cost of baseline



Other Project Eligibility Requirements

- ❖ Country-driven and endorsed by host Government
- ❖ Produce identifiable global benefits
- ❖ Participation of all affected groups and transparency
- ❖ Consistency with the Conventions
- ❖ Possess strong scientific and technical merit
- ❖ Financially sustainable and cost-effective
- ❖ Include processes for monitoring, evaluation, and incorporation of lessons learned
- ❖ Play catalytic role that leverages other financing



Moving from Concept Paper to Project Proposal

- ❖ Choose a funding pathway that is appropriate for the scope of your project:
 - Full Projects
 - Medium-sized Projects
 - Small Grants Programme



GEF Funding Categories

- ❖ Full-size projects (\$1 million and up)
- ❖ Medium-sized projects (up to \$1 million)
- ❖ Financing can be available for preparing projects
- ❖ Small Grants Programme (up to \$50,000)
- ❖ Enabling activities
- ❖ Project Development Funds (PDF-A up to \$25,000; PDF-B up to 350,000; PDF-C up to \$1 million)



GEF funding pathways

Funding Pathway	Funding level	~ Time required	Prep. funding
Full Project	\$1 US million and up	6-24 months	up to \$US 350,000
Medium Project	\$US 50,000 – 1 million	6-12 months	up to \$US 25,000
Small Grant	up to \$US 50,000	3-6 months	up to \$US \$2000



GEF Medium-Size Projects (MSPs)

- ❖ Meet government/NGO demand for fast, flexible funding
- ❖ Receive expedited funding of up to \$1 million; take 6 months on average
- ❖ Designed in partnership with the NGO community
- ❖ Over US\$ 21 million in MSPs in fiscal 1999 and x in fiscal 2000



Preparatory funding

- ❖ **PDF A or Block A** - up to \$US 25,000 funding is available for preparing a medium or full project brief.
- ❖ **PDF B or Block B** - up to \$US 350,000 funding is available **ONLY** for full projects.



Use **PDF A** or **Block A** to:

- ❖ assess possible project sites
- ❖ identify threats and root causes or key barriers
- ❖ evaluate institutional frameworks
- ❖ meet and consult stakeholders
- ❖ identify co-funding possibilities



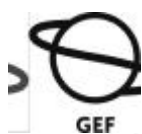
Use **PDF B** or **Block B** to:

- ❖ conduct feasibility studies
- ❖ undertake detailed assessments
- ❖ develop institutional and planning frameworks
- ❖ make field visits and full consultations with stakeholders
- ❖ complete co-funding arrangements



Initial Guidelines for Enabling Activities on POPs

by Dr. Laurent Granier



Global Environment Facility

INITIAL GUIDELINES FOR ENABLING ACTIVITIES ON POPs

Subregional Workshop to Support
Implementation of the POPs Convention
Bangkok, Thailand, November 26-30 2001

The Guidelines

- Developed by GEF Secretariat in consultation with WB, UNDP, UNEP, FAO, UNIDO and POPs Convention Secretariat;
- Approved by Council May 2001;
- Represent an "early response";
- NIP is main focus of GEF assistance in this first phase of implementation;
- Draft Operational Programme on POPs is other component of GEF assistance.

Eligibility Criteria

- In the interim period: developing countries and countries with economies in transition.
- After entry into force, the COP will provide guidance on criteria.

GEF's early assistance

- NIPs
- Capacity building for sustained support.
- To the extent that capacity building needs of countries to address POPs will address more general chemicals management issues, the GEF, in supporting the POPs Convention, will strengthen Basel, PIC, Bamako etc.

Eligible Activities

- Preliminary inventories of sources and emissions of POPs;
- Action Plan for the reduction of releases of unintentional by-products;
- Action Plan to control the use of DDT for disease vector control;
- Build capacity to report every five years on progress in phasing out PCBs;

Eligible Activities (Contd)

- Preliminary assessment of stockpiles of POPs and of waste products contaminated with POPs; identification of management options, including opportunities for disposal;
- Build capacity to report to the COP on total production, import and export;
- Build capacity to identify sites contaminated by POP.

Eligible Activities (Contd)

- Build capacity to assess the need of continued specific exemptions and preparation of their reporting/extension;
- information exchange, and awareness raising through multi-stakeholder participatory processes.

Indicative step-wise process

- *Step 1: Determination of coordinating mechanisms and organization of process*
 - (i) identification and strengthening of national institution/unit to serve as Focal Point;
 - (ii) determination of multi-stakeholder national coordinating committee based on a stakeholder analysis;
 - (iii) identifying and assigning responsibilities among government departments and other stakeholders for the various aspects of POPs management.

Step-wise process for NIP

■ *Step 2: Establishment of POPs inventory and assessment of national infrastructure and capacity*

- (i) preparation of a National Profile (or core sections that relate to POPs); establishment of a register, in order to create and maintain a reliable inventory;
- (ii) preliminary inventory of production, distribution, use, import and export;
- (iii) preliminary inventory of stocks and contaminated sites and products; assessment of opportunities for disposal of obsolete stocks;
- (iv) preliminary inventory of releases to the environment;

Step-wise process for NIP

- (v) assessment of infrastructure capacity and institutions to manage POPs, including regulatory controls, needs and options for strengthening them;
- (vi) assessment of enforcement capacity to ensure compliance;
- (vii) assessment of social and economic implications of POPs use and reduction;
- (viii) assessment of monitoring, research and development, and chemical analytical capacity; and
- (ix) identification of POPs-related human health and environmental issues of concern; basic risk assessment as a basis for prioritization of further action taking into account, inter alia, potential releases to the environment and size of exposed population.

Step-wise process for NIP

■ *Step 3: Setting of priorities and determination of objectives*

- (i) development of criteria for prioritisation, taking into account health, environmental, and socio-economic impact and the availability of alternative solutions; and
- (ii) determination of national objectives in relation to priority POPs or issues.

Step-wise process for NIP

■ *Step 4: Formulation of a National Implementation Plan, and specific Action Plans on POPs*

- (i) identification of management options, including phasing out and risk reduction options;
- (ii) determination of the need for the introduction of technologies, including technology transfer and indigenous alternatives;
- (iii) assessment of the costs and benefits of management options;
- (iv) development of a national strategy for information exchange, education, communication and awareness raising;
- (v) preparation of a draft NIP which may include priorities, timetable for implementation, and estimated cost of proposed interventions, including incremental costs where applicable.

Step-wise process for NIP

■ *Step 5: Endorsement of NIP by stakeholders*

- (i) submission of a draft NIP to stakeholders for comments through workshops, dissemination of information, etc., to obtain the commitment of stakeholders, including decision-makers, to implement the NIP;
- (ii) finalization of the NIP.

Expedited Procedures

- GEF funds 100% of "agreed costs"; enabling activity costing less than US\$ 500,000 approved under expedited procedures.
- Proposals to be endorsed by the GEF Operational Focal Point.
- Proposals should build on previous/existing activities/knowledge.
- Resources should be used efficiently.
- Local and Regional expertise to be used where possible.

Steps for expedited procedures

- Choose a GEF Implementing (WB, UNDP, UNEP)/ Executing Agency (FAO, UNIDO, RDBs) that you are comfortable with.
- Finalise proposal with IA/EA. IA/EA to exercise quality control.
- Seek Country's Operational Focal Point endorsement.
- Proposal is submitted to the GEF Secretariat by IA/EA on behalf of Country.

Steps for expedited procedures

- Proposal is circulated to other IA/EA for comments.
- GEF Secretariat may request additional information / clarifications etc.
- the GEF CEO and Chairman approves proposals < US\$ 500,000.
- Country and IA/EA sign project document which is the legal basis for disbursement of funds from the IA/EA.

INDICATIVE FRAMEWORK FOR DEVELOPING NATIONAL IMPLEMENTATION PLANS (FOR FULL DETAILS SEE GUIDELINES)			
Step 1	Determining Co-ordinating Mechanism and Organizing Process		
KEY ACTIVITIES/ISSUES	Output/Results	Possible Assistance Needs	Indicative Timeframe
<ul style="list-style-type: none"> • Identification and strengthening of national institution/unit to serve as Focal Point; • Identification and sensitization of main stakeholders; • Strengthening government commitment; • Determination of multi-stakeholder national co-ordinating committee; • Identifying and assigning responsibilities amongst government departments and other stakeholders for the various aspects of POPs management; • Obtaining commitment of national stakeholders (for example by means of Memorandum of Understanding); • Assessment of needs of Focal Point to oversee overall execution (technical, human resources, etc.); • Drawing-up overall workplan; • Organisation of inception workshop 	<ul style="list-style-type: none"> • Focal Point to oversee overall execution; • National co-ordinating mechanism amongst stakeholders is identified / established; • Agreement, including mission statement, amongst national stakeholders is developed; • Agreed Focal Point needs and budget; • Overall workplan and timeframe for country activities. 	<ul style="list-style-type: none"> • Implementation manual and/or guidance for overall implementation, including expected country deliverables/output; 	2 to 3 months
Comments Step 1	<ul style="list-style-type: none"> • Wherever possible, use should be made of existing committees/structures for overseeing NIP development; the creation of new coordinating structures should be avoided. • External consultants may be recruited to provide technical assistance, if needed. Priority should be given to local and regional consultants. • Awareness raising activities and effective communication at the country level, whether directed to decision-makers or the public at large, should be on-going activities which are important for steps 1 through 5 and further. 		

(Framework developed in the context of the preparation of the "Development of National Implementation Plans for the management of POPs" GEF funded pilot project implemented by UNEP)

- ## Format for proposal
- Cover page
 - Project description: not to be forgotten
 - Timetable and workplan
 - Budget
 - Optional annex: background information on country situation
 - Endorsement




6. THE GEF IMPLEMENTING AND EXECUTING AGENCIES

UNDP, GEF and POPs *by Mr. Rene Anderson*

UNDP and POPs

UNDP/GEF POPs




Sub-Regional Workshop on Support for the Implementation of the Stockholm Convention on Persistent Organic Pollutants
Bangkok, 26-30 November 2001

UNDP and POPs

What does UNDP/GEF have to offer on POPs?

- Country Office technical and logistic support to projects
- Very experienced with GEF Enabling Activities in Climate Change and Biodiversity
- Strong linkages to government and civil society
- Operates in *all* GEF-eligible countries
- Focus on main areas of POPs Convention: capacity building, institutional strengthening, technical assistance
- Effective partner with governments, NGOs, private sector






UNDP and POPs

POPs Enabling Activity projects in Asia/Pacific

3 Countries approved: Vietnam, Philippines, Samoa

2 Countries ready for submission: Iran, Bangladesh

5 Countries requested assistance

3






UNDP and POPs

Non-combustion Technologies for Destroying Persistent Organic Pollutants

Countries: Philippines, Slovakia; Partner: UNIDO

Goal: To demonstrate the viability of non-combustion POPs destruction technologies and to remove barriers to their adoption and effective implementation

Preparatory process: PDF-B ► PDF-C ► Full Project

4






UNDP and POPs

Avoiding Environmental Releases of Dioxins and Mercury from Health Care Practice

Countries: Argentina, India, Poland (possibly Philippines, Vietnam); Partners: WHO, Health Care Without Harm

Goal: Demonstrate best practices in the management of health care wastes to minimize dioxin and mercury releases

Preparatory process: PDF-A ► PDF-B ► Full Project

5






UNDP and POPs

POPs Reduction Strategy for Ho Chi Minh City

Country: Vietnam

Goal: Develop a strategy to reduce POPs releases to the environment in HCMC and implement the key actions of the strategy

Preparatory process: PDF-A ► Medium-Sized Project






6

UNDP and POPs

POPs and the GEF Small Grants Programme

Potential eligible activities:

- Outreach and awareness raising among local communities, especially for women, children and the least educated
- Building capacity of NGOs, CBOs and local communities to participate in support of the development and implementation of a country's POPs implementation plan
- Pilot projects to demonstrate and promote community-based approaches to POPs reduction and elimination








7

UNDP and POPs

POPs and the GEF Small Grants Programme

Potential Eligible Activities (cont'd.)

- Deriving and disseminating best practices at the community level
- Identification of POPs sources; community-based monitoring
- Networking, training and information exchange to strengthen awareness and capacity in addressing POPs







8

UNDP and POPs

The UNDP/GEF POPs Resource Kit

... is available on-line at: <http://www.undp.org/gef/>

9





UNDP and POPs

For More Information, Contact:

Principal Technical Advisor: Andy Hudson
 UNDP/GEF, New York
 Tel: +1-212-906-6228; Fax: +1-212-906-6998
 Email: andrew.hudson@undp.org

Regional Coordinator: Tim Clairs
 UNDP/GEF, Kuala Lumpur
 Tel: +60-3-251-5128; Fax: +60-3-255-2870
 Email: tim.clairs@undp.org

Or the local UNDP Country Office

10

FAO*by Mr. Alemayehu Wodageneh*

UNEP Subregional workshop on support for the implementation of
the Stockholm Convention on Persistent Organic Pollutants (POPs)
Bangkok, Thailand 26-30 November 2001

**What FAO might do to assist in the area of
stockpiles****What FAO can do to assist
countries**

- ☒ Advise governments about the inherent short and long term problems of POPs, stockpiles and pesticides
- ☒ Raise awareness of governments and the public in general
- ☒ Train technical staff, conduct workshops, seminars on issues and problems of stocks
- ☒ Assist countries in countrywide surveys and inventory taking of POPs and stocks using FAO inventory format
- ☒ Mobilize countries in signing, ratifying and implementing the POPs Convention

What FAO can do to assist countries

- ☒ Assist and guide countries in capacity development
- ☒ Train staff in waste management
- ☒ Assist countries in establishing steering committees to ensure coordination among stakeholders and in initiating policies aimed at addressing POPs and stockpiles
- ☒ Assist countries in sensitizing and mobilizing donors, organizations, the public, etc. in raising funds

What FAO can do to assist countries

- ☒ Assist and guide countries in environmental risk assessment
- ☒ Assist countries in project formulation and execution under GEF support, the FAO Technical Cooperation Programme and other sources
- ☒ Provide assistance and information related to the FAO International Code of Conduct on the distribution and use of pesticides

What FAO can do to assist countries

- ☒ Provide guidance and assistance in the FAO/UNEP Prior Informed Consent (PIC)
- ☒ Provide assistance in assessing contaminated soil and storage sites
- ☒ Provide assistance in issuing international tenders and selection of waste management services and commissioning
- ☒ Help countries in cleaning up, repackaging and disposal of toxic waste and in decontamination of affected sites

What FAO can do to assist countries

- ☒ Provide guidance and assistance in the International Maritime Dangerous Goods Code related to shipment of waste on high seas linking it to the requirements of the Basel Conventions
- ☒ Ensure the means of prevention of accumulation of waste
- ☒ Advise and assist in the implementation of alternative methods of pest control such as Integrated Pest Management, etc.

What FAO can do to assist countries

- ✉ Provide the various FAO guidelines on waste and stockpiles management free to countries. These include:
 - ↙ On prevention of accumulation
 - ↙ Pesticide storage and management
 - ↙ Disposal of bulk quantities
 - ↙ Management of small quantities
 - ↙ Assessing of contaminated soil
 - ↙ Baseline studies of stocks
 - ↙ Countrywide surveys and inventory taking
 - ↙ Country guidance

What FAO can do to assist countries

- ✉ Provide the various FAO guidelines on waste and stockpiles management free to countries namely and follow up,
 - ↙ Video cassettes, CD-ROM's on stockpiles, management and POPs
 - ↙ Posters
 - ↙ Compiled data and information
 - ↙ Brochures, etc.

What FAO can do to assist countries

- ☒ The FAO training among others ensures the inclusion of the following:
 - ↙ Revision of available technologies of disposal
 - ↙ First aid training while handling waste
 - ↙ Avoidance of risks while inventory taking
 - ↙ POPs GEF concept and guidance
 - ↙ Selection and use of personal Protective equipment
 - ↙ Protective gloves, masks, boots, etc
 - ↙ Risk assessment in store and in disposal Operation

What FAO can do to assist countries

- ↙ Guidance and use of safe working areas
- ↙ Sampling & analysis of toxic substances
- ↙ Selective use personal protective materials
- ↙ Site & stock stabilization
- ↙ Turn key disposal project, etc.
- ☒ Coordinate and follow up via each FAO Reps offices existing in each country leasing with UNEP, UNDP Regional representations

Share, learn from Africa disposal experience



From FAO's perspectives

Alemayehu Wodageneh (Ph.D.)
Coordinator, Chief technical Advisor
Prevention and Disposal Obsolete Pesticides
Plant Production and Protection Division
FAO/UN
Viale delle Terme di Caracalla – 00100 Rome, Italy
Tel: (39) 06 5705-5192
Fax. (39) 06 5705-6347

Email:[Alemayehu.Wodageneh@fao.org]

<http://www.fao.org/WAICENT/FAOINFO/AGRICULT/AGP/AGPP/Pesticid/Disposal/default.htm>

UNIDO*by Dr. Yash Pal Ramdev***REGIONAL NETWORK ON PESTICIDE
FOR ASIA AND THE PACIFIC****RENAP/UNIDO****NETWORK MANDATE**

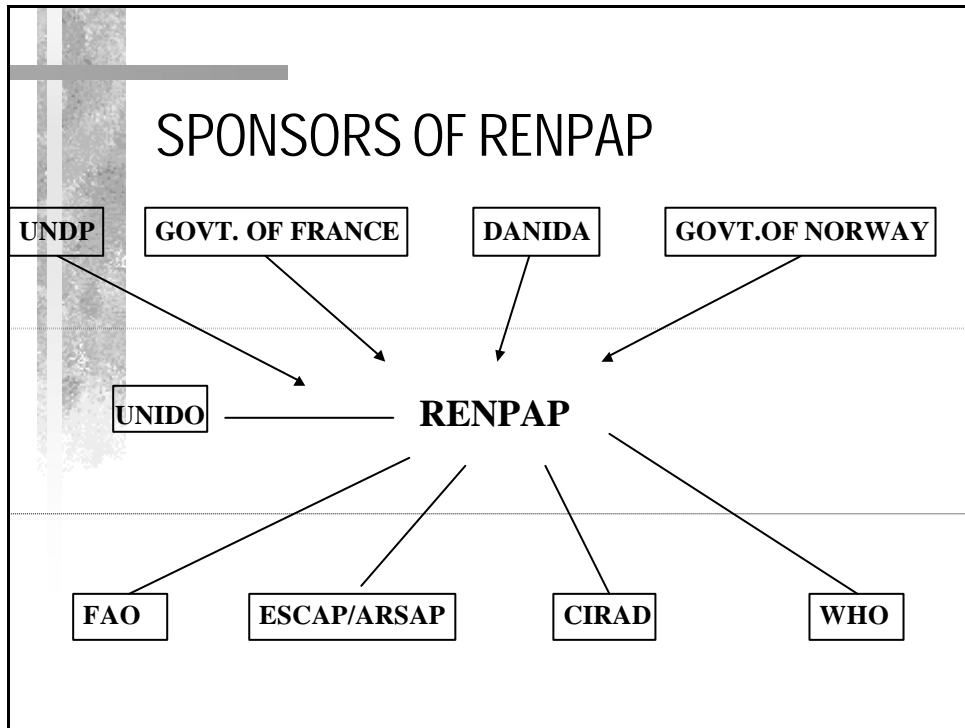
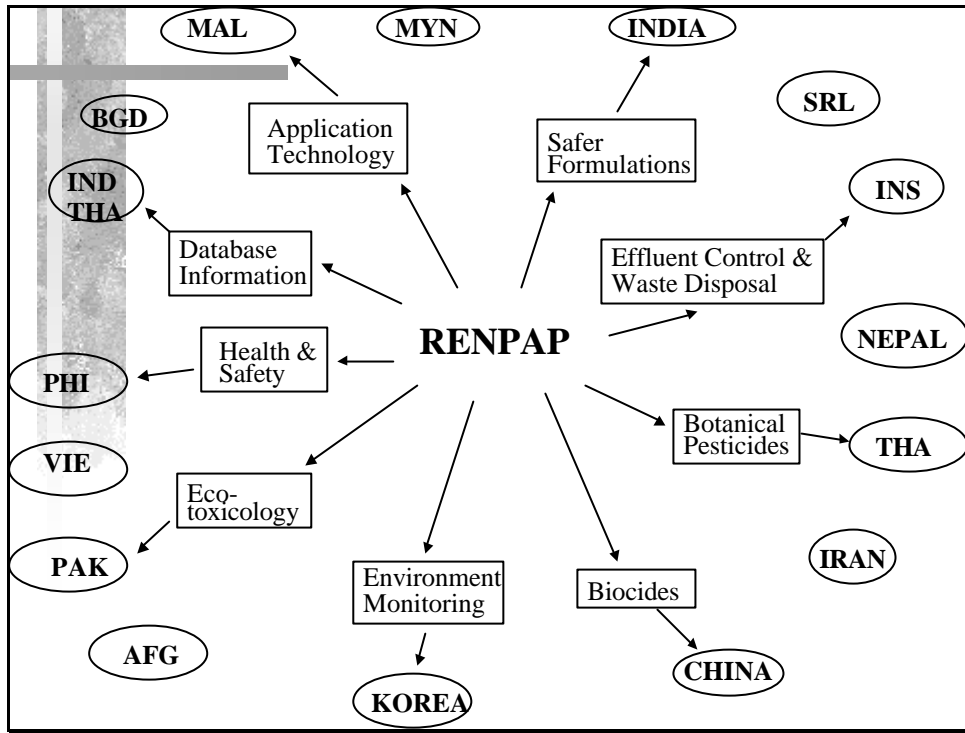
- Increasing agricultural production and ensuring safety to the farmers/workers and the environment
- Promotion of environmentally sound management of pesticides
- Health and environmental protection encompassing establishment of mechanism for waste management
- Pollution prevention
- Monitoring of residues in the eco-system
- Establishment of an information exchange system aiming at reduction of risks in the use of toxic pesticides

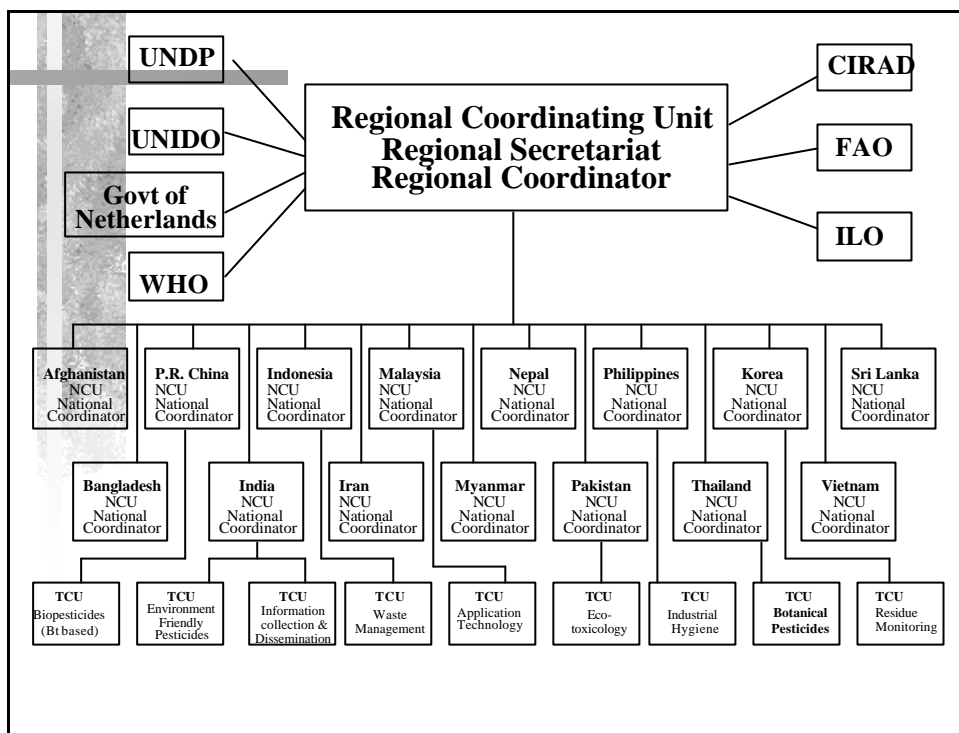
PROBLEMS

- Outdated technology with inadequate safety and effluent treatment and control systems
- Hazardous product mix & process routes
- Absence of safer and environment friendly pesticide formulations
- A large number of small scale manufacturers with limited knowledge and resource to ensure safety
- Inadequate industrial hygiene and occupational safety measures

MEMBER COUNTRIES

- Afghanistan
- Bangladesh
- People's Republic of China
- India
- Indonesia
- Islamic Republic of Iran
- Republic of Korea
- Malaysia
- Myanmar
- Nepal
- Pakistan
- Philippines
- Sri Lanka
- Thailand
- Vietnam





The RENPAP is actively involved in the various international agreements with special reference to

- a) four programme areas out of the six identified in chapter 19 of Agenda 21 of the UNCED relating to environmentally sound management of toxic chemicals.
- B) conformation to Montreal Protocol especially chlorinated solvents; and
- c) contribution to Sustainable Human Development.

DECENTRALISED IMPLEMENTATION

Strongly supported by member countries who are hosting 8 Technical Coordinator Units (TCUs) which are focal points of specialised operational areas of the sub-programme activities of the Network are being implemented in a totally decentralised manner.

ACTIVITIES OF THE NETWORK

- Technology transfer
- Training
 - Individual
 - Group
- Workshops
- Consultancy
- Trouble shooting

RIPPLE EFFECT

RENPAW HAS GENERATED SIGNIFICANT SPIN-OFF EFFECTS AND IN THE PROCESS ESTABLISHED FOLLOWING COUNTRY PROJECTS EXECUTED BY UNIDO.

Country	Name of Programme	Contribution (US\$ million)	
		UNDP/DANIDA /Govt. of France	Govt.
India	DP/IND/80/37 - Pesticide Development Programme India (PDPI)		
	DP/IND/89/128-Strengthening of Pesticide Development Centre	4.2	2.0
Pakistan	US/PAK/90/294 - Eco-toxicology Centre	0.8	0.9
Regional	US/RAS/90/148 - Development & Use of Computer Software for Pesticide Data Input, Storage, Retrieval & Dissemination	0.3	
P.R. China	CPR/91/120 - Sustainable Pest Control and Soil Fertility Programme	4.5	4.0
India	IND/97/958 - Technical Support for Development & Production of Neem Products as Environment Friendly Pesticides	0.5	0.25
	Total	10.3	7.15
	Grand Total	17.45	

RENAP has built strong linkages with various national programmes in the member countries. Thereby multiplying the benefits of the activities of the Network.

**The UNDP Evaluation Mission concluded
RENAP has been successful in promoting**

- **preservation of the environment through introduction of user and environment friendly pesticides and their formulations, eco-toxicology initiatives and residue monitoring in the ecosystem**
- **providing safety to the farming community particularly women through persuading member governments to eliminate toxic pesticides and introduction of safer application technologies and**
- **increasing agricultural productivity to alleviate poverty through replacing toxic pesticides with safer botanical and bio-pesticides**
- **significant policy changes in the member countries; banning of the production of BHC in India and banning of a dozen hazardous and polluting pesticides in the Philippines.**

IMPACT

POLICY CHANGES

- BANNING BHC BY THE GOVERNMENT OF INDIA
- BANNING A DOZEN OF PESTICIDES IN THE PHILIPPINES

BENEFICIARIES

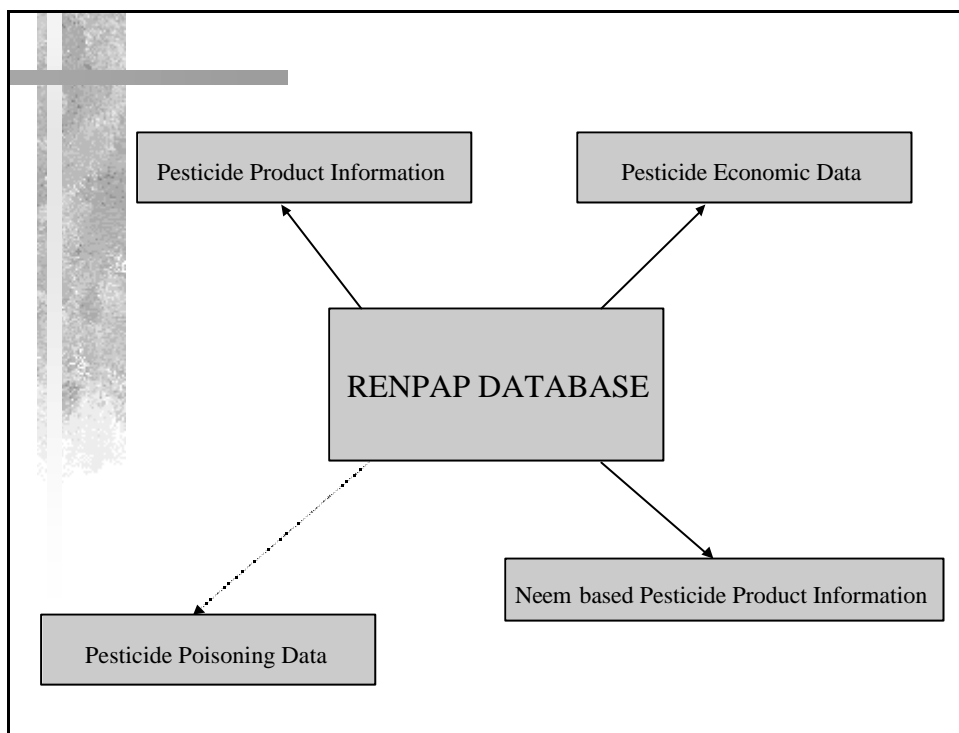
- Member Governments
- Industry
- Regulatory authorities
- Farming community.

RENAP PESTICIDE DATABASE

**Development and Use of Computer
Software for Pesticide Market Data,
Input, Storage, Retrieval and
Dissemination**

MISSION

To provide Asia / Pacific region a better and easy access to a reliable database on pesticide production and consumption that may serve as reference in the agricultural inputs domain



TECHNICAL SUPPORT FOR DEVELOPMENT
AND PRODUCTION OF NEEM PRODUCTS AS
ENVIRONMENT FRIENDLY PESTICIDES

IND/97/958



NEEM

THE WONDER TREE



NEEM KNOWN FOR INNUMERABLE PROPERTIES / ACTIVITIES

- ANTIMALARIAL
- ANTITUBERCULAR
- ANTIVIRAL
- ANTIALLERGIC
- ANTIECZEMIC
- ANTISCABIC
- ANTIDERMATIC
- ANTIGINGIVITIC
- ANTI-INFLAMMATORY
- ANTIPERIDONTITIC
- ANTIPYRRHOEIC
- INSECTICIDAL
- LARVICIDAL
- NEMATICIDAL
- ANTIFEEDANT
- ANTIFUNGAL
- ANTIFURUNCULAR
- BACTERICIDE
- PISCICIDAL
- AMOEBICIDAL
- OTHER BIOLOGICAL PROPERTIES

POTENTIAL OUTLETS OF NEEM SEEDS / NEEM OIL

With the annual seed potential of 0.44 million tonnes, India produces approx. 85,000 tonnes of neem oil and about 335,000 tonnes of neem cake annually

The major outlets are

- **SOAP INDUSTRY**
- **COSMETICS**
- **NEEM CAKE AS NITRIFICATION INHIBITOR**
- **AS PEST CONTROL AGENT**

NEEM AS PESTICIDE

Alternative to POP pesticides

Every part of the tree is bitter with wide range of activities against pests.

GAPS

- IMPERFECT PRODUCTION TECHNOLOGY
- LOW STABILITY OF THE PRODUCT
- LACK OF STANDARDISED ANALYTICAL PROCEDURES FOR QUALITY ASSURANCE
- IMPROPER COLLECTION AND STORAGE RESULTING IN WASTAGE
- BIOLOGICAL SCREENING FOR INTEGRATED APPROACH IN CROP PROTECTION

UNITAR
by Mr. Brandon Turner



**United Nations Institute
for Training and Research**

Training and Capacity Building Programmes in
Chemicals and Waste Management

United Nations Institute for Training and Research (UNITAR)
Palais des Nations
1211 Geneva 10

Tel: +41 22 917 1234
Fax: +41 22 917 8047
Email: cwm@unitar.org



1

**UNITAR Services and Chemicals-related
Multilateral Environmental Agreements**

- ***Building a Foundation***
 - UNITAR's philosophy to chemicals-related MEAs (Basel, Rotterdam, Stockholm) is based on firm belief that effective implementation of these conventions is not possible without addressing broader issues of the sound management of chemicals
- ***Integration and Co-ordination***
 - Collaborative efforts involving ministries and interested and affected parties, in the context of an "integrated and co-ordinated approach to manage chemicals safely" – as called for by the Intergovernmental Forum on Chemical Safety (IFCS) – have the best chance of success



2

1. Preparing National Chemicals Management Profiles

- At the May 2001 GEF Council meeting, countries recognised the utility of *National Profiles* with regard to the successful implementation of POPs-related activities and encouraged their development
- Information gathered for the National Profile constitutes a critical first step by providing a baseline of available POPs-related infrastructure which can serve as the basis for a more specific situation analysis required for detailed action on POPs



3

2. Skills-Building for Action Plan Development

- Skills attained from this training are useful for developing NIPs for the Stockholm Convention (Article 7)
- The methodology is currently being pilot tested through a Swiss-funded UNITAR project involving Ecuador, Sri Lanka and Senegal
- Ecuador is also one of a set of pilot countries participating in a UNEP-led, GEF pilot project on National Management Needs for POPs
- UNITAR has harmonised its efforts in Ecuador with the work of UNEP. Plans are being made to undertake training activities for Action Plan development to the remaining GEF pilot countries



4

3. Developing Risk Management Plans for Priority Chemicals

- The Stockholm Convention involves, *inter alia*:
 - action on individual chemicals/groups of chemicals
 - the identification and substitution of less harmful alternatives
 - related capacity-building activities
- Based on a 1999 pilot project involving Cameroon, Chile, The Gambia and Tanzania, detailed guidance to assist countries in developing risk management plans for priority chemicals has been developed by UNITAR in co-operation with the International Programme on Chemical Safety (IPCS)
- Related project work is under way in Ghana



5

3. Developing Risk Management Plans for Priority Chemicals

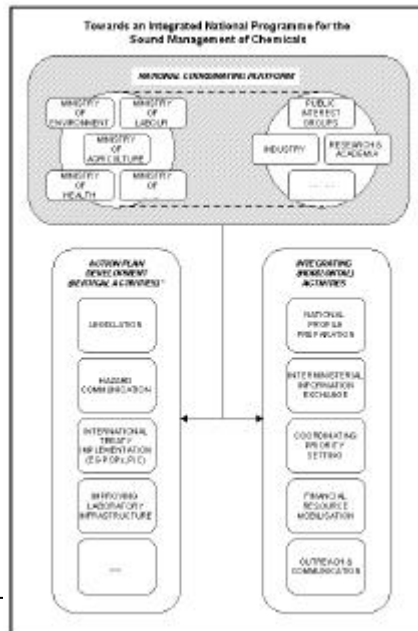
- This guidance can assist countries in developing and implementing actions on POPs and other chemicals
- A Guidance Document, which will be available for countries by late December 2001:
 - provides information on the main principles and concepts of risk assessment and risk management
 - makes suggestions for a flexible, step-wise process for the development of a risk management plan for priority chemicals
 - offers practical examples of risk reduction options



6

4. Developing and Sustaining an Integrated National Programme for the Sound Management of Chemicals

- Co-ordinated national platforms – a key element of an INP – have the potential to make a valuable contribution to enhancing the effectiveness of POPs-related activities
- Specific guidance and training material has been developed for creating/strengthening mechanisms for:
 - inter-ministerial co-ordination and communication
 - information exchange
 - financial resource mobilisation
 - priority-setting through collaboration of relevant ministries and stakeholders



How are UNITAR Projects Implemented?

- In addition to its experience, UNITAR can bring a wide range of network contacts in more 70 countries, which have been developed through country-based projects over the past ten years, to the concerted efforts to implement the Stockholm Convention and other chemicals-related MEAs
- Due to its light administrative infrastructure, UNITAR country-based projects can be initiated without great time delay and reach the field level soon after projects have been agreed upon. These projects are implemented with administrative support from and in close co-operation with UNDP country offices and our IOMC partners
- Co-ordination at the international level is ensured through the UNITAR/IOMC Programme Task Force (PTF), which currently comprises representatives from all seven IOMC POs, Switzerland, the Netherlands, Germany, and Denmark.



9

Summary

- *UNITAR can assist countries, in co-operation with all GEF executing/implementing agencies as part of the development of Stockholm Convention NIPs*



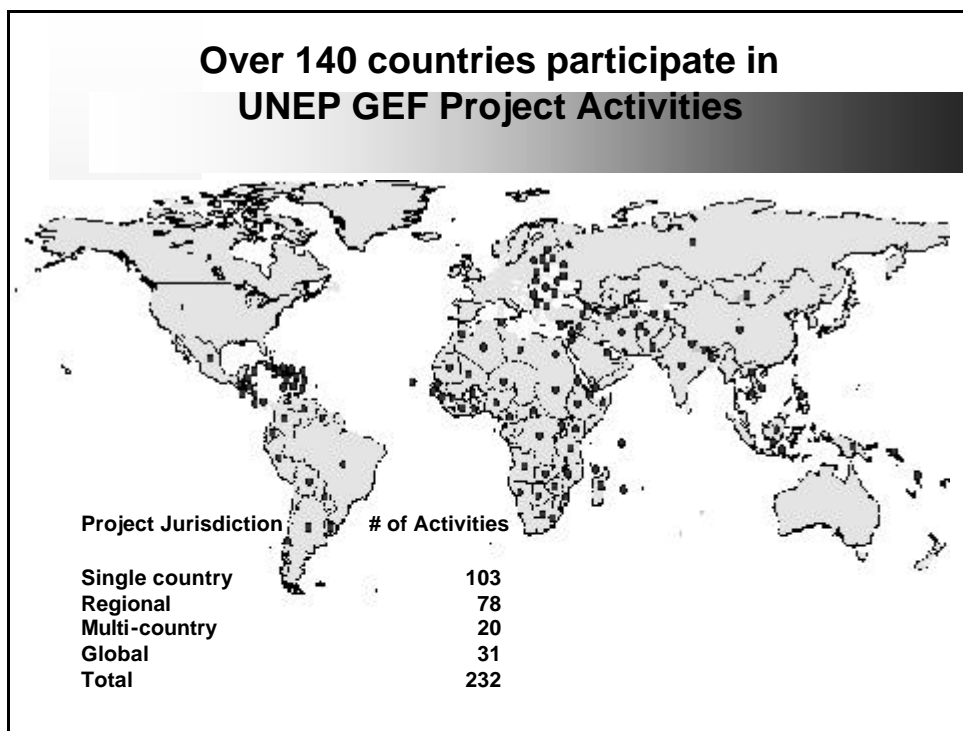
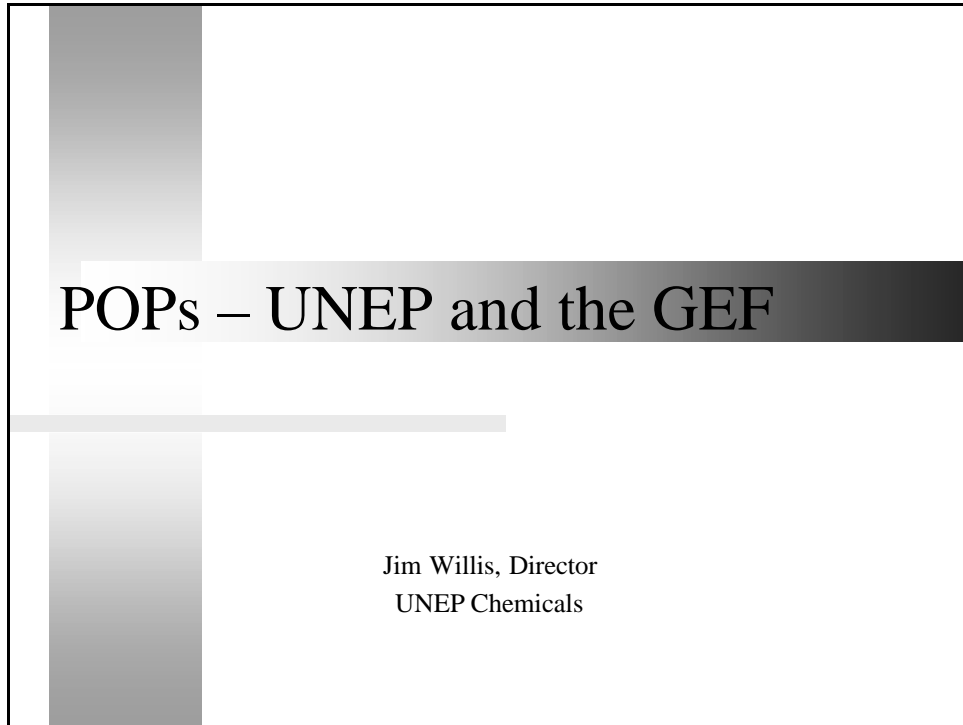
1. Preparing National Chemicals Management Profiles
2. Skills-Building for Action Plan Development
3. Developing Risk Management Plans for Priority Chemicals
4. Developing and Sustaining an Integrated National Programme for the Sound Management of Chemicals



10

POPS, UNEP and the GEF

by Mr. James Willis



UNEP/GEF POPs and PTS Projects (1)

- **Regionally-based Assessment of Persistent Toxic Substances**
- **Development of NIPs for POPs: 12-country pilot project**
- **Support for Implementation of the Stockholm Convention (Medium size project)**
- **Persistent toxic substances, food security, and Indigenous Peoples in Arctic Russia (Medium size project)**
- **Demonstration of alternatives to DDT in Mexico and Central America (PDF-B)**
- **Reducing pesticides runoff to the Caribbean Sea (Colombia, Costa Rica, Nicaragua) (PDF-B)**

UNEP/GEF POPs and PTS Projects (2)

- **Reduction of exposure to DDT and strengthening of malaria control - Executed by WHO/AFRO and Ministries of Health in Eritrea, Ethiopia, Madagascar, Namibia, South Africa, and Swaziland (PDF-B)**
- **Support to local communities for the reduction of pesticides use in the Niger and Senegal River basins through Integrated Pest and Production Management - Executed by FAO/Global IPM Facility in Benin, Guinea, Mali, Mauritania, Niger and Senegal (PDF-B)**

Some Considerations

- **The NIP is your plan for implementing the convention; make sure that the plan is designed to meet your needs.**
- **Different approaches in developing the plan:**
 - *Large external consultant component*
 - *Country-driven*
- **EAs get a flat fee of ~\$50,000 not included in the project budget.**
- **Budgets are country-specific; \$500,000 is not automatic.**
- **Different EAs have different strengths and weaknesses. Compare offers of assistance carefully.**
- **Partnerships are possible, but should be specified in your proposal.**

Why Consider UNEP? (1)

- **UNEP is the secretariat of the Stockholm Convention and is designated by the Convention to assist parties.**
- **With UNEP supporting its NIP, the entire amount of GEF funding goes to that country.**
- **UNEP has more than \$6 million USD, in addition to what is available through the GEF, for projects and workshops in countries that develop their implementation plans with UNEP's support.**

Why Consider UNEP? (2)

- **UNEP has extensive experience in all of the twelve POPs listed in the Stockholm Convention; an active POPs programme since 1995.**
- **Governments selected UNEP to convene and support the negotiations of the Convention on the basis of its policy and technical competence on POPs.**
- **UNEP seconded a staff member to write the “Initial guidelines for enabling activities for the POPs Convention” and is the agency most familiar with its requirements.**
- **12-Country GEF project gives UNEP a “head start.”**

Why Consider UNEP? (3)

- **UNEP is preparing the detailed guidelines for developing NIPs.**
- **UNEP has developed all of the currently available UN guidelines and guidance materials specific to POPs.**
- **UNEP has 40 staff members ready to provide immediate assistance to countries on NIPs.**
- **UNEP has financed and provided technical support for over 60 national projects in developing countries and countries with economies in transition on the major issues addressed by the Stockholm Convention.**

Why Consider UNEP? (4)

- **Since 1995, UNEP has held over 100 regional, sub-regional and national workshops addressing POPs and the priority issues that are reflected in the Stockholm Convention.**
- **UNEP implements 20-30 regional and sub-regional workshops each year on the Stockholm Convention. These address the key issues of implementation, including PCB and dioxin/furan inventories and action plans, and selecting alternatives to POPs pesticides. Where possible, these will be held in countries selecting UNEP to support their NIP in order to strengthen the plan development process and to build synergies.**

Why Consider UNEP? (5)

- **UNEP has extensive experience in implementing GEF projects. UNEP is a founding member of the GEF, and has been an Implementing Agency since the GEF's inception in 1991.**
- **UNEP was the first agency with POPs projects approved by the GEF.**
- **UNEP's underlying interest is to ensure that each country has the ability to fulfil its obligations under the Stockholm Convention and thereby to protect health and the environment from POPs. UNEP's approach is designed to ensure that projects are country-driven, country-led and country-implemented.**

Follow-up

- **UNEP would be pleased to arrange follow-up consultations with countries to:**
 - Provide in depth briefings on the Convention and its requirements
 - Develop proposals for NIPs for GEF funding
 - Design other needed actions (e.g., workshops or projects) for chemical safety
- **Can take place at UNEP or in your country**

7. COUNTRY REPORTS

BANGLADESH

Bangladesh is geographically located between 23° 34' and 23° 34' north latitude and between 23° 34' and 23° 34' east longitude. India Bangladesh on the west, the north and the northeast. Myanmar is on the southeast. Myanmar is on the southeast and the Bay of Bengal is on the south. Bangladesh is predominately an agricultural country and has 111.4 million people in a land area of 1.47.500 sq.km. About 20% of the total cultivated area are of 9.1 million hectare has been brought under intensive agriculture. The agriculture crops are paddy, wheat, pulses, sugar cane, spices, and oilseeds, fruits, vegetable, tea and jute fibres. The contribution of the agriculture sector to the GDP is 31%.

The country is being industrialized and industrial activities have increase in recent year. The major group are a) Food, Beverage and Tobacco, b) Chemicals, Fertilizer, Pharmaceutical, Petroleum and Rubber, c) Cement and Ceramics. The contribution of the industrial sector to the GDP is 10%. At present Bangladesh uses 7 million tons of industrial Chemicals and 0.011 million tons pesticides annually.

2. State of Existing Government Policies and Legislation

2.1 Environment Policy 1992

The Environment policy 1992 identified environment action plan for 15 different sectors of our economy. For the agriculture sector the environment action plan has defined the following regulations:

- a. Control use of insecticides and pesticides with due condition of the prevailing socio-economic condition of the country,
- b. Phase out production, import and use of persistent organic pesticides (POPs),
- c. Use easily biodegradable pesticides and;
- d. Encourage Integrated Pest Management (IPM).

The environment policy has the backing of the following legislation to regulate production, import, export, transportation, storage, handling and use of toxic chemicals and generation and disposal of hazardous waste in Bangladesh.

- a. The Environment Conservation Act 1995.
- b. The Environment Conservation Rules 1997.
- c. The Pesticide Ordinance 1971 and Pesticide Rules 1985.
- d. The Customs Act 1969.

2.2 Status of Chemical Legislation

There is no specific legislation on general chemicals in Bangladesh. But there are strict regulations for Agrochemicals and Pharmaceuticals. Also Industrial Sector and the other development projects are controlled by The Environment Conservation Act 1995 and The Environment Conservation Rules 1997.

2.2.1 The Environment Conservation Act 1995 and The Environment Conservation Rules 1997

1. Subject to the provisions of this Act and Rules, the Director General, Department of Environment, may take all such action as may be deemed and necessary, for the conservation of environment, improvement of environmental standard and control and mitigation of pollution of environment may give necessary direction, in writing, to any person for performing his (DG) duties under this act.

2. Section-4: In particular and without prejudice to the generally of the foregoing power such as:

- a. Co-ordinate with the activities of any authority or agency having relevance with the objectives of this Act;
- b. Prevent probable accidents which may cause degradation and pollution of the environment, adopt safety measure and determine remedial measures against such accidents and give direction in this regard;
- c. Advise or in appropriate cases, direct the person concerned regarding the environment friendly handling, storage, transportation, import and export of hazardous substance or its components;
- d. Research and inquire about the information regarding the conservation, improvement, and pollution of environment and assist any other authority or agency in similar activity;
- e. Examine any place, premises, plants, equipment's, manufacture or other processes, ingredients or substances for the purpose of improvement of environment and control and mitigation of pollution and may give orders or directions to appropriate authority or person for prevention, control and mitigation of environmental pollution;
- f. Collect, publicize and disseminate information regarding environment pollution;
- g. Advise the Government to reject such manufacturing process, materials and substances as likely to cause environmental pollution;
- h. Conduct drinking water quality surveillance programe and submit report and advise, or, in appropriate cases direct, every person to follow the standard of drinking water.

3. Section-9: Discharge of excessive environmental pollutant:

- a. Where the discharge of any environmental pollutant occurs in excess of the prescribe limit laid by rule or is likely to occur due to any accident or other unforeseen act or event, the person responsible or the person in charge of the place at which such discharge occurs shall be bound to prevent or mitigate the environmental pollution caused as a result of such discharge.
- b. The person mentioned in 'a' shall forthwith intimate the fact of such occurrence as referred to such to in said sub-section to the Director General.

- c. On receipt of information under this section with respect to the fact or accident, the Director General shall, as early as practicable, intimate such remedial measures to be taken as are necessary to prevent or mitigate the environmental pollution and such person shall be bound to render all assistance to the Director General.
- d. The Director General from such person as public demand may recover the expenses incurred with respect to remedial measures to control and mitigate the environmental pollution, under this section.

4. Procedure for Granting Environmental Clearance - As per Section-7 of The Environment Conservation Rules 1997

For granting of Environmental Clearance industrial units and projects/products (e.g. pesticide etc.)/vehicles are divided into following four categories depending upon nature of raw materials/chemicals, production process, size, impact on environment, location etc:

- a. **Green**
- b. **Orange-A**
- c. **Orange-B**
- d. **Red**

Pesticides formulation, repackaging etc., and Chemicals manufacturing including Pharmaceutical Basic Chemicals Production Industries are falls within RED Category. Before issuing clearance to the mentioned type of projects it has been ensured that no POP chemicals or the chemicals are being used, which are banned under different international protocols/conventions/treaty's by the industry/project.

2.3 The Pesticide Ordinance, 1971 and The Pesticide Rules 1985.

2.3.2 Agrochemicals

Agrochemicals are in 2 categories namely, Pesticide and fertilizer. Ministry of Agriculture regulates them both.

2.3.2.1 Pesticide

Pesticide Ordinance, 1971 and Pesticide Rules 1985

Pesticide regulation has specific regulation called Pesticide Ordinance, 1971 and the pesticide rules 1985. In that regulation it has been clearly stated in what product and in which condition will be allowed to import for formulation, manufacturing, marketing, distribution and use in the country. There are provisions for the following activities:

- i) Registration of pesticide.
- ii) Period for which registration shall be effective.
- iii) Cancellation of registration.
- iv) Renewal of registration.
- v) Requirement of license for formulating, manufacturing, repackaging, sales distribution of pesticide.
- vi) Labelling of pesticide.
- vii) Storage and transportation of pesticide.
- viii) Banning of pesticide.

There are two committees for registration of pesticide under Ministry of Agriculture. In both the committees there is a representative from Department of Environment under Ministry of Environment and Forest.

a) Pesticide Technical Sub-Committee

This committee consists of a group of scientists from nationalized institutions and headed by the Director, Department of Plant Protection, and Ministry of Agriculture. The main function of the committee is to screening/evaluate the pesticide applied for the registration and forwarded the pesticides for field trial and laboratory test. Department of Environment is one of the members of this committee. Furthermore before consulting about registration of any pesticide, comments/clearance from The Department of Environment is mandatory.

b) Pesticide Technical Advisory Committee

This committee act as pesticide regulation board; consist of all heads of institution from scientific bodies, public health, Department of Environment, Ministry of Environment and Forest and Ministry of Fishery. These committee members take decision for approval of registration, termination of registration and ban. This committee also finalizes the regulations for the pesticide.

2.3.2.2 Fertilizer

Fertilizer is not regulated by any specific rule or act but controlled by ministry of Agriculture. For any fertilizer manufacturing, marketing, and distribution need to be tested in field and need registration in the country. This registration committee headed by Secretary, Ministry of Agriculture and the members are the head of all scientific body including Ministry of Environment and Forest and Department of Environment.

2.4 Pharmaceuticals

Pharmaceuticals have specific rules, which called the Drugs Act 1940. The Drugs Rules 1945 under the Drugs Act 1940. The Bengal Drugs Rules 1946, the Drugs Ordinance 1982. In the Drugs Act clearly defined which chemical will be allowed to import, formulate, sales and for use. These activities are-

- i) Registration of Drugs.
- ii) Renewal of Registration.
- iii) Cancellation of Registration.
- iv) Licenses for import the drugs.
- v) License for formulating, manufacturing, repackaging, sales and distribution.
- vi) Labelling of the drugs.

In Pharmaceuticals there are specific regulations that are controlled by Drug Administration Authority. There are different committees like technical committee, evaluating committee and approval committee. The main function of these committees is to screening, evaluating and approving the drugs, which are applied for registration.

2.5 The Customs Act 1969

Basically The Customs Authority follows the rules and regulation of The Board of Revenue, The Ministry of Commerce and The Ministry of Finance before issuing entry clearance for any imported chemicals. But for pesticide import they (The Customs

Authority) need Clearance Certificate from the Department of Plant Protection. On the other hand no POP chemicals are listed on the Import policy and lists for the importation of chemicals.

3. Impacts of Hazardous Pesticide/Chemical Use

There is no systematic and organized study undertaken in the country to identify the environmental impacts of POPs. However, the increase rate of cancer, leukaemia, liver and kidney diseases among the rural people, decreasing rate of open water fish production, extinction of wild life suspected to be the cause of highly persistent and hazardous pesticides and industrial chemical use. The incidence of death due to suicidal, homicidal and accidental poisoning by pesticides and chemicals are alarmingly high in Bangladesh. During the decade of sixty and seventy the acute poisoning cases would occur with Endrin. Now most of the poisoning cases are reported to be with organophosphorous pesticides.

The physicians in the General Hospitals, who are not expert in toxicology, usually treat the poisoned victims. As a result percentage of death of poisoned victim is very high. Comprehensive statistics of death due to pesticide poisoning is not available, because there is a trend to keep the poisoning cases secret to avoid legal proceedings.

However, statistics available from the Institute of Public Health under the Directorate of Health Service shows that in 1977 alone, 5000 death cases have been reported from all over the country. The death cases of poisoned victims are gradually increased during the period 1993-97.

The forest estuaries, inland and marine water of Bangladesh is rich in biodiversity. But in recent years open water fish production decrease by 40%. Increased chemical import and use for agriculture, untreated sewage and industrial waste is assumed to be responsible for extinction of wild life and declining fish production.

4. Measures and Programme Taken to reduce/Eliminate POPs Emission

Bangladesh has cancelled the registration of all POPs pesticides and in order to protect the public health and environment. The government has also placed fifteen pesticides namely BHC, Chlordane, DDT, Dieldrin, Dicrotophos, Disulfoton, Endrin, Ethyl Parathion, Isobenzene, Methyl Parathion, Methyl Bromide, Mercury Compound, Methoxychlor, Posmet, Heptachlor in the banned list.

Bangladesh has a DDT manufacturing plant. The plant has a production capacity of 300 MT DDT per annum. Just after declaration of the National Environmental Policy in 1992, the DDT plant has been shut down. Local Chlorine and Rectified Spirit manufacturer lost potential customer. The left over stock of about 500 tons of DDT is now being used only for vector born diseases control program.

There are no large-scale waste incinerators in the country, which releases dioxins and furans. Leaded petrol is one of the sources of dioxins emission. Bangladesh banned import of leaded petrol. But our only Petroleum refinery in the country is still producing leaded petrol, which contain about 0.01-gram lead per litre. An investment of about 30-40 million US dollar is required for process modification of the refinery to produce lead free gasoline.

As per Environment Conservation Act 1995(revised 2000) and Environmental Conservation Rules 1997, before setting up any pesticide manufacturing, repacking or formulation unit, it should be cleared from The Department of Environment. Also before starting any registration procedure of any pesticide (in general) product, it has to be cleared from The Department of Environment. Strict and thorough evaluation of the process and the product, The Department of Environment, prevents any import of the POP Chemicals for the last 10-12 years.

The Customs Authority follows the rules and regulation of The Board of Revenue, The Ministry of Commerce and The Ministry of Finance before issuing entry clearance for any imported chemicals. For pesticide import they (The Customs Authority) need Clearance Certificate from the Department of Plant Protection. On the other hand no POP chemicals are listed on the Import policy and lists for the importation of chemicals. In this way the import and the entry for the POP chemicals has been restricted.

5. Obstacle to Reduce/Eliminate Emission of POPs

The very persistent characteristic of POPs is an obstacle to eliminate its use. Dry fish is a popular and delicious food in Bangladesh. It needs to be preserved for about six months to one year. Though it is forbidden to use pesticides as food preservative, it is reported that the unscrupulous traders apply pesticides to preserve dry fish and obviously they prefer DDT. Since DDT is highly persistent, its single application can protect the dry fish for a long time against pest attack, which other pesticides cannot do.

Since Bangladesh stopped production and banned imported of DDT, it should not be available in the market. But some regional country still produced DDT, and it may be available in the black market. It is the case with Heptachlor. People prefer to apply it for termite control so as to protect their building and may be available in the black market.

Chemical imported as electric transformer oil, hydraulic fluid, and gear oil may contain PCB, but it could not be ascertained. The exporters of this chemical do not use proper label on the container. For this it reason we do not have any inventory of PCB, and it could not be ascertained. For the same reason we do not have any inventory of PCB equipment.

Malaria and kala-Zar has reported to be broken out in some parts of Bangladesh. Health department using the left over stock of DDT in those Malaria prone areas for mosquito control. Experts of the World Health Organization (WHO) also prescribe DDT to use in the Kala-zar prone district of Bangladesh.

Bangladesh does not have the technology and expertise to identify and monitor the source of PCB, dioxins and furans. A chemical safety programmed was initiated in the country. But due to lack of resources the programmed could not make expected progress. Donor agencies and financial institute did not show interest in such a program.

Bangladeshi farmers are conscious of the harmful impact of the hazardous pesticides and chemical. They use pesticide as well practice non-chemical method of pest control, Biological pest control and the Integrated Pest management (IPM) is practiced in the country. Crop rotation, burning the agricultural residue in the field, uses of the light trap, and catching peers by net are some techniques used to control pest in the country.

6. Bangladesh Action plan for phasing out of POPs

An action plan has been prepared by the Department of Environment following the UNEP/GEF format. The action plan has already been sent to the Ministry of Environment and Forest for the administrative approval before sending to the UNDP local office. The total cost of the action has been estimated of about US\$ 5,00,000.00. An Expert Mission on POPs for Project Support for Stockholm POP Convention Follow-up now visiting Bangladesh. The mission will work from 21 November till 29 November 2001. The Mission met with all relevant ministries and agencies for imparting information on the POPs Convention and Enabling activities Process. The Mission met individually to discuss the details relevant to their domain, followed by through session with POPs focal point to trash out the activities, management structure and work plan. A draft proposal will be prepared by the Mission, which would be presented to the bigger group for comments and endorsement in the final submission.

7. Conclusion

Health and environmental threat of POPs is a global concern. Release of POPs does not remain limited within the territorial boundary of any country. Therefore, in order to reduce and eliminate of emission of POPs step should be taken for.

- a) Early ratification and effective implementation of Rotterdam convention by all countries.
- b) Formulation of uniform national and regional action plans to reduce and eliminate emission of POPs.
- c) Making available the effective, cheaper and safer alternatives to POPs for the developing importing countries.
- d) Provision of technical and financial assistance for the developing countries should be made available to identify the POPs related problems and its cost-effective solution.

BHUTAN

Summary:

Background information on the general aspects of Agriculture in Bhutan is given. The Royal Government's policy on sustainable and safe systems of farming and conservation is emphasized. An historical overview of pesticide usage with reference to POPs is given. The strategies to encounter emerging pesticide related problem is briefly described. The problem of disposal for obsolete pesticides and proposal for future regional cooperation is also highlighted.

1. Introduction:

Bhutan is predominantly an agricultural country with 90% of the Bhutanese population engaged in subsistence agriculture. A wide range of crops is grown, reflecting both the range of cropping conditions as well as food self-sufficiency requirements. Traditional food crops are rice, maize, wheat, buckwheat, barley and mustard, while in the last few decades, production of cash crops like potato, mandarin, apple, cardamom, areca nut and a number of vegetables has grown considerably. The main cropping systems found in Bhutan are formed by rice-based systems on the wetlands and potato and maize based systems on the drylands.

Bhutan has been fortunate in the sense that comparatively the amount of pesticides used in the country is quite minimal in comparison to other countries in the region. Most of the POPs chemicals were never used in the country and the few like Aldrin, DDT and BHC were banned from use since 1990.

2. Historical overview of pesticide usage in Bhutan

The import, storage and distribution of agricultural pesticides to farmers in Bhutan is carried out by the National Plant Protection Centre under the Ministry of Agriculture. Some chemicals are also purchased by the Health sector under Ministry of Health and Education. A limited amount of household chemicals are imported by dealers and sold in shops.

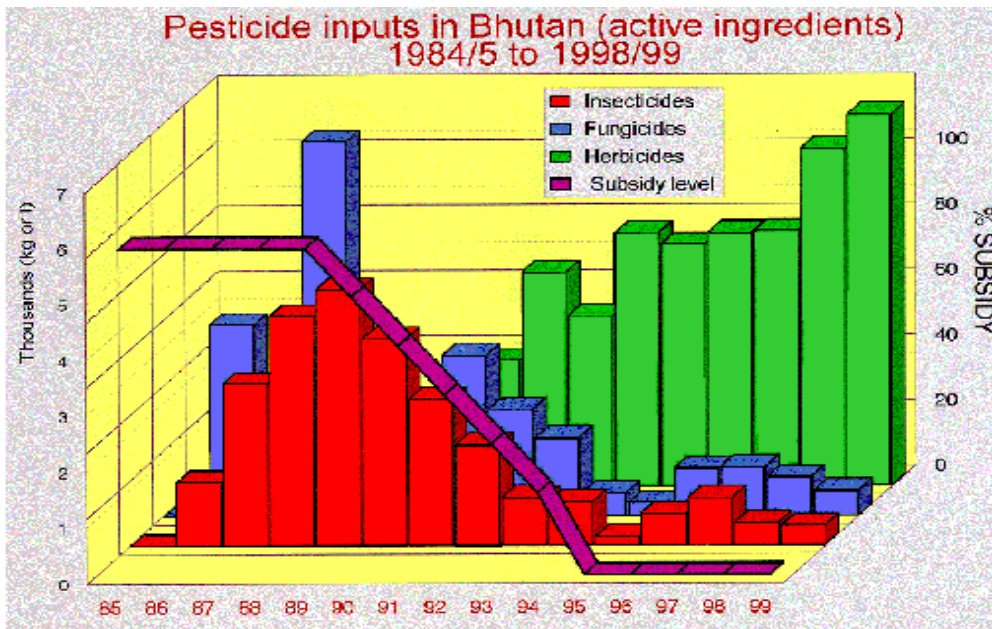
There is no local manufacture, formulation or repacking of pesticides in Bhutan. All pesticides available in Bhutan are imported mainly from India. Until 1989, all types of pesticides, irrespective of their persistence or toxicity were procured and distributed free of cost. From 1990 onwards, the Royal Government of Bhutan decided to remove the subsidy element on pesticides in a phased manner. The Government started charging 15% of the cost price of pesticides in 1990, which was then increased annually by 15%. From July 1995, the total subsidy on pesticides was removed.

From 1990, several pesticides (including some POPs) like Aldicarb, Aldrin, Aluminum phosphides, BHC, Captafol, Ekalux, Agallol, Methyl-parathion and Thimet were banned for use in agricultural crops due to their high toxicity and persistence. DDT continued to be used by the Health sector exclusively for Malaria control and it was only in the late nineties that its use was discontinued. Apart from DDT, BHC and

Aldrin, most of the POPs have never been used in Bhutan. Currently only a limited number of safer and less persistent pesticides are being procured for agricultural use in Bhutan.

Recently in June 2000, the National Assembly of Bhutan has approved the ‘Pesticides Act’ of Bhutan and it will be implemented very soon.

The total amount of pesticides procured annually for the whole country during the last decade is presented in figure below. From this figure it can be noted that insecticide and fungicide use have declined since 1990. This is to a large extent due to the progressive abolishment of subsidies. On the other hand the use of herbicides (chiefly for paddy) has gone up considerably mainly due to farm labour shortage.



3. Strategies Adopted to cope with pesticide problems:

The policy of the Royal Government of Bhutan (RGOB) has been to achieve food security through intensification of agricultural production with due attention to sustainability and preservation of the environment. In keeping with this policy, the Ministry of Agriculture targeted agricultural developmental activities by adopting the following strategies:

3.1 Removal of subsidy:

The subsidization of pesticides was found to be mainly responsible for the indiscriminate use of pesticides in Bhutan. Since 1995, substantial reduction in the usage of chemicals has been achieved mainly through the removal of pesticide subsidy.

3.2 Strict Rules for import:

The Royal Government of Bhutan has passed the 'Pesticides Act of Bhutan' in June 2000. It is yet to be implemented as it takes quite a lot of time to develop the various provisions of the Act. However, the National Plant Protection Center is the only authorized agency for the import, distribution and sale of pesticides.

3.3 Introduction of cash and carry system:

In this system, the District agriculture officers are responsible for the collection of pesticide demand from the farmers. These requirements are then submitted along with the cash and only after the receipt of the cash, the pesticides are sent to the district. This has brought about substantial reduction in the demand for pesticides and has also helped to reduce the accumulation of out dated pesticides.

3.4 Replacement of toxic persistent chemicals

Prior to the project implementation, a number of persistent and toxic chemicals were being used in the country. The import of highly toxic and persistent type of pesticides is totally banned. Only those pesticides that are relatively safer to environment, less persistent and pesticides falling under the category of class II and Class III groups as per WHO classification by hazard are being imported and used in the country.

3.5 Promotion of Integrated Pest Management (IPM)

The principle of IPM was advocated to farmers since 1993 through the pilot village programs. The implementation of the IPM programs in Bhutan has partly contributed to the reduction in pesticide usage as well as the abolishment of persistent and highly toxic pesticides. IPM packages have now been developed for major pest problems in crops like apple, mandarin, potato, paddy and chili.

4. Accumulation of outdated pesticides:

Because of the free supply of pesticides to the farmers in the past, huge quantities of out-dated pesticides have accumulated between 1980-1990. The National plant Protection Center collected about 67 MT from all over the country in 1993. Despite various actions taken to dispose them, there are still 38 MT of outdated pesticides, including 5 metric tones of DDT, Aldrin and BHC waiting to be disposed. These outdated chemicals have been packed as per international standards and has been collected at a single site waiting for disposal.

Bhutan has been and is still exploring to find a safe and environmentally acceptable means of disposing of these chemicals. Since Bhutan does not have proper incineration facilities, assistance from countries having these facilities for proper disposal would be of great help, keeping in view the environmental concerns.

5. Conclusion:

Bhutan is well known for its strict natural conservation policies and its developmental activities towards increasing food production are guided by sustainability and environmental issues. To this effect, the government has been stressing on enhancing agricultural production at least environmental costs. The few POPs pesticides like DDT, Aldrin and BHC that were used in the country have been banned since 1990. The disposal of obsolete pesticides including a few tons of POPs pesticides is a major constraint faced by the country. The following measures would greatly enhance to create awareness in the region to prevent scaling up of the problem due to lack of awareness on pesticides particularly the persistent organic pollutants.

Sharing of experiences and information on pesticide problems and solutions to prevent future complications.

Establishing official linkages between relevant institutions in the participating countries.

Participating in regional/international meetings to obtain first hand information.

Intimating and exchanging information on pesticides that have been banned in other countries.

Assisting developing countries to minimize pesticide related problems through technical and financial assistance.

Facilitate regional cooperation through sharing of infrastructural facilities to minimize the risk from accumulation of obsolete chemicals.

BRUNEI DARUSSALAM

Introduction

Brunei Darussalam is a small country on the northwestern coast of the island of Borneo. It occupies a land area of 5,765 square kilometres, with a coastline 130 kilometres in length. The total population in the year 2000 was estimated to be 380,400 and is administratively divided into 4 districts - Brunei/Muara, Kuala Belait, Temburong and Tutong. The largest city is the capital, Bandar Seri Begawan (population 200,000). The main exports are crude oil, natural gas and petroleum products derived from oil and gas refining. The largest oil company is the Brunei Shell Petroleum Company Sdn. Bhd. (BSP), a joint venture between the Shell Oil Company and the Government of Brunei.

In recent years, the government has adopted strategies to diversify its economy. Light industry, services and tourism are now being encouraged to reduce Brunei's dependence on oil exports. With its small population, Brunei does not yet suffer serious land use and environmental pressures. Over 85 percent of the population live in the coastal areas, where almost all social and economic activities are concentrated. In the Brunei Bay area where Bandar Seri Begawan is located, the government has undertaken concerted pollution control efforts directed at effluent discharges from the capital and its suburbs. This proactive action is being taken to avoid damage to the environment as the country undergoes urbanisation and industrialisation. The petroleum industry has voluntarily initiated various efforts to improve their environmental performance and adopt good industrial practices.

The non-oil natural resources of Brunei are largely unexploited. Tropical forests cover about 75 percent of the total land area. Logging as an industry and export-earner has been stopped, and the pristine rainforests are protected by law. There is a significant representation of indigenous flora and fauna, including the rare proboscis (long-nosed) monkey, which is found only on Borneo island. Agriculture is carried out on a small scale, and revolves primarily around the cultivation of vegetables and fruits in outlying areas.

The coastal area contains Brunei's most productive ecosystems and its most valuable onshore and offshore hydrocarbon deposits. The non-oil coastal resources are lightly exploited. The 18,418 hectares (3.2 percent of total land area) of mangroves in Brunei are amongst the best preserved in Southeast Asia. These mangroves play a significant role as hatcheries and nurseries of marine life, and form habitats for several species of plants and animals, some of which are unique and endangered. Much of the existing mangroves have been allocated for specific purposes like protected forest areas, and water pond aquaculture (particularly for shrimp culture).

2. Institutional arrangements on Environment

There is no single Ministry or Department in Brunei, which is specifically responsible for environmental matters. Responsibility for environmental management is shared amongst several ministries and departments.

The division of environment responsibilities is as follows:

Office of the Prime Minister

- Petroleum exploration (Petroleum Unit)
- General enforcement (Royal Brunei Police)

Ministry of Industry and Primary Resources

- Agriculture (Agriculture Department)
- Fisheries (Fisheries Department)
- Forestry (Forestry Department)
- Industries (Industrial Unit)

Ministry of Development

- Land Use (Lands Department)
- Planning (Town and Country Planning Department)
- Public works (Public Works Department)
- Environment (Environment Unit)

Ministry of Communications

- Marine affairs (Marine Department)

Even though there is no separate Ministry for environmental matters, there exist two institutions which play important roles in coordinating environmental policy - these are the National Committee on the Environment (NCE) and the Environmental Unit of the Ministry of Development. The NCE was established in 1993 by the Brunei Government as part of its Sixth National Development Plan. The NCE is a high-level inter-agency consultative body with representation from the relevant government departments and units, which are concerned with the environment. The NCE is chaired by the Minister of Development.

The NCE is tasked with coordinating the environmental functions and sectoral interests of the relevant agencies within and outside the government. It ensures general coordination of environmental policy-making, provides an overall framework for environmental management, and oversees the implementation of national environmental activities, legislation and policies pertaining to the environment.

The Environment Unit of the Ministry of Development serves as the full-time Secretariat to the NCE. This Unit is also involved in policy development and guidance, and is responsible for regional and international environmental relations and for promoting environmental awareness in Brunei. In effect, the Environment Unit serves as the institution with direct operational competence over environmental matters.

3. Environmental Legislation in Brunei

As a general rule, environmental policies are usually promulgated as administrative orders. These, along with many of the existing laws, tend to be brief and general. Many of the environmental regulations appear as incidental provisions in sectoral legislation governing other areas. These regulation and act are inadequate in term of their scope and enforcement, nor they sufficient in-term of environmental management. No single coherent Act exists to harmonise the environmental protection effort. As such, the provisions governing pollution and the environment are incomplete and piecemeal, and laws governing some types of pollution are non-existent. Many of the existing provisions also grant wide powers and authority to ministries and departments, leaving many issues to be determined at the discretion of administrators. Brunei Darussalam does not have specific laws requiring environmental impact assessment (EIAs). However, environmental considerations are currently incorporated into development decision-making through land use planning and zoning requirement. New industries must submit plans indicating measures to be taken to alleviate environmental impacts. In addition, most of the existing environmental laws pre-date the current interest in environmental protection and have not yet been amended to incorporate modern environmental principles.

Brunei has no specific laws, which deal with toxic chemicals and hazardous substances. Neither are there facilities to treat and manage hazardous wastes.

Currently, the only Brunei Darussalam law applicable to toxic chemicals is the Poison Act, which primarily regulate pharmaceuticals and pesticides through a regulatory system under which activities (import, sale, dispensing/application, etc are licensed. The Control mechanism in regulating the pesticides activities is managed through the Agrochemicals and Veterinary Drug Committee. The Committee will evaluate the credibility of importers, wholesalers and retailers of agrochemical. The Committee also controls the volume of agrochemical to be imported, especially on restricted pesticides and ensures that only approved pesticides are allowed to be imported into the country.

The only relevant legislative provision on hazardous substances are the Customs Act which regulates the handling of dangerous substances, including petroleum, and the Ports Act which regulates the transport of dangerous goods within the port area.

One possible method to redress the above problems would be to enact comprehensive framework legislation on the environment. This has been done whereby a draft Environmental Order is being formulated which reflect contemporary concerns like toxic and hazardous wastes management and the incorporation of obligations in international treaties like Basel Convention.

4. Problems in implementing Environmental Legislation

Despite the relatively small government machinery and the efforts of the NCE to coordinate inter-agency activities, problems still exist in relation to institutional arrangements. These problems include coordination constraints among stakeholders, overlapping jurisdiction amongst these, and the lack of manpower, especially environmental and technical experts. In the course of their work, the activities of the relevant sectoral ministries and departments often reflect developmental priorities, and thus environmental considerations can be neglected. As a result, there often arise differing standards in quality control between Ministries/Departments, different levels in enforcement, duplication of manpower and budgetary resources and ineffective monitoring of industrial projects and potential illegal activities.

5. Country's Adherence to Stockholm, Rotterdam and Basel convention

Although Brunei Darussalam is not yet a signatory to the Stockholm, Rotterdam and Basel Convention, we avail to their principles and have implemented national measures that are in line with the Convention.

All the POPs Chemicals (except dioxins and furans) have already been banned. Brunei Darussalam has prohibited the import and use of PCBs, including electrical transformers and capacitors containing PCB since 1970's. There are no significant industrial sources of dioxins and furans in Brunei Darussalam. However Brunei Darussalam are currently undertaking a project on an inventory of dioxins and furans sources initiated by UNEP Chemicals.

Brunei Darussalam currently does not export or import any hazardous wastes. Brunei Darussalam is also not a state through which hazardous wastes are transported (not a transit state). We have not received any information or documents from any exporting states to indicate that hazardous wastes have been imported into the country or transported through the country.

Conclusion

There is no doubt that global treaties and convention on toxic chemicals and hazardous wastes are truly beneficial for all countries including Brunei Darussalam. They recognise that global problems necessitate global solution as such realises the importance of networking, information and experience sharing, training, especially within the Region where there are common issues and concerns. They make possible for developing countries with limited resources and technical expertise to get assistance not only to meet their obligations under the Conventions but also to enable them to enforce their national legislation.

In view of the above, Brunei Darussalam endeavour to cooperate and collaborate with other countries and international institution so as to overcome our institutional, legal, technical and technological limitations in POPs management.

CAMBODIA

Profile

Cambodia is situated in Southeast Asia with a total territory of 181,035 Km². Cambodia shares its' border with Thailand, Laos and Vietnam. The coastal zone is located in southwest part of the country with the coastline of 435 Km on the Gulf of Thailand. The total population estimated in 1998 is about 11 million with a rapidly growth rate varies from 2.6 to 4.5 percent per year. The average population density is about 52 persons per square kilometer.

The economy of the country bases the agricultural sector. Between 80-85% of the labor force is engaged in agriculture and its related sub-sectors (fishery and forestry) which contribute to about half of country's GDP where crops contribute 63% to agricultural GDP. Cambodia's main agricultural crop is rice, which is grown on over 90 % of the currently cropped area. Apart from agricultural sector, manufacturing industries, trading including import and export activities are considered as the second bases for the country's development.

1. Status of POPs Pesticides Use

Cambodia is an agricultural country with a total paddy land of 3.5 million hectares cultivated at present. Cambodia is one of the countries that have continued to use pesticides concerned to POPs. The use of these pesticides is predominantly in the growing areas of rice, corn, tobacco and other subsidiary food crop in the catchment of Mekong River Basin. The POPs pesticides that were popularly used in Cambodia include: DDT, Endrin, Chlordane and Heptachlor.

So far, there is no manufacturing of pesticide in Cambodia. All the POPs pesticides are imported from Asia and Europe in particular Vietnam and Thailand though traded and donated activities. However, the information data on importation and use of these pesticides is still not available yet because some of them are not registered, under the smuggling activity.

Major problem in POPs pesticides use

At present, the upward trend of indiscriminate use of the POPs pesticides is of increasing concern of environmental pollution problem as well as threatening a public health in Cambodia. In general, the following root cause of the above problem in POPs pesticides use can be created by:

- Lack of Law and policy on pesticide management;
- Poor implementation of existing regulation related to pesticide use;
- Not yet identify and develop of registration on the purpose of use of POPs pesticides;
- Not yet develop the list or custom code of pesticide to be banned in using yet;
- Highly toxic pesticides are continued to import and freely sold at markets;
- Lack of knowledge of Cambodian farmers in appropriate and safety use of pesticide;
-

2. Survey on POPs pesticide residues in fish

The survey on POPs pesticide residues in fish was carried out by Japanese expert in cooperation with Ministry of Environment during 1996 - 1998. For this survey, the research group collected fish samples from freshwater and seawater and brought to analyze in Japan. There were two pesticides related to POPs, Chlordane (CHL) and DDT, which were determined in the fish samples. The result of analysis presented in Table 1 and 2.

Table 1: Concentration of POPs pesticides in fish

POPs Pesticides	Concentration		
	ng/g fat wt	ng/g wet wt	ng/g wet wt
CHLs	4.5	0.11	0.03-0.42
DDTs	450	11	1.1-39

Table 2: Comparison of POPs pesticides (ng/g fat wt) in freshwater and seawater fish

Location	Fat %	CHLs	DDTs
Freshwater	5.0*	4.6*	450*
	0.4 - 17**	0.5 - 16**	11 - 2000**
Seawater	3.3*	3.2*	80*
	1.2 - 7.5**	0.1 - 7.4**	14 - 280**

* mean

** range

According to the survey result, it showed that:

1). The DDTs were the predominant contaminants with concentrations ranged from 1.1-39 ng/g wet wt. The CHLs were also accumulated in fish with much lower levels ranging from 0.03-0.42 ng/g wet wt (table 1);

2). The DDTs were found to be higher levels in freshwater fish (450 ng/g fat wt or ganged from 11-2000 ng/g fat wet) than in marine fish. (80 ng/g fat wt or ganged from 14-280 ng/g fat wet), (table 2). It indicated that the usage of DDTs for agriculture and aquaculture purposes is more in the catchment of Mekong River Basin; and

3). There is no significant difference of CHLs concentration in both freshwater fish (4.6 ng/g fat wet) and seawater fish (3.2 ng/g fat wet), which suggests less usage of this pesticide.

According to the study on pesticide residue in fish samples in Cambodia, it indicates that the concentration of the residue in fish seems still to be low if comparing with those values from Asian and Oceanic countries.

3. Status of POPs Industrial Chemical Use (PCBs & HCB)

In Cambodia, the PCBs and HCB may be not used in industrial manufacturing because there are no chemical, electronic and metallurgical industries. However, they may be present in different materials and products. The following would be the major sources of PCBs and HCB in Cambodia:

- Transformers
- Capacitors
- Open burning dumping for municipal and industrial wastes
- Automobile service station
- Paints

So far, the control of these persistent pollutants has not been carried out yet due to the lack of local technical expert guidance, awareness and supporting resources.

Survey on POPs industrial chemical residues in fish

The survey on POPs industrial chemical (PCBs and HCB) residues in fish was carried out by Japanese expert in cooperation with Ministry of Environment during 1996 - 1998. The fish sample from freshwater and seawater was collected and brought to analyze in Japan. The result of analysis presented in Table 3 and 4.

Table 3: Concentration of PCBs and HCB in fish

Industrial Chemical	Concentration		
	ng/g fat wt	ng/g wet wt	ng/g wet wt
PCBs	20 [*]	0.48 [*]	0.2-2.4 ^{**}
HCB	2	0.09	0.01-0.32

Table 4: Comparison of PCBs and HCB (ng/g fat wt) in freshwater and seawater fish

Location	Fat %	PCBs	HCB
Freshwater	2.6 [*]	21 [*]	1.2 [*]
	1.1-3.5 ^{**}	4.3-72 ^{**}	0.4-2.3 ^{**}
Seawater	5.0	14 [*]	2.0 [*]
	0.4-17	1.0-35 ^{**}	0.7-4.6 ^{**}

According to the survey result, it indicated that the POPs industrial chemical PCB and HCB have accumulated in fish with lower level concentration ranging from 0.2-0.2.4 and 0.01-0.32 ng/g wet wt respectively. However, the concentration of PCBs and HCB were almost the same in marine and freshwater fish.

4. Dioxins and Furans

So far, the information data on dioxins and furans is not available in Cambodia due the lack of technical expert and supporting resources. The major sources of dioxins and furans in Cambodia may be the open burning dumping of solid waste, industrial activities and traffic.

5. Government responsibility in POPs Management

The Government of Cambodia has recognized that the persistent organic pollutants, which have been used and undesirably generated, have contributed to pollute environment and caused serious and chronic effect on public health. To deal with the problem, the Royal Government of Cambodia requests the concerned ministries, Ministry of Environment, Ministry of Industry and Ministry of Agriculture, to cooperate and take major integrated actions as follows:

- Promulgated sub-decree on pesticide management in 1998;
- Develop a list of banned pesticide for import and use;
- Improve public awareness in particular farmer on safety use of pesticides and integrated pest management programme;
- Create a technical working group within the Ministry of Environment to identity problems associated with POPs use; and
- Try cooperating with local and international donor agencies to develop a national action plan in POPs management.

6. Recommendations

To achieve the goal in protection of environmental quality and public health from adverse effect of POPs use, some appropriate measures and activities should be taken as follows:

- Capacity building for technical staff involving in POPs management is urgent need;
- Survey on POPs use and risk identification causing from POPs release should be stated in the coming time;
- Enforcement of existing regulations related to POPs should be strictly;
- Public awareness promotion on safety use of pesticides and integrated pest management should be conducted broadly; and
- Cooperation in development of National Action Plan for implementation of POPs convention under technical and financial support from International donor agencies is very urgent need

CHINA

Chinese Government has always attached great importance to the environmental problem of chemicals. Since the reform and opening up, great progress has been made in the chemical industry and China has become a country of larger chemical production, import & export and consumption as well. With progress achieved in national economy, living standard greatly enhanced, whereas, chemical industry has inevitably resulted in negative impact to the environment. Similar to the course of environmental protection in developed countries, after basically resolved the environmental problem of water and air, the prevention and treatment of chemicals from its long-term potential threat to the environment has been one of the greatest task facing China in the near future.

I. Environmental Legislation for chemical management

Firstly, China has formulated six environment related laws, which including the Environmental law, Environmental law on Prevention and Control of Solid Waste, and etc. Over 30 environmental regulations have been issued by the State Council and more than 70 environmental orders been released by the relevant environmental departments. There are more than 900 local environmental regulations released by the local governments and 427 environmental standards formulated in the national level, the environmental law system with Chinese characteristics has been basically come into being accordingly. In the 33 order of the Environmental Law, it is stipulated clearly that the environmental pollution shall be prevented in the course of production, storage, transportation, distribution and utilization of the hazardous chemicals.

Combining with the advantaged experience of the developed countries and the current situation of China, the Environmental law on Solid Waste Prevention and Control was issued in 1996, in which build up the declaration& registration system, managing permission system as well as the transfer monitoring system. The crime for environmental resource damage has been added in the revised Criminal Law. All these laws and regulations laid a solid foundation for the environmental management including the management of Chemical and Pesticides.

Secondly, in accordance with the import and export management of the inter boundary of chemicals and pesticides issued in 1994, SEPA and the National General Customs Administration jointly issued the Hazardous Waste Management of First Import and Export.

Thirdly, to provide basis for the environmental management of chemicals and pesticides and the implementation of the international conventions on chemical management. According to the Environmental Law, recently, legislation on special laws for chemical management has been conducted in china. Entrusted by the National People's Congress, SEPA initiated and reported the Law on Environmental Pollution Prevention and Control of the Chemical Substance of People's Republic China (Draft).

Fourthly, According to the Law on Solid Waste, in coordination with relevant department, SEPA released the Name list of the Hazardous Waste, Temporary Environmental Regulation on Imported Waste, and the Measure on transference of the Hazardous Waste accordingly. Furthermore, there are still some regulations to be released by the State Council under formulation, such as Ordinance on Hazardous Waste Managing License, Technical Policies on Hazardous Waste Prevention.

II. China involvement in the POPs Convention and other International Conventions

1. Active in the establishment of international conventions of chemicals

China is dependable country with large amount of chemicals, and is active in the establishment of international convention. SEPA is the governmental authority for the administration of chemicals, and leading a delegation of several governmental departments in the framework of conventions of PIC, Basel and POPs.

As for the POPs Convention, Chinese delegation has taken part in all the five negotiations of INC, two experts workshop for standardization, one financial meeting and one plenipotentiary session. This May, Chinese delegation led by SEPA vice-minister signed the convention in Stockholm, and now the approval procedure is under going.

2. Intensification of pre-implementation preparation

SEPA is the national administration bureau for chemicals as well as the governmental authority for POPs convention. Right now, SEPA has designated a specific department for the nationwide administration of chemicals, and also built a POPs working group responsible for the implementation of convention.

Enhancing the international co-operation

We have made a preliminary overall action-plan for POPs in China. In consideration of the biggest as well as one of the most polluted developing country, SEPA has contacted and cooperated with some relative international executing agencies (including Italy, UNIDO, WB, UNDP, UNEP and FAO.) in an effort to mobilizing, as many as possible, sources of funds under scheduled arrangement. Right now, SEPA has invited UNIDO for the preparation of NIP, and its submitted pre-NIP PDF-B proposal in the representative of China was approved by GEF on the 15TH this Nov. As for the bilateral cooperation, SEPA has mobilized the Italian funds for the strategy of the reduction and phasing-out of pesticidal POPs with UNDP as the project EA, which is one of item of Sino-Italian cooperation; In addition, the two sides is discussing the cooperation in the field of PCBs reduction and disposal. And also, we hold a POPs workshop this March supported by the Canadian trust fund administrated by the WB. We are now discussing with the Bank in the field of capacity building and institution and legislation in the NIP. Cooperation discussions have also reached to UNEP and FAO.

III. Challenge in the Implementation of POPs Convention

Shortage of funds

Shortage of fund is the first challenge for the big number of developing countries and countries with the economy in transition. As for China, the biggest developing country with undeveloped economy, its NIP needs a lot of financial support, saying nothing of the implementation after NIP, which will be, supported by far more funds. The severe situation in China makes us anxious and pressed.

Technologies and Equipment

In addition to the undeveloped economy, China is also backward in science and technology. In order to implement the convention, we need substitutes for pesticidal POPs, advanced technologies and inspecting equipments for PCB disposal, and expensive instruments for dioxin and furan. Unfortunately none of the above conditions we have in China.

Inexperience and Unpracticed

POPs is the new field for both of us; we have no experience or formal practice. We have met many difficulties during the preparation for POPs Convention Implementation due to lack of experience. So we suggest some mechanism for our communication and information exchange and sharing.

Lack of Public Awareness of POPs

Due to the low-level education, the public still remains ignorant of POPs. So China needs more work on the training, education with regard to POPs. For a country with population of 13 billion, the task is massive and needs more help and support.

China is taking the advantage of implementation of POPs convention to soundly manage the import; production and use of pesticidal POPs and other chemicals in order to ultimately eliminate all of them. By doing so, we hope to make a good system handling the chemicals, and make our contributions to both the sustainable, rapid and healthy development of Chinese economy, and the goal of global chemicals management as made in the 21 Century Agenda.

DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA

Introduction:

In the Democratic People's Republic of Korea, the needs for environment protection are raising as it industrialized more and more.

The Government established the Ministry of Land and Environment Protection in 1994 and is formulating new regulations on environment including chemicals control.

Although there was no critical pollution caused by POPs in the past, the Government has taken a special concern about controlling of production and use of POPs, because they are produced and used in a certain scale in the country.

Status of Legislation:

The government adopted "Law of the Democratic People's Republic of Korea on Protection of Environment" at the 5th session of the 7th supreme People's Assembly in 1986 and put into force.

This is a fundamental law of the state concerning to environment matter, so it doesn't give detailed items to individual chemicals.

Till now, there is no specific law or regulation aimed at POPs.

But some regulations deal partly with POPs in its frame.

For example, PCB is being regulated by an existing regulation.

The regulation 'Standards for Environment Protection', which was ratified by the Council of the ministers, is regulating chemicals including some POPs.

It stipulates ambient standards and emission standards by indicating the concentrations of chemicals contained in emissions and ambient condition.

It also limits strictly use, application time, and diet quantity of chemicals when they used as pesticides and weeding agents.

It indicates hygienic protection distance from emission sources and residential area when building new factories and other units.

Status of Production and Use of POPs:

DPRK is producing and using some POPs.

They have been used mainly in agricultural sector.

As agricultural chemicalization proceeded, they used in killing pests and weeding in production and storage of crops, vegetables and fruits.

Agricultural application expended from mid 1960s to early 1980s.

The government of DPRK prohibited gradually production, consumption and use in conformity with international accidents of human and environment resulted from POPs in 1970s and also import prohibited for purpose for use of insecticides and weeding agents.

At present we presume there left some storage of POPs in some cooperative farms and consumption units.

DPRK is producing some POPs, which are used as antibiotics in grain storage and mediate agents in chemical synthesis.

In besides, they are used in products and for other purpose including maintenance of electrical transformers.

Control of POPs:

The Government is controlling POPs in a unified way.

The Ministry of Land and Environment Protection (MLEP) is in charge of supervision of environment protection, including controlling POPs.

When a ministry is planning to build a factory, they make environment assessment report and submit to MLEP.

MLEP reviews report and approve construction of factory only in case of estimate concentration of chemicals emitted satisfies the Standards for Environment Protection.

Conclusion:

The national coordinating committee for environment is reviewing Stockholm Convention by consulting with concerned institutions including Ministry of Chemical Industry, Ministry of Agriculture and Ministry of Land and Environment Protection to find possibility to join the Convention.

INDIA**COUNTRY REPORT - INDIA**

- India adopted the Stockholm Convention in the Conference of Plenipotentiaries held in Stockholm, 23 May 2001
- Of the twelve listed chemicals, only DDT is being produced and used in vector control programme. Specific exemption under the convention has been obtained.
- Exemption has been given for use of the existing stocks of dieldrin for a period of 2 years.

LEGISLATION FRAMEWORK

- There is no single legislation for control of POPs chemicals, per se
- Important legislations related to POPs include:
- Environment Protection Act, 1986
 - Manufacture, storage and import of hazardous chemicals Rules, 1989
 - Hazardous waste management Rules, 1989
 - EIA Notification, 1994
 - Chemical Accidents Rules, 1996

Insecticides Act, 1968

Poison Act, 1919

Indian Drugs & Cosmetics Act, 1940

Public Liability Insurance Act, 1991

Factories Act, 1940

CURRENT ACTIVITIES

- As a first step, it has been proposed to sign the convention and take up ratification. In this regard, Ministry of Environment & Forest, has already taken up inter-ministrial consultations with the other administrative ministries of the Government.
- A high powered steering committee to guide and formulate NIP to discharge obligations arising from Stockholm Convention, under the Chairmanship of Secretary, Environment & Forest Has been constituted in September 2001
- Two preliminary studies have been farmed out to help identify the status of POP chemicals covered & likely to be covered under the POP convention.
- A project proposal on “Preliminary Assessment to Identify the Requirements for Developing A NIP” has been formulated by UNIDO and already submitted to the GEF

CURRENT ACTIVITIES (contd.)

A UNDP/UNIDO assisted project on “POP alternatives” for promoting eco-friendly pesticides (neem based) is being executed by the Govt. of India with UNIDO as the Implementing agency under the aegis of Ministry of Chemicals & Fertilizers, Department of Chemicals & Petrochemicals.

INDONESIA

Background

The use of chemicals has become indispensable means for achieving economic and social development in countries, specifically in many aspects of human life that will unmistakably increase the waste production. To make a sustainable development the benefits of chemicals must be maximised and their adverse health and environmental impact minimised. Therefore legal and technical infrastructures are essential aspects for producing and handling chemical substances instead of hazardous waste safely and ensuring they are used and treated in a properly manner.

For instance, pesticide use has played a significant role in increasing agricultural production in most area in Indonesia during decades. Although pesticides are concerned to be a step towards food sufficiency, therefore the environmental impact of using pesticides applied on a given area. There are many insecticides actually reach the target organisms become an environmental contaminant. In addition, the small amounts of pesticides applied can be very toxic or persistent in such a long time, for example DDT.

In implementing the two international conventions on hazardous substance, Indonesia has two institutional capacities as a Destination National Authority (DNA) registered at the Rotterdam Convention, namely Directorate of Hazardous and Substance Management, Bapedal, which is responsible for movement of chemical industry and for movement of pesticide in or out of the country is controlled by Pesticide Committee, Dept. of Agriculture.

Since the DNA has been existed there are approximately 775 formulations of pesticides being registered, which divided into two categories; (I) agriculture and forestry pesticides and (ii) environmental hygienic pesticides as described on the Table 1.

Further for the interim PIC procedure is being applied since the convention adopted specifically for pesticide control. However the industrial chemical is just started to control.

Control of Pesticides in Indonesia

In term of pesticide management, the most important point through which the PIC procedure might be possible done effectively is the way of registration for pesticide in regard to attempt the minimizing of the potential risk posed by hazardous substance.

The Government of Indonesia has appointed the Ministry of Agriculture to register any pesticide that will be sold, used and stored throughout the country while its distribution and health concerned would be respectively liable to the Ministry of Trade and Industry and the Ministry of Health. Procedure of registration has becoming a major concern as its role in determining whether a certain pesticide may or may not be able to be used in the country, also all criteria to be evaluated have been obviously acknowledge as an official requirement in term of registration.

Table 1. The number registered of pesticides in Indonesia

No.	Purpose	Active Ingredient Number	Formulation Number
1.	Agriculture and forestry*)	317	577
2.	Environmental hygienic**)	50	198
		367	775

Source: - Pesticide for Agriculture and Forestry, Pesticide Committee, 2000
 - Pesticide for Environmental Hygiene, Pesticide Committee, 2000

Note:

*) Covering: insecticide, herbicide, fungicide, rodenticide, acaricide, bactericide, and others (attractant, biological pesticide, plant growth stimulant, and wood protectant)

***) Pesticides used for controlling mosquito, house flies, cockroach, ants, etc.

Due to the Ministerial Decree Number 434.1/Kpts/TP.270/7/2001, pesticides are classified base on the base its physical chemical properties and the degree of toxicity. Based on such criteria, pesticides in Indonesia are classified to be as follows:

1. Those are warranted for registration
2. Those are prohibited to be registered

- The pesticide formulation is categorized to be class Ia (extremely hazardous) and class Ib (hazardous) in compliant with WHO classification;
- Holding LC50 inhalation (formulation) less than 0,05 mg/l during 4 hours in exposure
- It indicates to be carcinogenic, terratogenicity, oncogenicity and mutegenicity

Control of Industrial and Consumer Chemicals

Bapedal, which is the national Focal Point for UNEP, implement the operation of the both International Convention, namely Rotterdam Convention on PIC procedure and Stockholm Convention on POPs for industrial and consumer chemicals. At present an administrative and cooperative approach is starting to utilize, where Bapedal has formulated an inter-agency committee called Hazardous Substance Committee.

Members of this committee include representative from Pesticide Committee, Ministry of Health, Ministry of Industry and Trade, Custom Department, Ministry of Foreign Affair, Ministry of Agriculture. The Committee among other things gathers information on industrial chemical in order to make any decisions on ban or severely restricted a hazardous substance, the import and handling of industrial chemicals.

Progress in the implementation of PICs and POPs

In order to comply with the PIC procedure to ensure that banned and severely restricted hazardous substance from the government would not give approval for export or import without using notification procedure.

Bapedal in collaboration with other agencies has taken action by listing the hazardous chemicals under the Government Regulation on Hazardous Substance Management.

In addition to obligate the Stockholm Convention, the government will formulate the enabling activities on formulating the National Implementation Plan (NIP) early next year, as we got approval from GEF on November 2001.

Further, to face the problem on hazardous substance management and obligate the conventions, there are the integrated draft of Government Regulation on Hazardous Substance management have been drafted in Indonesia. This regulation mainly concerned on: (i) national registration procedure; (ii) notification procedure for export/import of hazardous substance; (iii) handling and storage system; (iv) symbol and labeling; (v) MSDS and (vi) hazardous substance committee. Diagram 1 shows the hazardous substance management.

The Government of Indonesia has stipulated national policy on banned of Persistent Organic Pollutants, which is started in 1974. Detailed is described in Table 2 below:

However the banned policy for certain chemical POPs is already implemented, there are still illegally traded in Indonesia such as DDT due to the lack of monitoring and controlling and lack of public awareness of using hazard chemicals.

Table 2. Banned of Persistent Organic Pollutants (Pops)

No.	Chemical POPs	Action	Effective Date
1.	Aldrin	Banned	1974
2.	Dieldrin	Banned	1992
3.	DDT	Banned	1974 for agriculture purpose 1992 for all activities include malaria control
4.	Endrin	Banned	1974
5.	Chlordane	Banned	1992
6.	Hexachlorobenzene	Never registered	-
7.	Mirex	Never registered	-
8.	Toxaphene	Banned	1980
9.	Heptachlor	Banned	1974
10.	PCBs	Banned for import	1994
11.	Dioxins	Emission control	Regulation is set up only for hazardous waste incinerator (HWI), DRE for HWI is 99,9999 %
12.	Furans	Emission control	

National Policy and Strategy for Hazardous Substance Management

In general, the Government of Indonesia now is starting more concerned on controlling of hazardous substance management in every step of chemical substance's life cycle. Indeed, enforcement of hazardous substance regulations that have been stipulated.

Policies adopted for hazardous substance management include the followings:

The basic principle of hazardous substance management should start from conception to resurrection;

Chemical substance management is carried out in partnership between relevant institutions, public and business communities by implementing appropriate and responsible management actions;

Conditions and requirements for hazardous substance management apply equally to all areas of Indonesia, where treatment and storage should be made close to the sources;

Notification system for controlling of the transboundary movement of hazardous substance;

The strategies of hazardous waste and substance management are:

Focusing on strategic targets beginning from limited scope and then developed in a phase manner;

Developing, implementing, and enforcing the regulations concerning hazardous substance management;

Socialization and communication of hazardous substance management system to the business community, government agencies at central and local levels;

Strengthening co-operation between central and local institutions as well as international co-operation in the management of hazardous substance;

Database and information system on Hazardous substance management.

To implementing the national policy and strategy, Government has defined the determination and classification of hazardous substance. As stated at draft of Government Regulation on Hazardous Substance Management, hazardous substance means every material which due to its nature or concentration, both directly and indirectly can pollute and/or damage the environment, health the continuation of human life and other living creatures. Further classification of hazardous substance is based on its chemical properties and the degree of toxicity characteristic such as; explosive, flammable, oxidizing, harmful, toxic, irritant, corrosive, carcinogenic, teratogenic and mutagenic. There are three list of hazardous substance is controlled as follow:

Hazardous Substance
Banned of Hazardous Substance
Restricted Hazardous Substance

Current Regulation

As Agenda 21 adopted at the United Nations Conference on Environment and Development, the Government of Indonesia has identified adequate legislation as one of the basic elements for sound management of hazardous substance. Further the overview of legislative guidance on hazardous substance management is response to the need in countries for legislative assistance. Their some regulations on managing hazardous substance as described below:

- Recently, a final draft of Government Regulation concerning Hazardous Substance Management has been prepared;
- The GOI has been signed the two International convention, namely Stockholm Convention on POPs and Rotterdam Convention on PIC;
- Presidential Decree Number 3 Year 1986 concerning the Increase of Brown Plant Hopper (BPH) Control in Rice;
- Governmental Law Number 12 Year 1992 concerning Crop Cultivation System;
- Governmental Decree Number 6 Year 1995 concerning Crop Protection;
- Governmental Decree Number 7 Year 1973 concerning the Control of Distribution, Storage and Use of Pesticides;
- Ministerial Decree Number 280 Year 1973 concerning the Procedure of Registration Application and Pesticide Licensing;
- Ministerial Decree Number 429 Year 1973 the Packaging and Labeling Requirements of Pesticides;
- Ministerial Decree Number 944 Year 1984 concerning the Limitation of Pesticide Registration
- Ministerial Decree Number 536 Year 1985 concerning the Control of Pesticides.

National Program on Hazardous Substance Management

- 1 Socialisation and Enforcement Program of Government Regulation on Hazardous Substance Management and other International Convention
- 2 Provisional Guidelines on Hazardous Substance Management

- 3 Transboundary Movement of Hazardous Waste and Substance Control by Implementing Notification Procedure, which is implemented only for restricted and new release hazardous chemicals. Diagram 2 and 3 show the notification procedure for export/import of hazardous substance.
- 4 Develop National Implementation Plan (NIP) of Stockholm Convention for implementing the Stockholm Convention

Constraints on Managing of Hazardous Substance

The government effort on implementing the enforcement program on hazardous substance management has faced some constraints as described below:

- 1 Lack of public awareness of the Government Regulations on hazardous substance management. This is caused by difference perception and priority between government, industry and community;
- 2 Less priority for the environmental management and cost for waste treatment and reduction;
- 3 Limited database on hazardous substance management, it is caused by scattered database whether on chemicals and hazardous waste generation in respective sectors;
- 4 Lack of professional personnel and management, including technology on hazardous waste and substance management.
- 5 There is a need for harmonization on the custom code to be implemented as soon as possible in monitoring of banned and restricted hazardous chemicals.

National Needs

- 1 Technical assistance to draft provisional guidelines on hazardous substance management, specifically on obsolete chemical handling;
- 2 Hazardous substance management technology;
- 3 Information exchange and dissemination of hazardous substance management within Asia Pacific Region;
- 4 Data base system
- 5 Training including exchange of expertise and information of the best technology for hazardous substance management.

Conclusion

Pursuant to the all Government Regulation on Hazardous Substance Management, now the Government of Indonesia has National Policy to control all the managing process for hazardous substance, specifically for the transboundary movement of the restricted and new release hazardous chemicals.

Further, to attempt the lack of public awareness, the Government has to actively dissemination information on chemical substance regulation, policy and guidelines to all stakeholders with regard to increase the understanding of the hazardous substance management.

LAO PDR

The use of chemicals in plant protection is of relatively low importance in the Lao PDR. The country does not produce any active ingredients, nor does it formulate any pesticides locally. All pesticides are then imported and used mainly on dry-season irrigation rice, vegetables and marketable valuable crops.

Ministry of Agriculture and Forestry approved the regulation for management and usage of Plant Protection Products in Lao PDR in 1992 and improved it in 1998 and 2000.

The intention of this regulation are following:

To curb and restrict the use of sub-standard pesticides in order to protect humans health, plant resources, animals and the environment of the Lao PDR.

To prescribe rules and standards as well as techniques for the handling and usage of pesticides in Lao PDR. The ultimate purpose is the protection of human health and the environment.

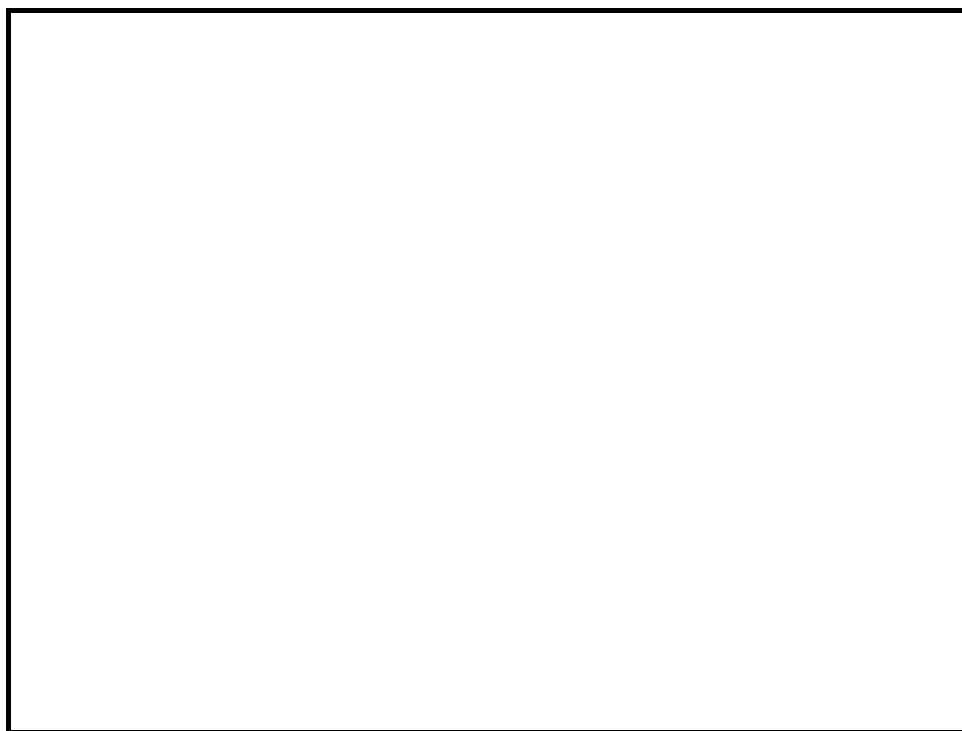
Based on warnings of FAO, UNEP, WHO, 26 active ingredients were banned and prohibited to import to Lao PDR. In addition, 13 items were included in Annex III of Chemicals subject to the Prior Informed Consent Procedure and 6 items in the list of elimination and restriction of POPs.

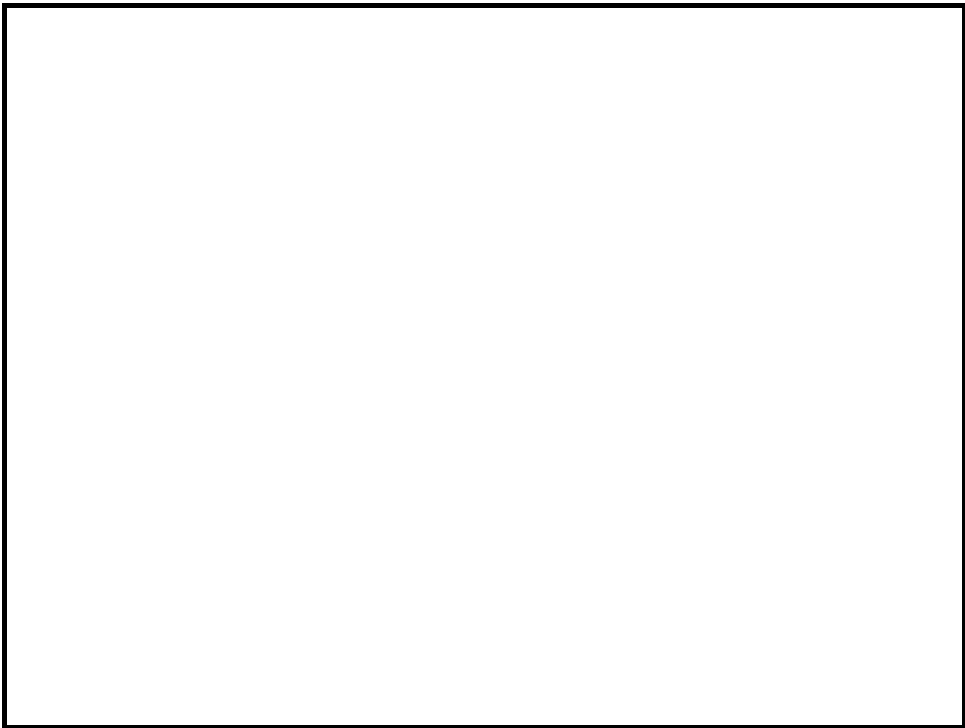
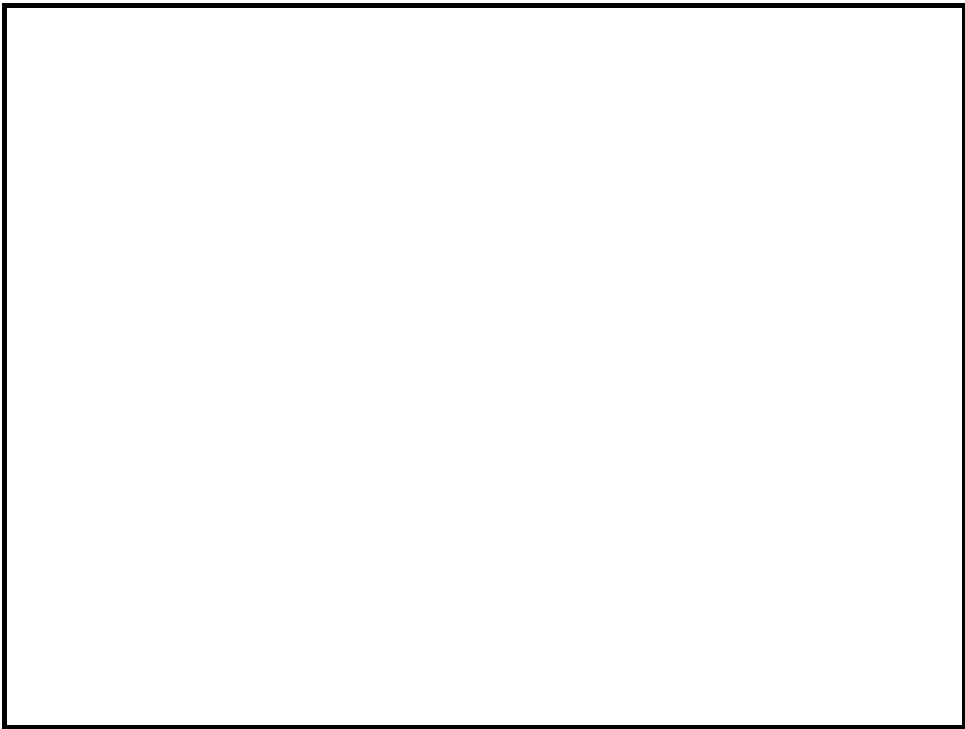
The management and control pesticides have involved with various sectors, such as, National Agriculture and Forestry Research Institute, Department of Trade, Department of Industry, Department of Custom, Science Technology and Environmental Agency and Department of Food and Drugs.

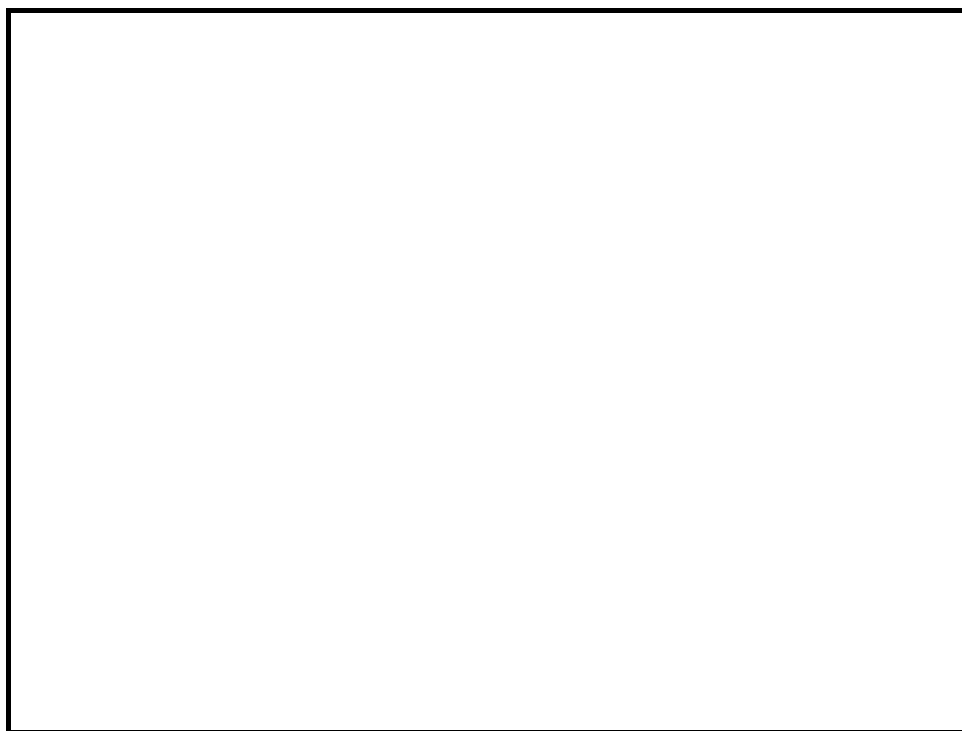
Presently, the Rotterdam and Stockholm Conventions are preceding the consideration at national level for ratification.

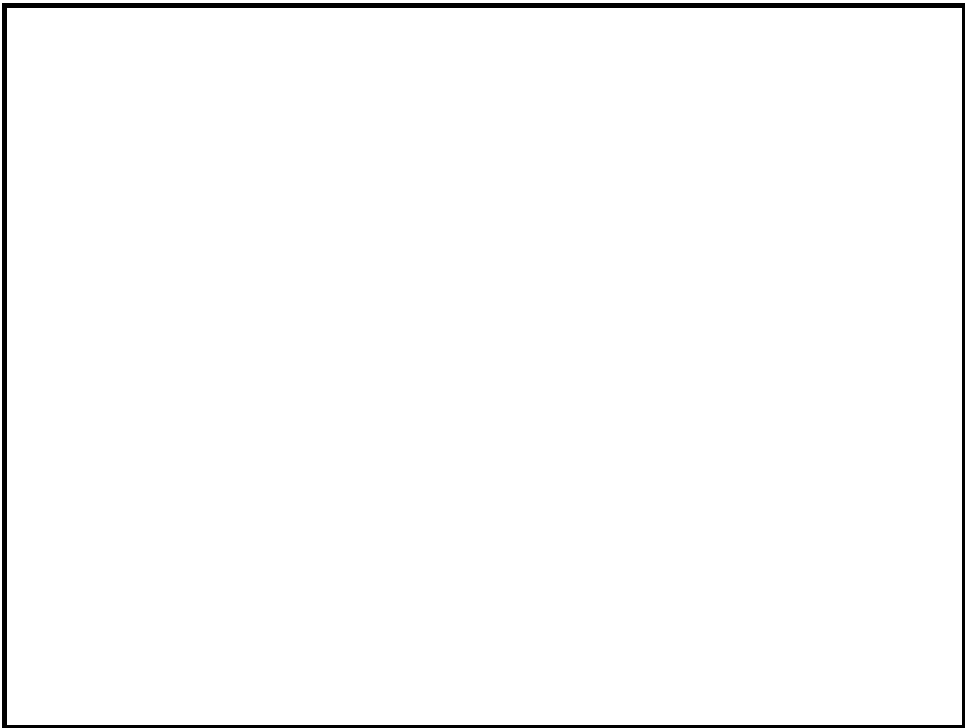
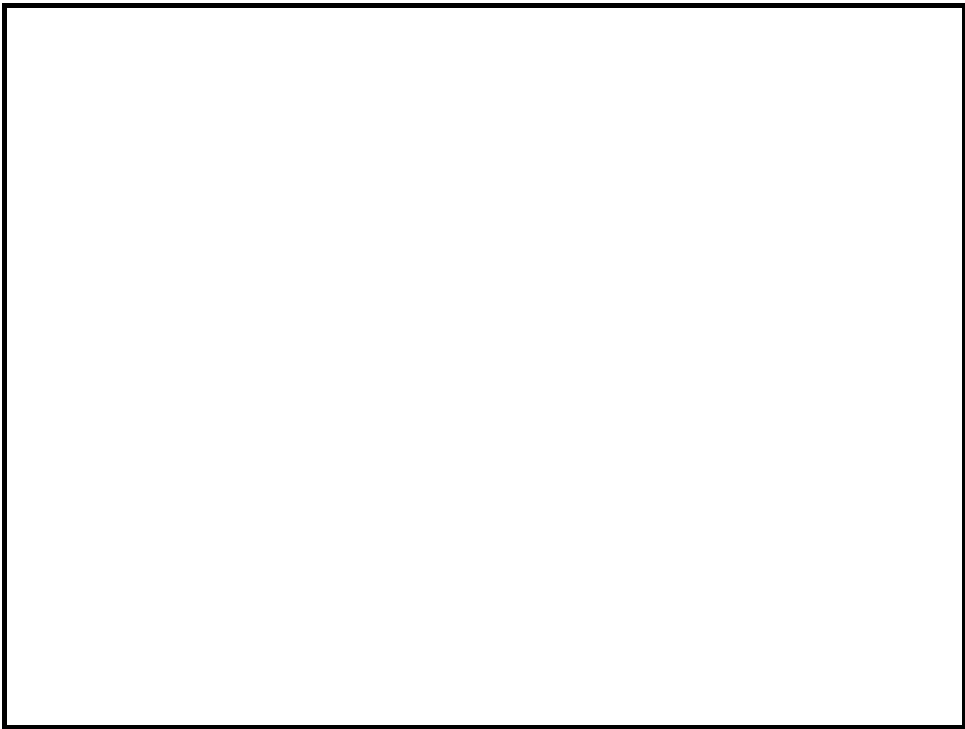
MALAYSIA

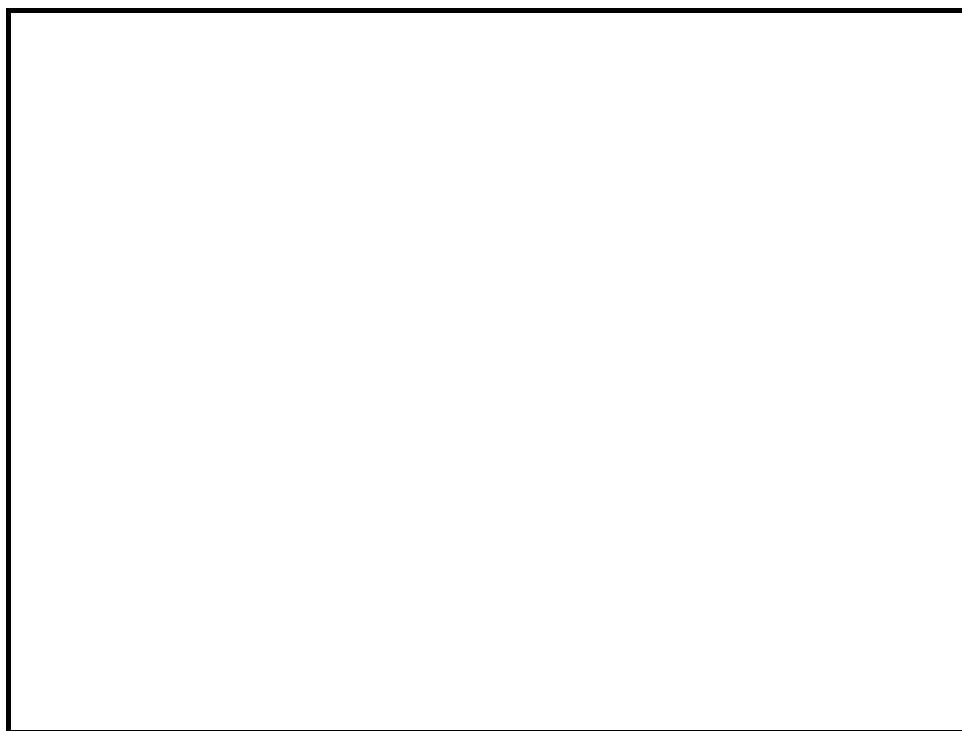


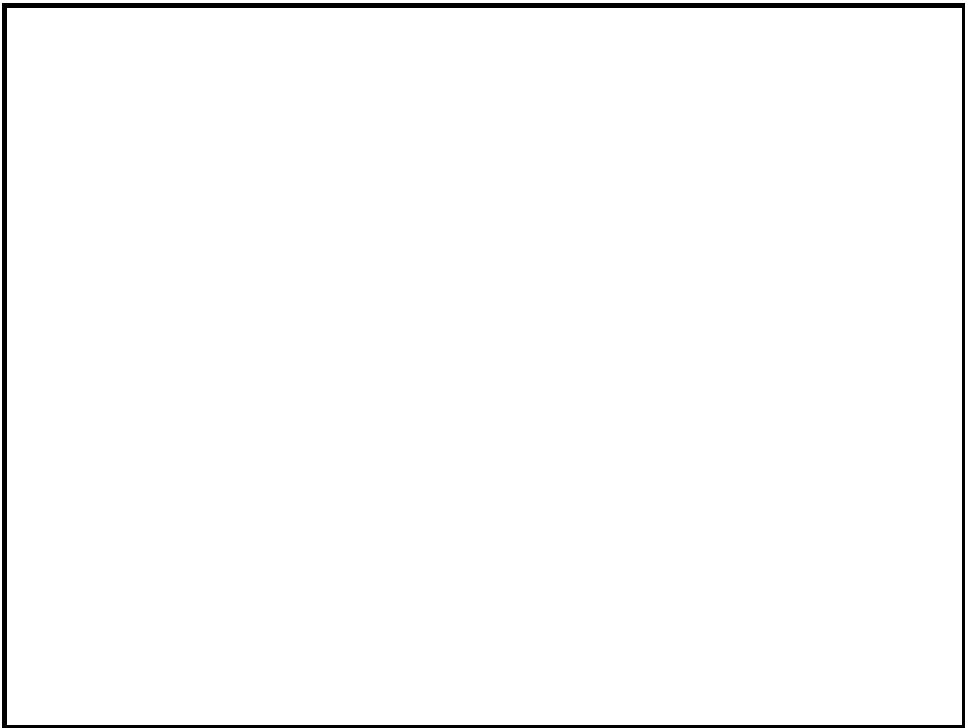
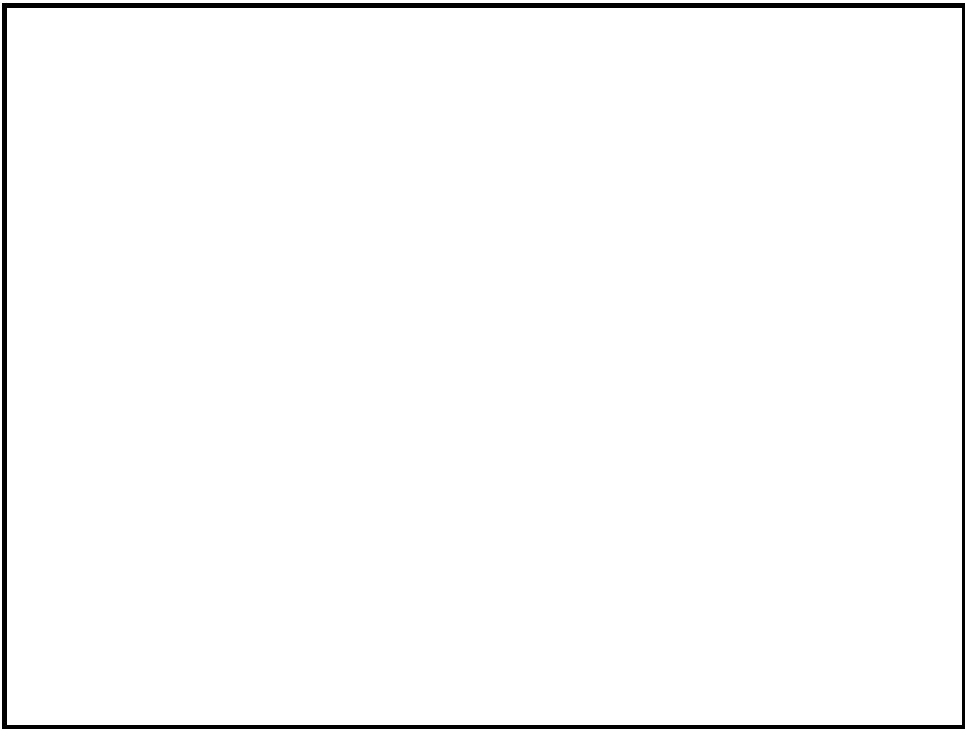


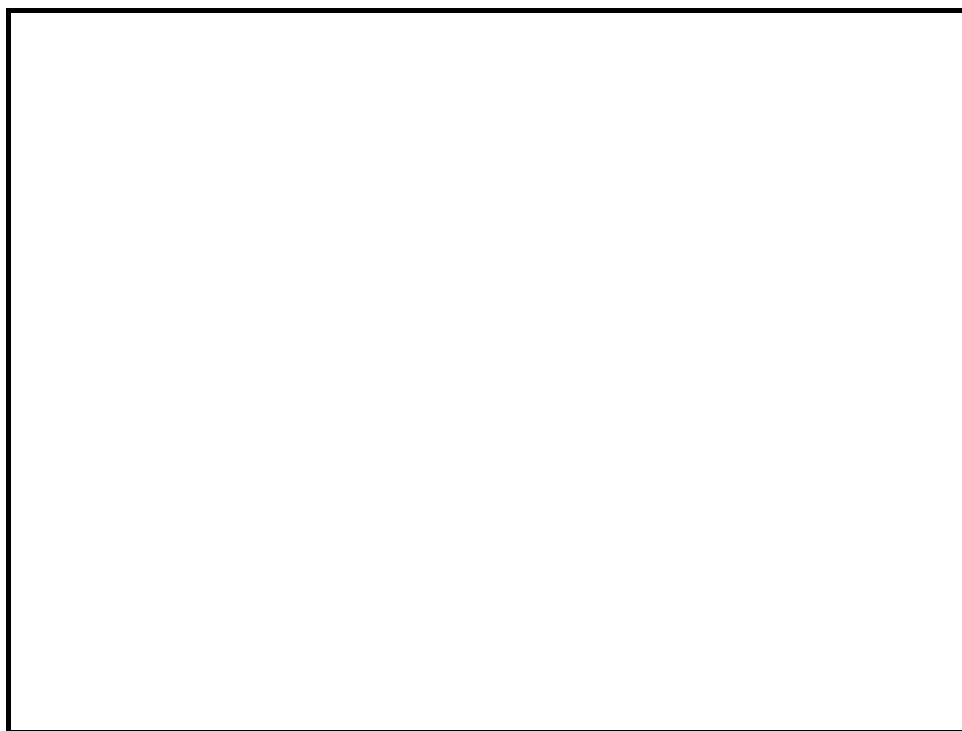


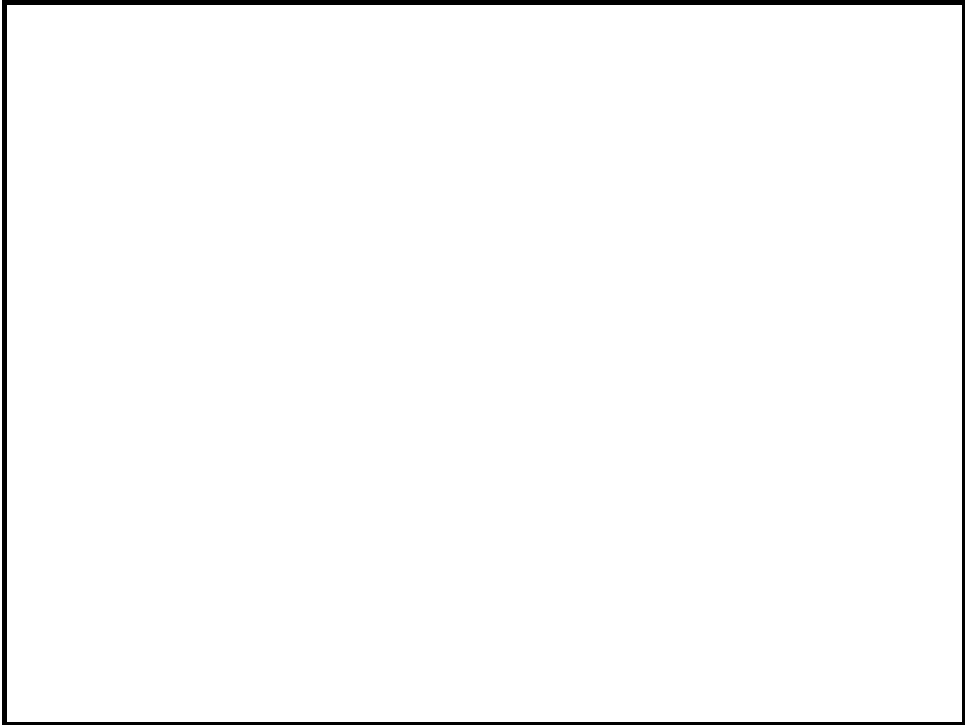
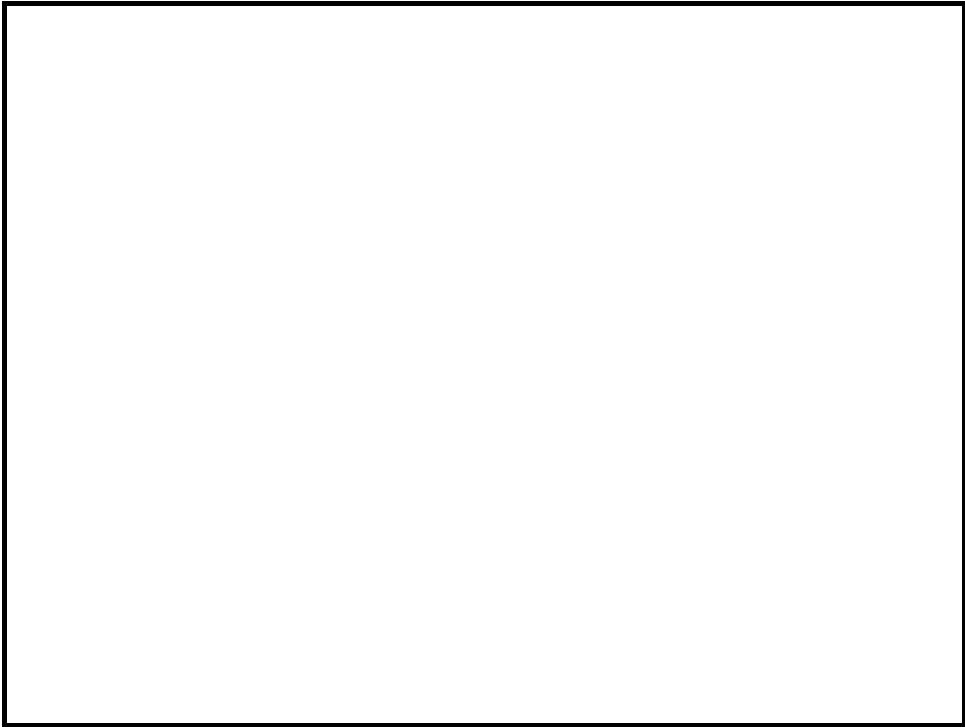












MONGOLIA

Before making my presentation I would like to extend my deepest gratitude to UNEP and the Government of Thailand who organized this workshop on Persistent Organic Pollutants and invited representatives from Mongolia.

In the field of environmental protection, the risk of pollution caused by persistent organic pollutants is a critical problem in many countries. POPs not only pollute the environment but effect directly the health of human and animals, causing serious health problems such as cancers, endocrine disruption, reproductive and immune dysfunction, neurobehavioral and birth defects.

In early 1990 Mongolia started a fundamental shift from a socialist and centrally political system towards a democratic free market economy. During this period many industries and organizations have been divided into small operating units, have undergone privatisation and are experiencing economic difficulties.

Unified control of toxic substances and coordination of the utilization of those substances have been difficult during the transition phase towards the new system.

Due to lack of central control on import many organizations, factories, enterprises and citizens are importing different kinds of chemical substances and there has not been any legislative basis for their control. Therefore, Government of Mongolia developed the Law on Protection from Toxic Chemicals and Mongolian Parliament approved it in 1995. The purpose of this Law is to regulate the production, export, import, storage, trade, transportation, use and disposal of toxic chemicals.

Currently in Mongolia following rules and guidelines are regulating Toxic Chemicals issues:

- Rule of the National Council for Chemical Safety in Mongolia;
- Guidelines of Permit to Production, Export, Import, Trade and Use of Toxic Chemicals;
- National Classification of Toxic Chemicals;
- Guidelines for Storage, Transportation and Disposal of Toxic Chemicals in Mongolia;
- Procedure for Registration and Examination of Pesticides in Mongolia;
- Systematic Procedure for Use and Allocation of Toxic Chemicals in Mongolia;
- Systematic Procedure for State Inventories of Toxic Chemicals in Mongolia and,

MNE updated a list of restricted or banned chemicals in Mongolia, including POPs: Aldrin, Dieldrin, Chlordane, DDT, Endrin, Hexachlorobenzene, Heptachlor, Toxaphene in 1997. Mongolia is an importer of chemicals. It is estimated that several thousand tons of more than 7200 kinds of chemicals are imported from 10 countries each year for industrial and agricultural use.

In Mongolia, there is no complete and reliable statistics on chemicals, chemical management so far. We are still lacking of the statistics on persistent organic pollutants. So we need assistance at regional level for establishment of a database for POPs, their control and regulation in Mongolia.

Until 1980 organochlorine pesticides like DDT had been used in Mongolia.

They were some of the primary insecticides used. The effect of the pesticides extends also to the agricultural sector as a whole. After the application of the pesticides, they may be transported by wind or water into neighbouring areas, resulting in a hazardous concentration in surface water and soil.

Unfortunately, DDT has not been monitored last few years. DDT became banned since 1995.

But in Mongolia a number of chemicals have appeared at the open-air markets without proper labels as they are packed in small packages from the bulky consignments. This has resulted in misuse or inappropriate application of pesticides and other chemical formulations.

Consequently, there is a need to monitor import of these substances especially, persistent organic pollutants and their use. In order to effectively control and manage them need to strengthen training personnels and analytical laboratories.

The Ministry of Nature and Environment is designated as a National Authority, which is responsible for issues concerning the POPs.

The Ministry of Nature and Environment should initiate to the following activities concerning Persistent Organic Chemicals at this stage:

- Elaborate proposal on the establishment of comprehensive information system on import of pesticides products. Currently there are two Ministries. MNE and MFA taking responsibility for management of pesticides products. Therefore, it is important to coordinate activities between different agencies. is responsible for management of pesticides products.
- To conduct a registry of other persistent organic pollutants.
- A comprehensive information system should be established and coordinated by a single agency at the inter-institutional level, covering national, regional, and sectoral areas. Data entry, management, and control should be uniform, and data on imports, use, and disposal of pesticide compounds should be updated periodically.
- Public and private sectors need to be aware of the need for them to contribute information on persistent organic compounds
- To provide laboratories with necessary analytical techniques and trained personnel for identification of organochlorine compounds.

This is brief introduction of the status of chemicals situation in Mongolia.

Mongolia is signed the Final Act of the Stockholm Convention on during the Conference of Plenipotentiaries in May 2001. Currently Nature and Environment has started activities on ratification of Stockholm Convention.

We consider that a lot of public awareness activities are needed before the ratification.

Therefore, MNE would like to request UNEP to organise similar Workshops in Mongolia or provide technical assistance for the short-term.

Thank you very much for your kind attention and every success to this Workshop.

MYANMAR

1. Introduction

The Union of Myanmar is situated on the mainland of Southeast Asia and sharing borders with five neighbouring countries; bordering clockwise from the west, Bangladesh, India, China, Laos and Thailand. Myanmar has a total area of 676,577 square kilometres. The topography of Myanmar varies from river valleys, lowlands, delta and coastal areas, high mountains and plateaus. Myanmar is vested with wide variety natural ecosystems that provide the country with the rich natural resources.

By using those land and water resources effectively, energetic efforts are being made for accelerating the momentum of success in agriculture, industrial; livestock and fisheries sector in order to bring about national economic development.

Myanmar is an agro-based country with about 76 percent of the population residing in rural areas. The total population in 1999-2000 is estimated at 50 millions with an average growth rate of 1.88 percent.

2. Environmental Affairs in Myanmar and the NCEA

Myanmar like other developing countries faces environmental problems arising from underdevelopment and poverty. There was no control coordinating body for cross-sectoral coordination in environmental matter until early 1990. Myanmar' environmental management pattern followed the compartmentalization system directly carried out by respective ministries without central coordinating environmental institution.

With the introduction of market-oriented economic policy in 1988, the industries and economic activities were no longer the sole preserve of the state. The new institution demanded the need for a central institution to ensure environmentally sound practices in industry and in other economic activities.

In response to the need, the Government of the Union of Myanmar formed the National Commission for Environmental Affairs (NCEA) in February 1990. The NCEA was established to act as focal point and as a coordinating body for environmental affairs and to promote environmentally sound and sustainable development.

In order to assist the Commission in carrying out to mandate the following four specialized committees were also formed:

- (a) Committee on Conservation of Natural Resource,
- (b) Committee on Control of Pollution,
- (c) Committee on Research, Education and Information,
- (d) Committee on International Cooperation.

A Staff Bureau assists the Commission. The Staff Bureau has been set up since 1st April 1992 under the Prime Minister' Office comprising officials with various educational backgrounds.

The NCEA is not yet a statutory body for overall environmental management. At present environmental management functions are being entrusted to the respective

sector. The NCEA is the main institution in Myanmar with the responsibility for the overall environmental management in the country.

The Government gives priority to conserving the environment and preventing its degradation.

The National Environment policy of Myanmar was adopted in December 1994. (See Annex 1).

With a view to implement the National Environmental Policy of Myanmar, the Myanmar agenda 21 was formulated in June 1997.

After adopting the National Environmental Policy of Myanmar it is necessary to formulate a comprehensive national environmental law. Therefore, the NCEA has drafted the Union of Myanmar Environmental Protection Law and is awaiting Government's approval.

Myanmar has some problems of deforestation, loss of biological resources, land degradation due to wind and water erosion, urbanization and waste management, natural hazards like cyclones and earthquakes and few and far between. The degree of air and water pollution caused by industry or agriculture has been minimal due to the still low level of industrialization and relatively small amount of chemicals use in agriculture. However, industrial expansion is expected in the near future because of the change in the country's economic policy that seeks the increased involvement of the private sector and foreign investments in its economic and industrial activities. The use of pesticides has increased in recent years because of the expansion of cultivated areas and the introduction of double and multicroping system. In 1992-93, the pesticides consumption in Myanmar was about 350 MT and it gradually increased year by year till the current use amounts to approximately 2500 MT. (Agro-Pesticide Consumption in Myanmar is shown as Annex 2.)

3. Pesticides Management in Myanmar

Myanmar as an agricultural country, and likewise in possessing tropical as well as temperate climates, has the ability of growing different kinds of crops. The different agro-climatic zones, embracing the extensive deltaic region, the long coastal strips, the central zone and the hilly regions have given rise to the cultivation of cereal crops, oil seed crops, pulses, industrial crops, vegetables, fruits and flowers under their respective cropping systems.

The development of agriculture sector as the base and all-round development of other sectors of the economy as well" constitutes the first and foremost aspect in the State's economic objectives is being increasingly brought into play. The ministry of Agriculture and Irrigation is responsible to strive in implementing the objective.

There are 13 institutions under the Ministry of Agriculture and Irrigation as listed below:

- (1) Department of Agricultural Planning
- (2) Myanmar Agriculture Service
- (3) Myanmar Farms Enterprise

- (4) Myanmar Cotton and Sericulture Enterprise
- (5) Myanmar Sugarcane Enterprise
- (6) Myanmar Jute Industries
- (7) Myanmar Perennial Crops Enterprise
- (8) Irrigation Department
- (9) Water Resources Utilization Department
- (10) Settlement and Land Records Department
- (11) Agricultural Mechanization Department
- (12) Myanmar Agricultural and Rural Development
- (13) Yezin University of Agriculture.

The Government is fully aware that pest control is essential in crop production and limiting environmental impact. Necessary measures remain in force to control and contain various pest infections, and pesticides are being used systematically. Normally, pest infections occur only to few crops, in some areas. Both chemical and organic protections are used for prevention and control of insects and diseases and proper care is exercised both in usage and application, to minimize hazards and environmental pollution.

The Pesticide Law was enacted on 11 May 1990 for the management of pesticide utilization, production and distribution. Furthermore, the Plant Pest Quarantine Law was enacted on June 1993. Among others, it embodies quarantine procedures as the prevention of entry of pests and its quarantine, the suppression from spread; disinfestation treatment of plant products for export and issuance of phytosanitary certificates.

The Plant Protection Division, as one under the Myanmar Agriculture Service, is assigned with technically qualified staff to carry out plant protection activities and well assisted by trained staff at State/Division and District levels and other designated points. They remain engaged in efficient trails for insecticides, fumigation operations on export commodities, issuance of certificate, developing integrated pest management practices, prevention and controlling plant diseases, performance and evaluation in quality control, and technical support to the pesticide registration board.

The Pesticide Registration Board (PRB) was formed on 25 February 1992 for the purpose of scrutinizing the efficacy of pesticides to be approved for use, minimizing hazards to human health and environment, promoting the safe and effective use of pesticides, and issuance of registration. The PRB is the highest authority for banning and limiting registration of pesticides to be used in the country. The PRB has been constituted with representatives from the Ministry of Agriculture and Irrigation, Ministry of Health, Ministry of Commerce, Ministry of Forestry and Ministry of Livestock and Fisheries. (See Annex 3).

Pesticide Technical sub-committee and bio efficacy sub-committee has been formed under the PRB to recommend registration requirements. Pesticide Analytical Laboratory has also been established under the Myanmar Agriculture Service, Ministry of agriculture and Irrigation, to monitor pesticide residues in food mainly and also for survey of some residue in the environment. So far 571 pesticides have already been approved for registration in Myanmar. The list of restricted pesticides is shown as Annex 4 and the Banned Pesticides List is present as Annex 5.

4. Pesticides Production

There are two pesticide formulation plants in Myanmar. They are Neem Pesticide Plant and Pesticide Formulation Plant. The Neem Pesticide is a natural plant protection product with great potential in bringing about cheap pest control without harmful effects on environment. The pesticide production is intended for domestic use and not for export.

5. Status of Obsolete Pesticide

Obsolete Pesticides are stocked pesticides that no longer be used for their intended purpose or any other purposes and therefore require disposal. Obsolete pesticides have been prohibited or severely restricted or banned for health or environmental reasons in Myanmar. Quantities of obsolete pesticide stocks are presently a few tonnes and have been stored in good condition with storage management of Myanmar Agriculture Service. (See Annex 6).

6. Existing Laws relating to control of Toxic chemicals

The Government of Myanmar has enacted the Pesticide Law in 1990. The law monitors and controls the selection, storage, transportation and use of pesticides to protect people, crops, other biological entities and the environment.

The factories Act 1951 controls factories involved with chemical, particularly hazardous of toxic chemicals.

The Union of Myanmar Public Health Law 1972 also controls the toxic substances used as consumer products and some purposes for human health.

7. Future Programme

Myanmar has formulated the Myanmar Agenda 21 in 1997, which includes activities for toxic chemicals as follows:

- (a) To establish a modern computer-based National Register of potentially toxic chemicals containing data on toxic chemicals. It will be upgraded periodically assisting government agencies to make decision on toxic chemicals.
- (b) To cooperate and coordinate with international bodies to obtain sufficient information and knowledge about environmental toxicity of chemicals, their assessment and risk reduction programmes.
- (c) To strengthen the national capacity of identification of problems, assessment of hazards and risk, and improved management of toxic chemical through effective and closer coordination with various departments.
- (d) To enhance information exchange between countries producing toxic chemicals and those vulnerable to such imports.
- (e) To eliminate illegal trafficking in toxic chemicals.
- (f) To enhance public awareness of toxic chemicals through mass media.

- (g) To promote safety training and education for the management of toxic chemicals.
- (h) To enhance control of international and national traffic of chemicals and toxic substance, information exchange procedures on banned and regulated chemicals with other countries.
- (i) To enhance laboratory facilities, technical support and monitoring programmes for toxic chemicals to address future environmental pollution problems.

8. Conclusion

Myanmar is taking necessary precautionary measures to ensure that present and future stocks of pesticides are not obsolete. At present, some rural people are still unaware of negative impacts of pesticides. The Pesticide Law aims to protect the environment and human health. In order to effectively implement the pesticide law and pesticide management in Myanmar for the environmentally sound use of pesticides and storage of obsolete pesticides, technical assistance and funds are required.

Myanmar is in need of sound environmental management regarding POPs chemicals. In order to develop effective strategies and programme for POPs chemicals management, it is necessary to develop on appropriate institutional framework and establish on authority with the technical capabilities, many power and resources needed to execute chemical and hazardous waste management. National Capacity should be strengthened for identification of problems, assessment of hazards and risk, and improved management of toxic chemicals.

International and regional environmental conventions should be examined for participation and ratification as necessary. Among the conventions and protocols, POPs Convention should be considered in priority. At present, Myanmar is closely studying of acceding in POPs Convention.

In order to carry out these actions, the NCEA as the coordinating agency and focal point for environmental matter will have to take initiative and coordinate with Ministries Concerned especially, the Ministry of Agriculture and Irrigation a timely manner.

Annex1**National Environment Policy of Myanmar**

To establish sound environment policies in the utilization of water, land, forests, mineral, marine resources and other natural resources in order to conserve the environment and prevent its degradation, the Government of the Union of Myanmar hereby adopts the following policy: -

" The wealth of a nation is its people, its cultural heritage, its environment and its natural resources. The objective of Myanmar's environment policy is aimed at achieving harmony and balance between these through the integration of environmental considerations into the development process to enhance the quality of life of all its citizens. Every nation has the sovereign right to utilize its natural resources in accordance with its environmental policies; but great care must be taken not to exceed its jurisdiction or infringe upon the interests of other nations. It is the responsibility of the State and every citizen to preserve its natural resources in the interest of present and future generations. Environmental protection should always be the primary objective in seeking development

The policy was proclaimed through the Gazette in accordance with Notification No. 26/94 dated 5 December 1994, of the Government of the Union of Myanmar.

Annex2**Agro-Pesticide Consumption in Myanmar**

Year	Pesticide	Government		Private		Total Tons
		M.Tons	Total Yearly	M.Tons	Total Yearly	
1992-93	Insecticide	327.03	346.47	-	-	346.47
	Fungicide	6.59				
	Herbicide	9.78				
	Fumigant	-				
	Others	3.07				
1993-94	Insecticide	410.63	448.83	0.04	2.52	451.35
	Fungicide	21.38		-		
	Herbicide	13.77		-		
	Fumigant	-		2.48		
	Others	3.05		-		
1994-95	Insecticide	584.26	645.00	12.00	76.00	721.00
	Fungicide	29.33		-		
	Herbicide	11.39		-		
	Fumigant	-		64.00		
	Others	20.02		-		
1995-96	Insecticide	794.42	837.00	21.60	55.20	892.20
	Fungicide	26.58		8.20		
	Herbicide	6.25		9.40		
	Fumigant	-		16.00		
	Others	9.75		-		
1996-97	Insecticide	469.48	542.00	961.93	1176.19	1718.19
	Fungicide	10.77		80.72		
	Herbicide	28.51		133.54		
	Fumigant	-		-		
	Others	33.24		-		
1997-98	Insecticide	536.26	591.00	735.97	841.95	1432.95
	Fungicide	6.08		83.10		
	Herbicide	25.66		22.88		
	Fumigant	15.00		-		
	Others	8.00		-		
1998-99	Insecticide	482.91	482.91	1827.42	1924.46	2407.37
	Fungicide	-		95.04		
	Herbicide	-		2.00		
	Fumigant	-		-		
	Others	-		-		
1999-2000	Insecticide	146.96	146.96	2597.75	2980.59	3127.55
	Fungicide	-		262.12		
	Herbicide	-		120.72		
	Fumigant	-		-		
	Others	-		-		
2000-2001	Insecticide	-	-	1350.11	1845.35	1845.35
	Fungicide	-		213.90		
	Herbicide	-		157.00		
	Fumigant	-		32.00		
	Others	-		10.0		
	Plant Growth Regulator	-		82.34		
		-		-		

Annex3

MEMBERS OF THE PESTICIDE REGISTRATION BOARD

1.	Managing Director Myanma Agriculture Service	Chairman
2.	Director General Department of Health	Member
3.	Director General Livestock Breeding and Veterinary Department	Member
4.	Director General Fisheries Department	Member
5.	Managing Director Myanma Agriculture Produce Trading	Member
6.	Director General Department of Forest	Member
7.	Director General Directorate of Trade	Member
8.	Director National Health Laboratory Department of Health	Member
9.	General Manager Extension Division Myanma Agriculture Service	Member
10.	Deputy General Manager Plant Protection Division Myanma Agriculture Service	Secretary

Annex4

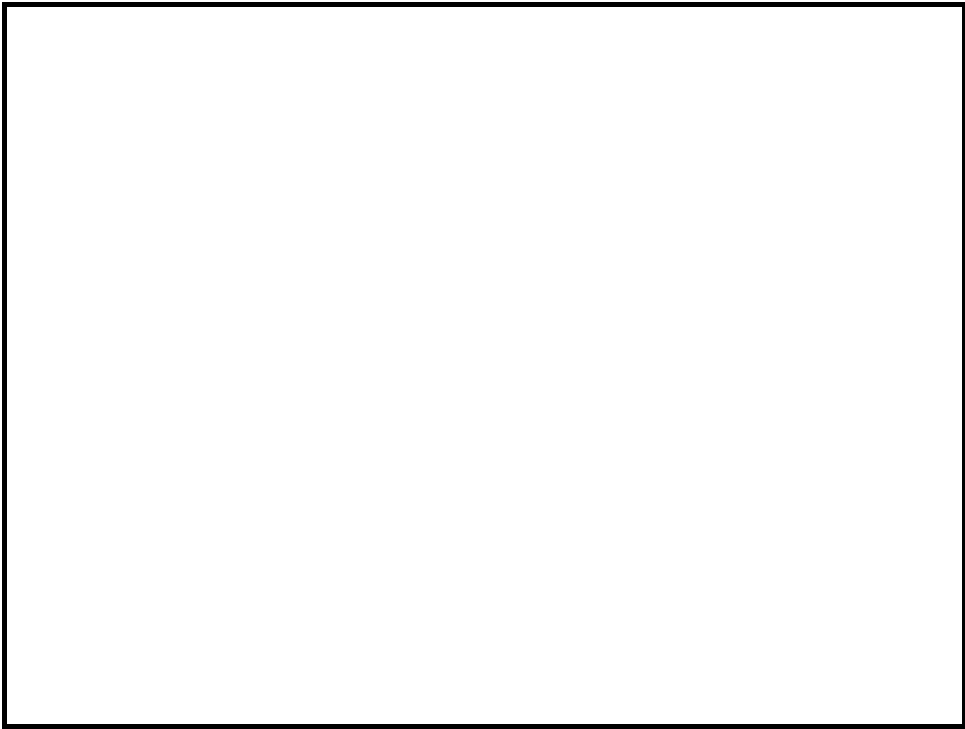
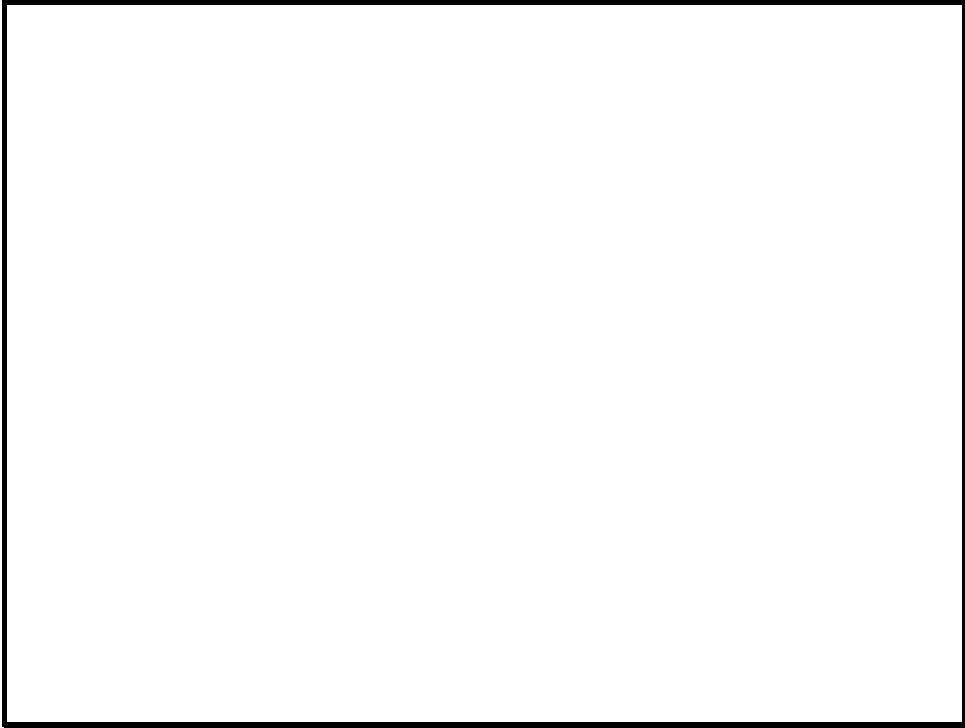
Restricted Pesticides List in Myanmar

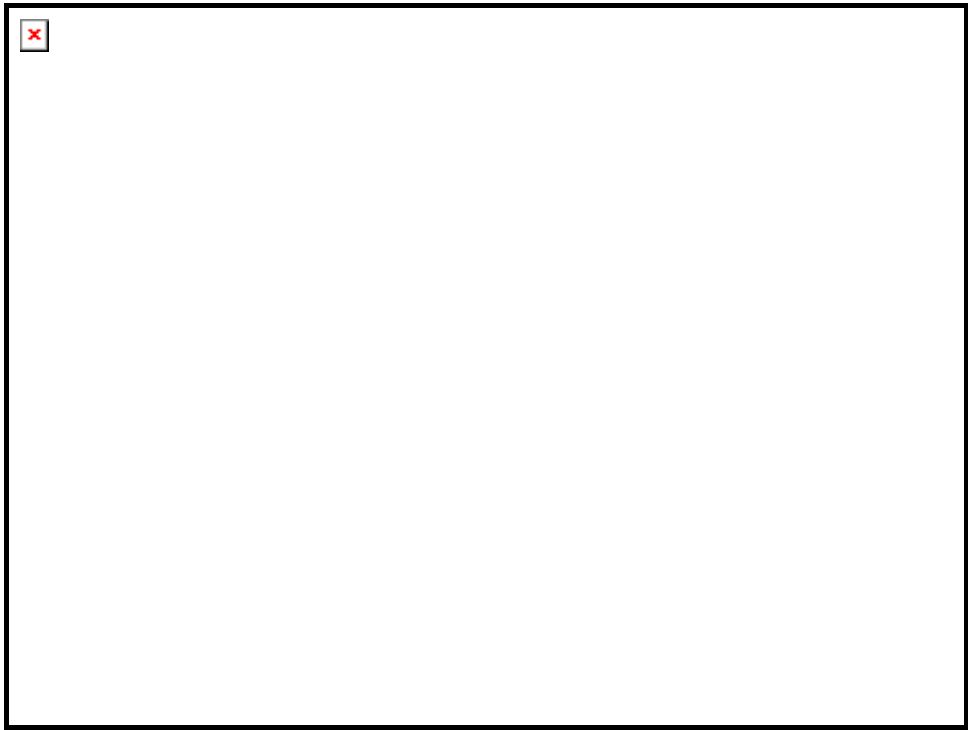
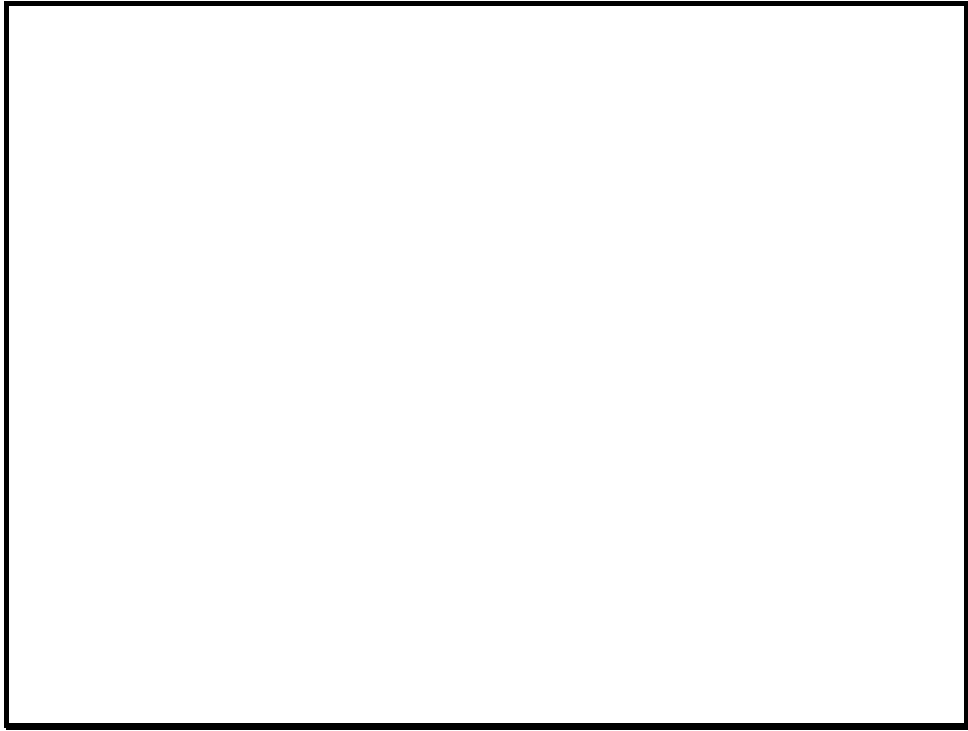
<u>No.</u>	<u>Active Ingredient</u>	<u>Group</u>
1.	Methyl Bromide	Fumigant
2.	Phosphine	Fumigant
3.	Bromadiolone	Coumarin
4.	Zinc Phosphide	Inorganic
5.	Brodifacoum	Coumarin
6.	Fenthion	Organo Phosphorus
7.	D.D.T	Organo Chlorine

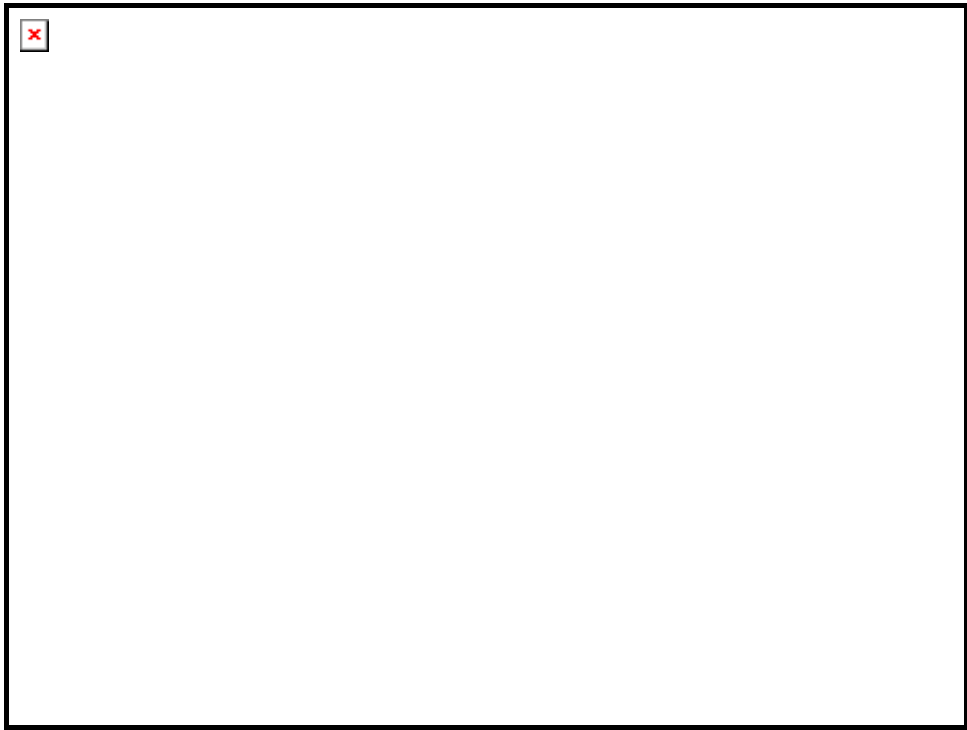
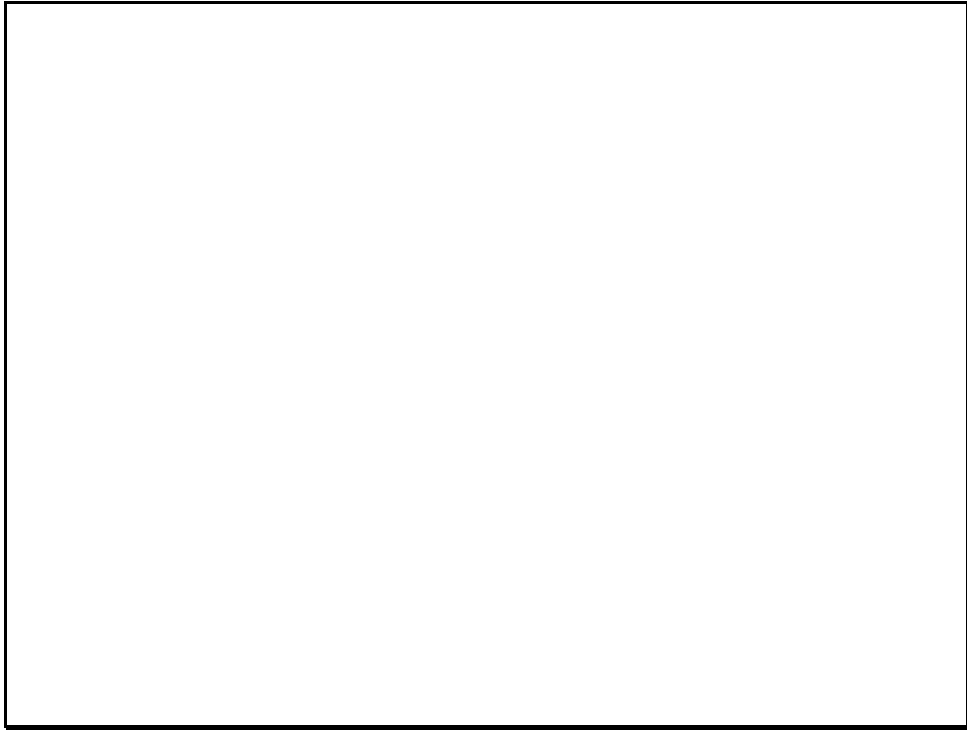
Annex5

Banned Pesticides List in Myanmar

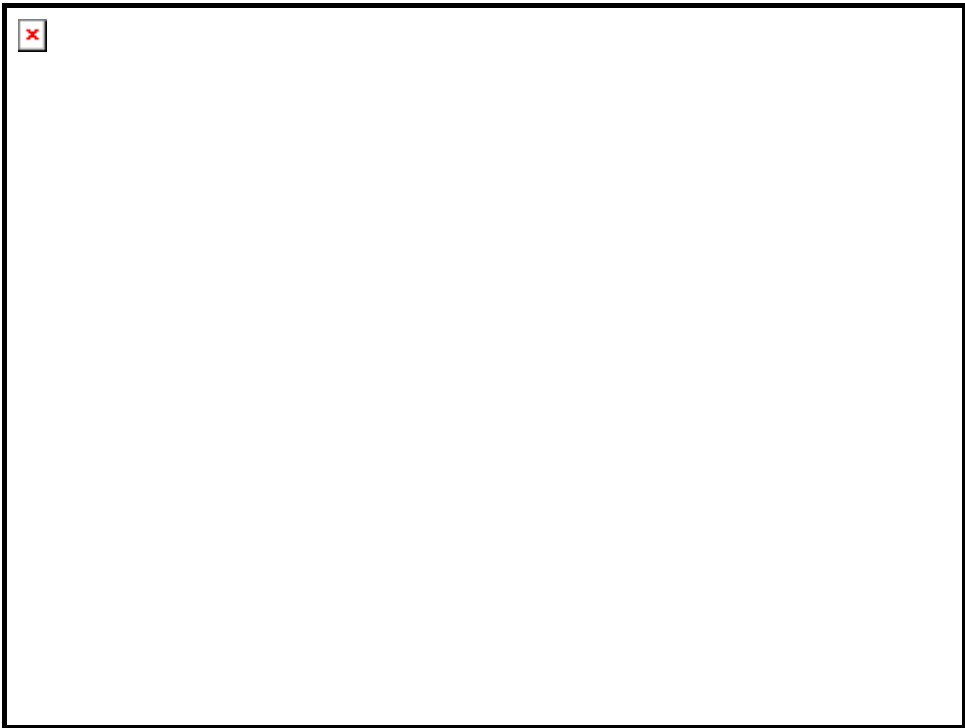
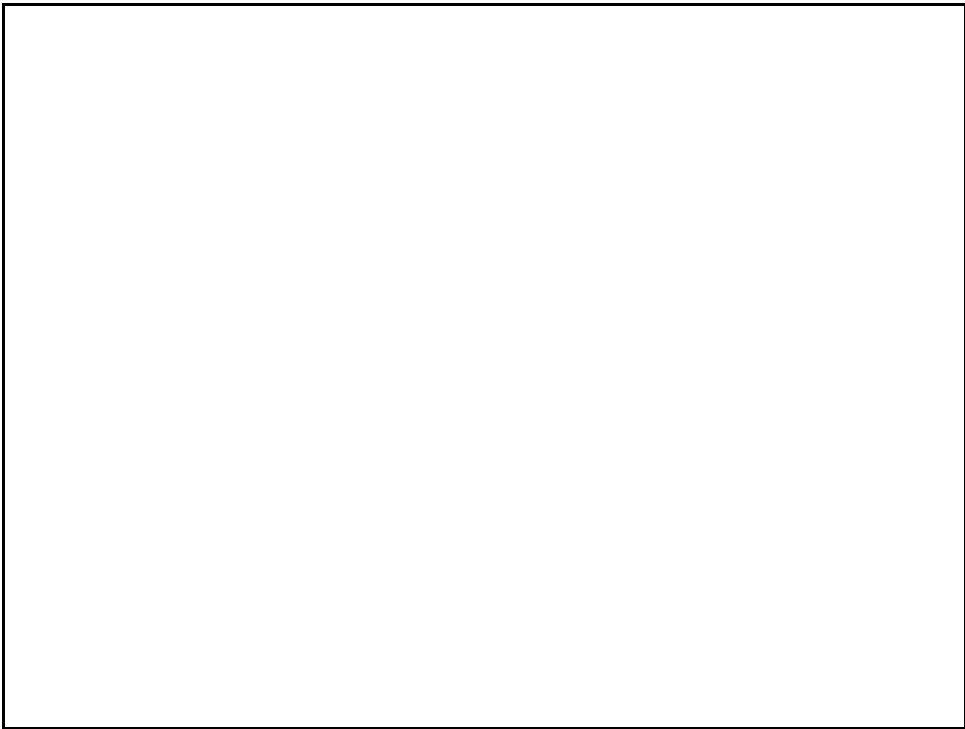
No.	Pesticides	Status	Remarks
1.	Aldrin	PIC Initial List	Carcinogenicity Bioaccumulation Hazard to Wild life Other Chronic effect
2.	BHC (= HCH isomer)	PIC Initial List	Oncogenicity
3.	Captafol	PIC Candidate	Oncogenicity Acute and Chronic Wild life effect
4.	Chlordane	PIC Initial List	Oncogenicity
5.	Chlordimeform	PIC Initial List	Oncogenicity
6.	Cyhexatin	PIC Initial List	Tetratogenicity
7.	Dieldrin	PIC Initial List	Carcinogenicity Bioaccumulation Hazard to Wild life Other Chronic effect
8.	Dinoseb	PIC Initial List	Tetratogenicity Reproductive effect
9.	EDB	PIC Initial List	Oncogenicity Mutagenicity Reproductive effect
10.	Endrin	No longer produced	Oncogenicity Tetratogenicity Reduction and endangered and Non-target species
11.	EPN		Neurotoxicity
12.	Inorganic Mercury Compound	PIC Initial List	Hazard to aquatic organism Accute Toxicity
13.	Organic Mercury Compound	PIC Initial List	Hazard to aquatic organism Accute Toxicity
14.	Parathion Ethyl	PIC Initial List	Accute Toxicity Toxic to aquatic organism
15.	Strobane	No longer produced	Oncogenicity
16.	2,4,5-T	PIC Initial List	Oncogenicity Fetotoxicity
17.	Toxaphene	No longer produced	Oncogenicity Population reduction in non-target species Acute toxicity to aquatic organism Chronic effects to wild life



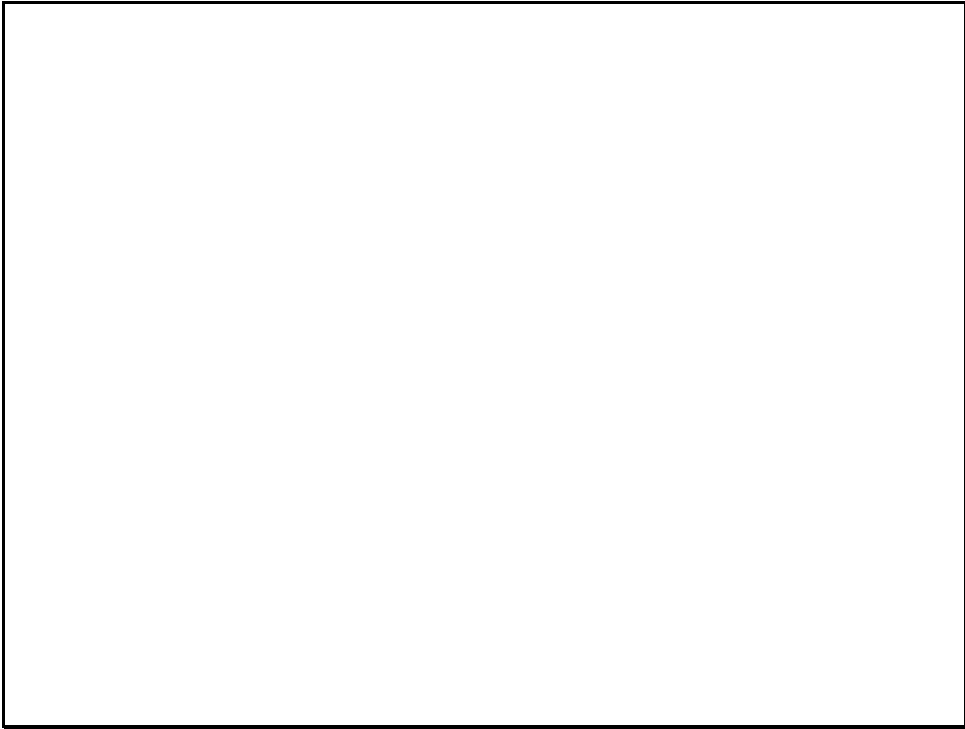












PHILIPPINES

The Fertilizer and Pesticide Authority (FPA) is the agency regulating the use of all pesticides in the Philippines. This agency was created in 1977 by virtue of Presidential Decree 1144. Aside from the mandate of assuring the agricultural sector of adequate supplies of fertilizer and pesticides at reasonable prices, FPA is also mandated to protect the public health and the environment.

Pesticides have been of great benefit to agriculture. Generally, they have provided a higher quality of life for man. Pesticides, however, are poisons that if used improperly without sufficient knowledge of their side effects, can endanger man and animals. Given the benefits of pesticides, the FPA is challenged to institute strong and extensive mechanisms to prevent pesticides from harming human health and the environment. One of these mechanisms is the stringent evaluation of the risks and benefits involved in the use of pesticides. As a result of this evaluation process, the FPA had released several circulars on banning and restricting the use of pesticides that poses danger to human health and the environment.

1 A paper presented to the Sub-Regional Workshop to Support the Implementation of the Stockholm Convention on Persistent Organic Pollutants, Bangkok, Thailand on 26-30 November 2001

2 Senior Deputy Executive Director, Fertilizer and Pesticide Authority, Department of Agriculture, Philippines

FPA Pesticide Circular No. 5 in 1983, restricted the use of DDT. All uses are cancelled except for malaria vector control purposes by the Department of Health. Since 1990, importation of this compound was not granted by FPA. Alternative pesticides for the control of malaria vectors, such as deltamethrin, permethrin, cyfluthrin and ethofenprox are already available in the country. Thus, FPA may propose the banning of DDT for all its uses. Likewise, the use of ENDRIN was banned under the same circular.

In 1988, the FPA issued Pesticide Circular No. 03. In this circular, registration of new pesticides belonging to Category I under the WHO Toxicity Classification shall not be allowed. Pesticides that are not registered with the FPA shall not be allowed for distribution, sale or use in the Philippines. Thus, FPA will not allow the registration of pesticides such as HEXACHLOROBENZENE and MIREX. Mirex is also a carcinogen. However, to strengthen the position of FPA on these two pesticides, inclusion of HEXACHLOROBENZENE and MIREX in the List of Banned and restricted Pesticides shall be proposed.

The List of Banned and Restricted Pesticides was updated through FPA Pesticide Circular No. 4, Series of 1989, banning ALDRIN, DIELDRIN, ENDRIN, HEPTACHLOR and TOXAPHENE.

In 1996, the FPA encourage the development of termiticides that can replace chlordane. Finally in 1999, Board Resolution No. 01-99 banned the use of CHLORDANE.

After banning of chlordane, a total of 59 litres was surrendered to FPA by the distributing company in the Philippines (Annex II). There is now a problem on the disposal of this banned pesticide.

Conclusion

The Republic of the Philippines through the FPA had taken the necessary measures to protect the public and the environment from pesticides that are persistent by eliminating or reducing its uses. However, there is now a problem on the disposal of the confiscated/surrendered banned pesticides. Environmentally sound technology on the disposal of toxic compounds is very much needed by the Philippines.

Regulation of other compounds listed in the UNEP-Persistent Organic Pollutants is under the Department of Environment and Natural Resources.

REPUBLIC OF KOREA

1. Introduction

On May 23, 2001 the international community adopted a global, legally binding instrument called the Stockholm Convention on POPs. The objective of the Convention is to protect human health and environment from the first twelve POPs. Once the Stockholm Convention enters into force, all of its signatories will be required to take measures to reduce or to eliminate the POP release. The Republic of Korea is in support of this global effort to combat POPs and is firmly committed to the objective of the Convention as has been pronounced by the head of delegations at the Conference of Plenipotentiaries. This paper briefly introduces the current environmental pressure produced by POPs in Korea, as well as her existing regulatory requirements, related environmental policies, and a planned course of action for the further reduction of POPs

2. Current State of POPs

Environmental Monitoring

The government-driven environmental monitoring for POPs started in 1999 in response to the public concerns over dioxin-like chemicals and endocrine disrupters (EDs). The Ministry of Environment (MoE) in conjunction with the Korea Institute Environmental Research (NIER) developed a Ten Year Monitoring and Research Plan for the years 1999 to 2008 for the systematic and extensive monitoring of EDs on environmental media and biota. In 1999, 37 EDs, including dioxin-like chemicals, from 113 sampling locations were analysed. Table I shows the summary of dioxin monitoring results.

Table I: 1999 Dioxin Monitoring Results

	Sampling points	Minimum ~ Maximum	Mean value
Water (pg-TEQ/l)	43	0 ~ 0.502	0.056
Sediment (pg-TEQ/dry g)	11	0 ~ 0.984	0.148
Air (pg-TEQ/N?)	24	0 ~ 4.448	0.425
Soil (pg-TEQ/dry g)	35	0 ~ 22.439	0.935

Source: Ministry of Environment (1999)

Based on the 1999 monitoring data, it can be stated that Korea's current contamination level in soils and sediment sby dioxin-like chemicals are lower than that of the most of other industrialized states. But this statement needs to be confirmed by further observations in the following years.

Emission sources and its Inventory

In 1997 MoE started to compile emission data for dioxin-like chemicals from major municipal waste incinerators (MWI) and industrial waste incinerators (IWI). In addition, stringent emission standards have been imposed, and the owners and operators with a treatment capacity of more than 200kg/hour were required to monitor the dioxin-like chemical emission at least once a year. Table II shows the compiled emission monitoring data of the dioxin-like chemicals for municipal and industrial incinerators. The results indicate that the emission level of waste incinerators is on decline, demonstrating the successful application of emission standards.

Table II Dioxin-like Chemicals Emission Data for Incinerators (unit: ngTEQ/Nm³)

Capacity (ton/hr)	MWI	Industrial Waste Incinerators	
		General Waste	Designated Waste
2 and above	0.051	15.837	48.620
0.2 – 2	20.633	7.623	8.530
0.2 and below	89.367	84.011	23.388

Source: Ministry of Environment and National Institute for Environmental Research 2000

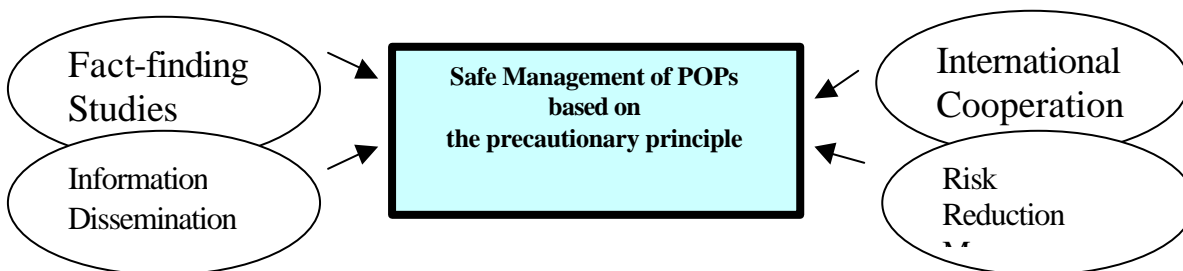
Identifying other sources of dioxin-like chemical emission are underway, and the official emission inventory is planned to be released by the end of 2002. However, it is believed that the waste incineration is the major source of dioxin-like chemicals.

3. Policy Responses on POPs

Basic Policy Direction for POPs Management

MoE plans to accelerate the establishment of a management system based on the strategies shown in Figure I.

Figure I: Policy Instruments for the Safe Management of POPs



Current Regulatory Requirements

In Korea, four Acts are enforced to regulate POPs – Hazardous Substance Management Act (HSMA), Agrochemical Management Act (AMA), Electricity Business Act(EBA) and Waste Management Act(WMA). Table III summarizes how POP these Acts regulate chemicals.

Table III: The current status of regulatory requirements for initial 12 POPs

Substance	Regulatory Actions	
Aldrin	Banned by HSMA in 1999	Banned by AMA in 1969
Endrin	Banned by HSMA in 1999	Banned by AMA in 1969
Dieldrin	Banned by HSMA in 1969	Banned by AMA in 1970
Chlorodane	Banned by HSMA in 1969	Banned by AMA in 1969
Heptachlor	Banned by HSMA in 1970	Banned by AMA in 1979
Mirex	Not introduced into Korea	
HCB	Not introduced into Korea	
Toxaphene	Banned by HSMA in 1991	Banned by AMA in 1982
PCB	Banned by HSMA in 1996	EBA bans use as dielectric fluid
DDT	Banned by HSMA in 1991	Banned by AMA in 1969
Dioxin	Emission is regulated by WMA in 1997	
Furan		

Source: Ministry of Environment (2000)

Planned Actions for Future

1) Establishment of Management Targets and Formulation of Reduction Plans

To better comply with the provisions set forth in the Stockholm Convention; the MoE will promulgate a Special Law that will establish an environmental and emission standards for POPs. The Law will incorporate the notion of Tolerable Daily Intake (TDI) for POPs management and mandates extensive monitoring and inspections. Furthermore, the Law fosters public access to environmental information

2) Strengthening Fact-finding Mission

MoE will continue to monitor for the level of POPs in the environment as has been prescribed by the Ten Year Monitoring Plan. Starting in 2002, an investigation including in-use PCB survey will be launched to locate the stockpiles and wastes contaminated by POPs. Remedial plans will subsequently be developed.

By the end of 2002, MoE will complete the emission inventory, and a reduction target will be established based on this inventory. Various measures will be devised to attain the targets, which include controlling the emission sources based on BAT, promoting waste minimization and recycling, etc.

3) International Cooperation

MoE seeks international cooperation by participation and contribution to global efforts. In 2001, a MOU on the Joint Research on EDs with the Japanese Ministry of Environment was concluded. Efforts are being made to increase the contribution to the GEF and other environmental funds.

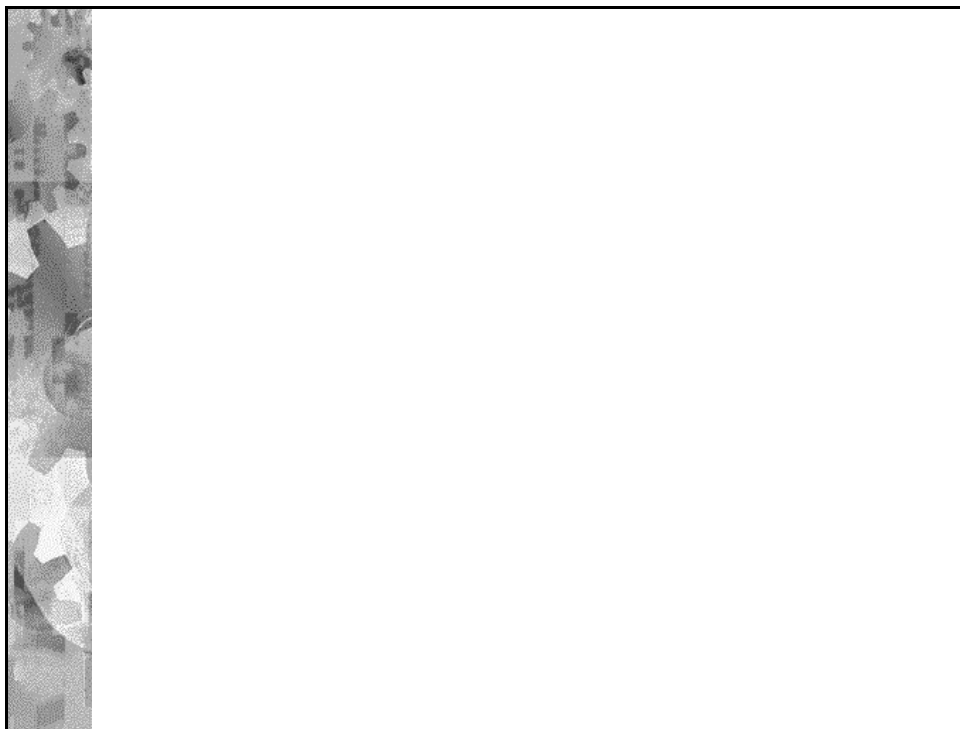
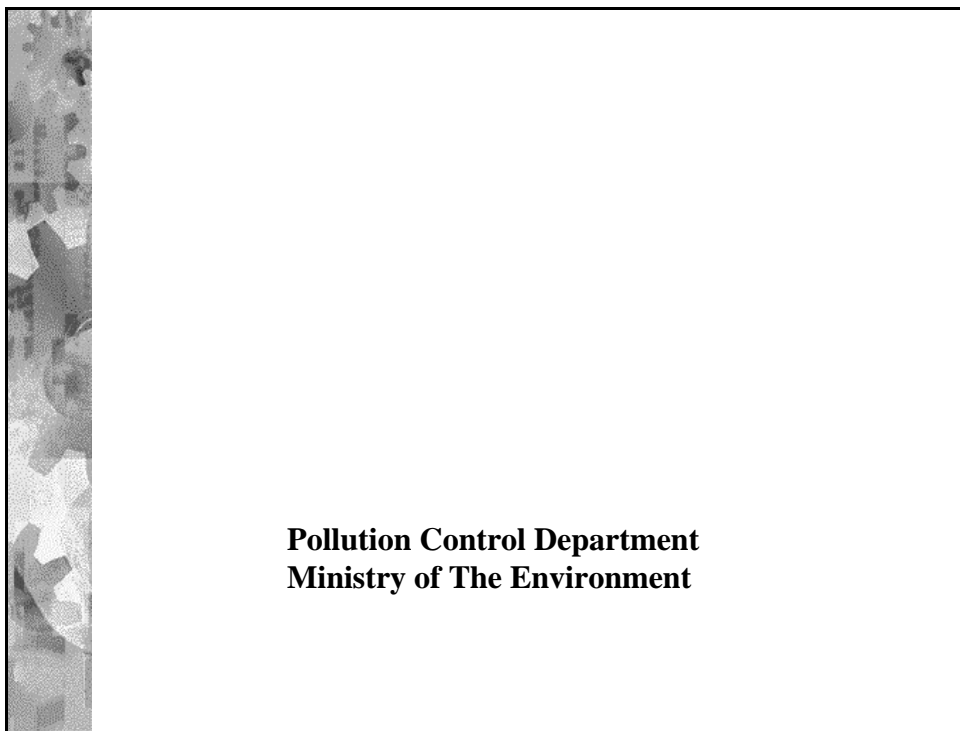
4). Final Remarks

Korea started taking active countermeasures against POPs in the late 1990s. Accumulation of data is essential to obtaining a more complete estimation and characterization of POPs in Korea. It is often said that the issue of POPs is a reflection of industrialization history. As stated in the preamble to the Stockholm Convention, it is time to exercise the wisdom of prevention and precaution in formulating environmental policies especially in the newly industrialized state like Korea.

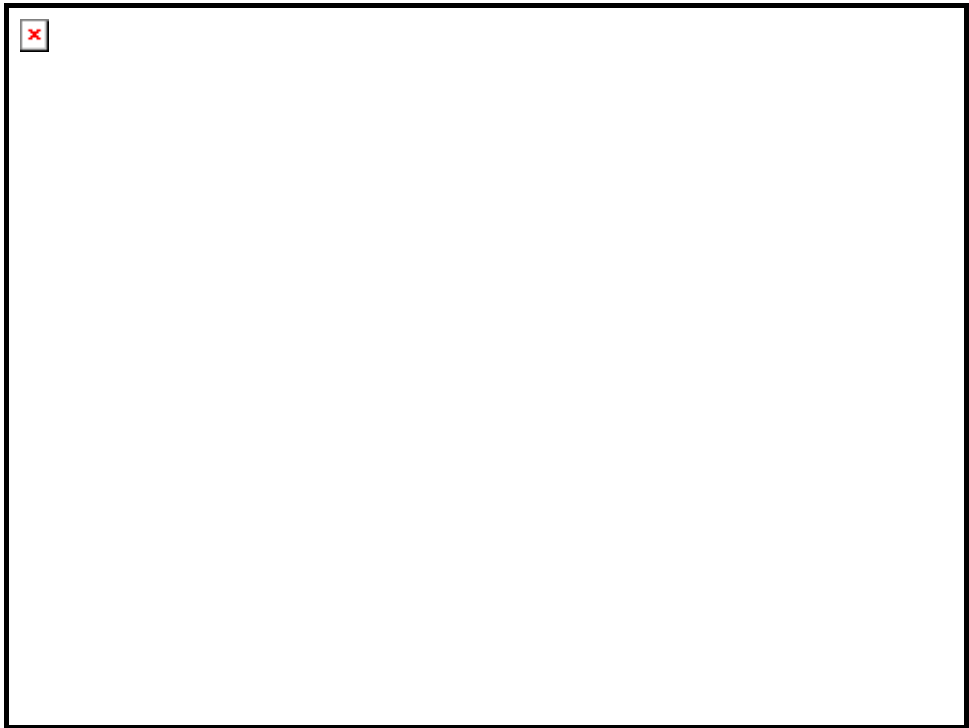
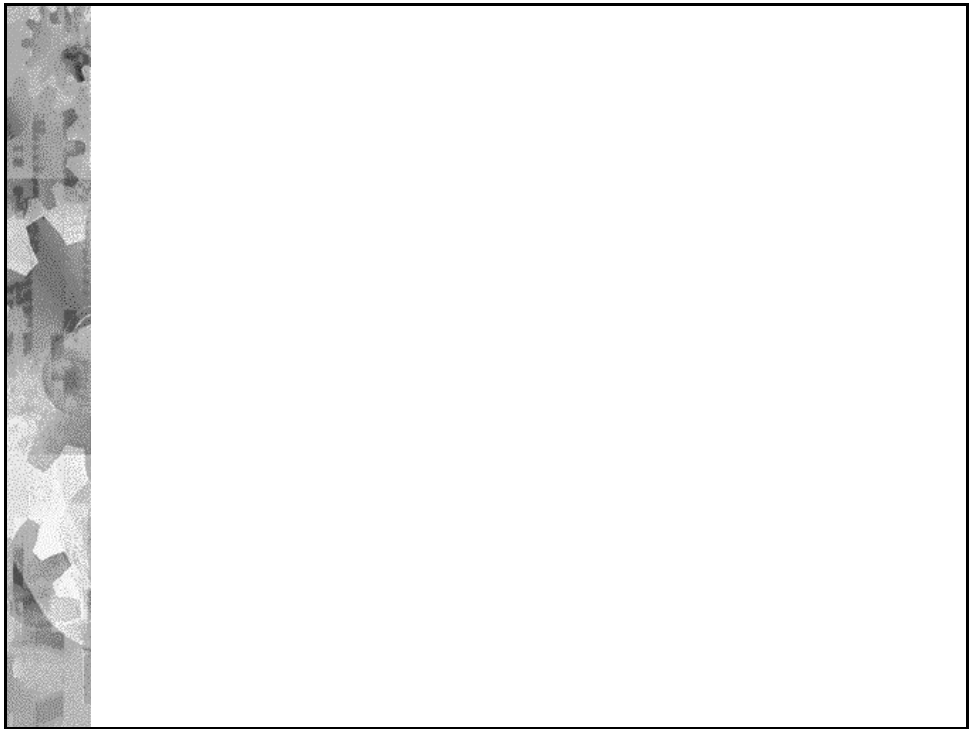
Reference

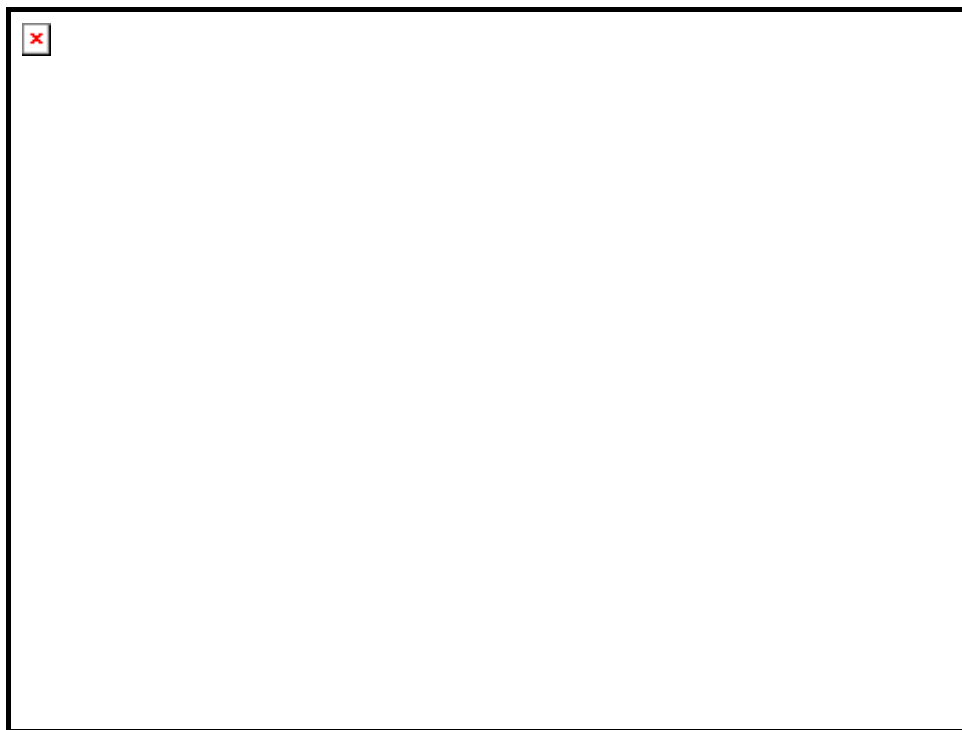
Ministry of Environment and National Institute for Environmental Research (2000), Report on 1999 Endocrine Disrupters Monitoring Study,
Ministry of Environment (2000), The Five-Year Basic Plan for Hazardous Substance Management


SINGAPORE







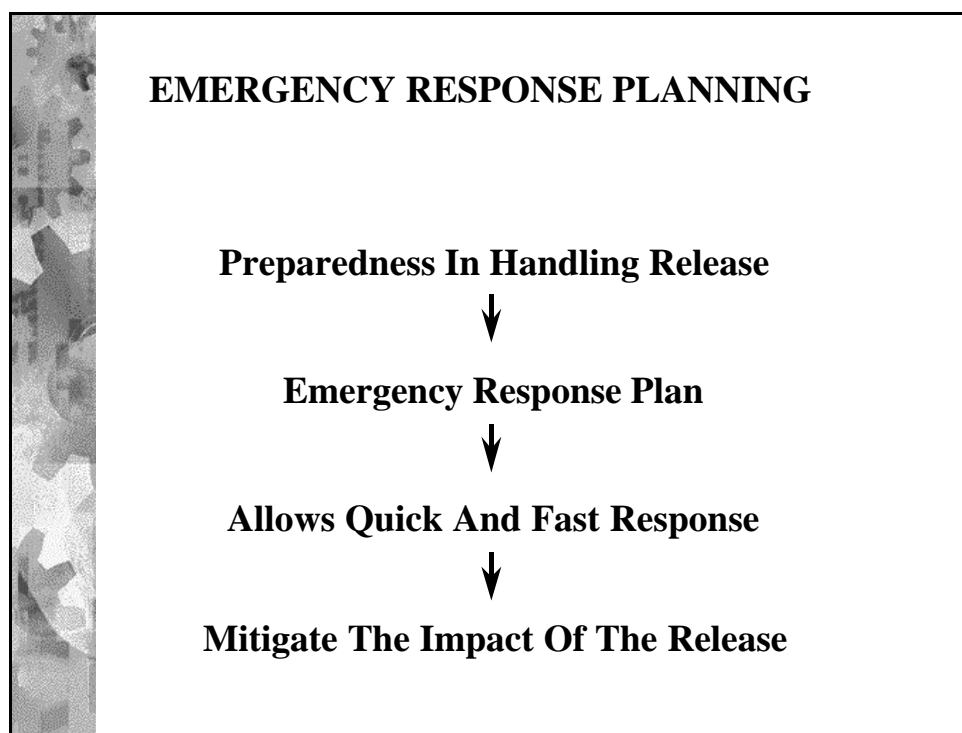


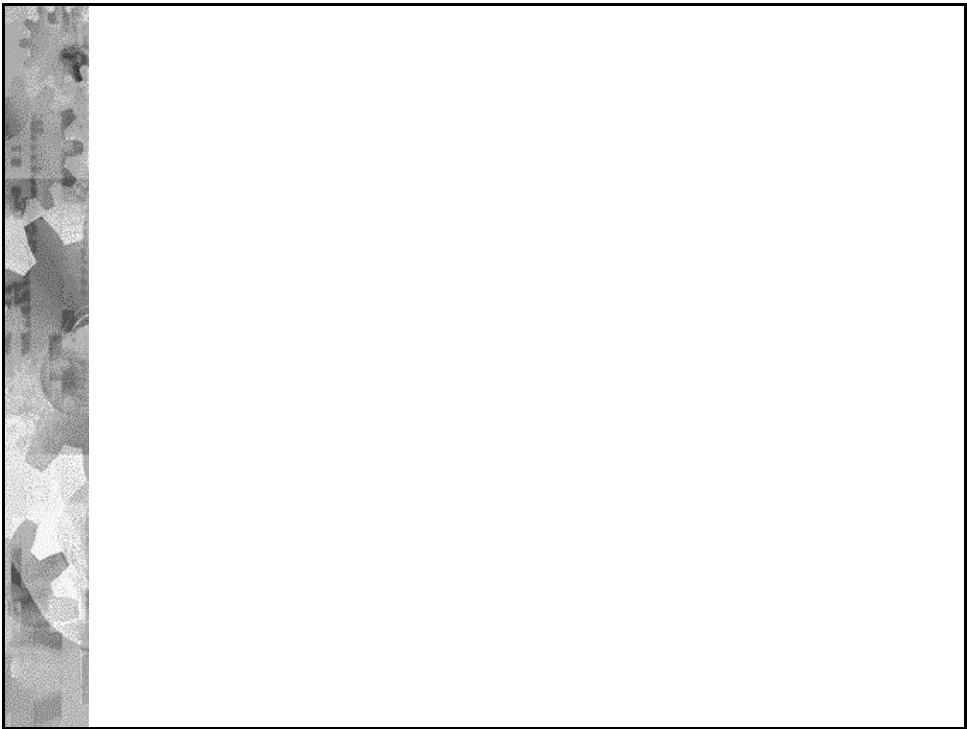


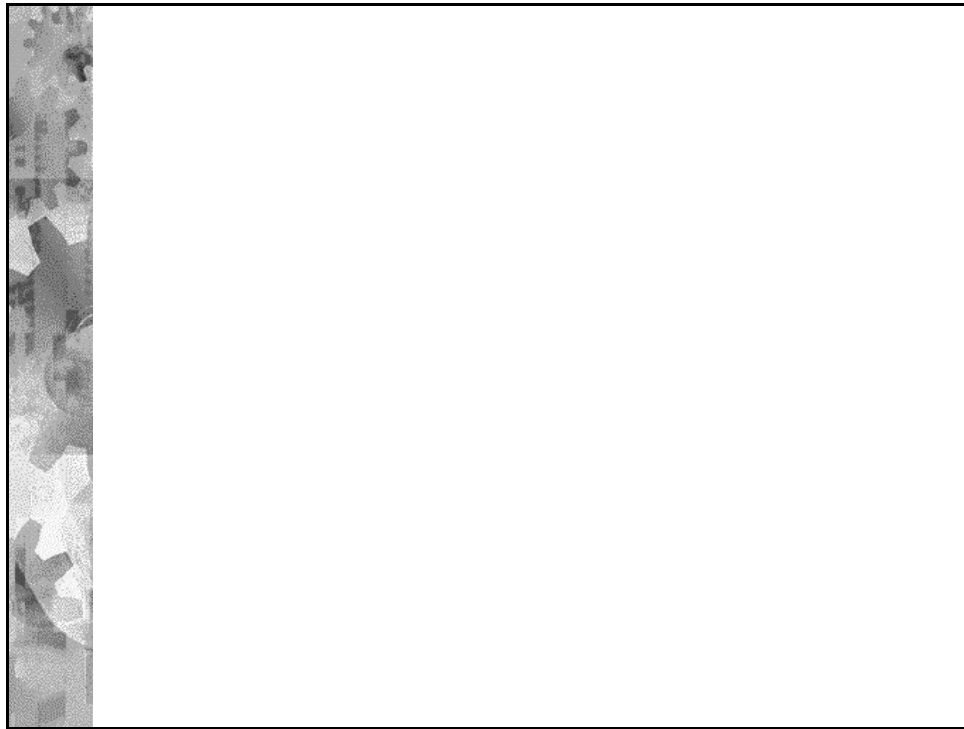
Any person who wishes to **transport** any Hazardous Chemicals is required to apply for **Transport Approval**.

Through Licensing Control, PCD also ensure that the **Licence and the Transport Approval Holders** take adequate **prevention measures** to prevent, mitigate and contain any accidental release of Hazardous Chemicals.





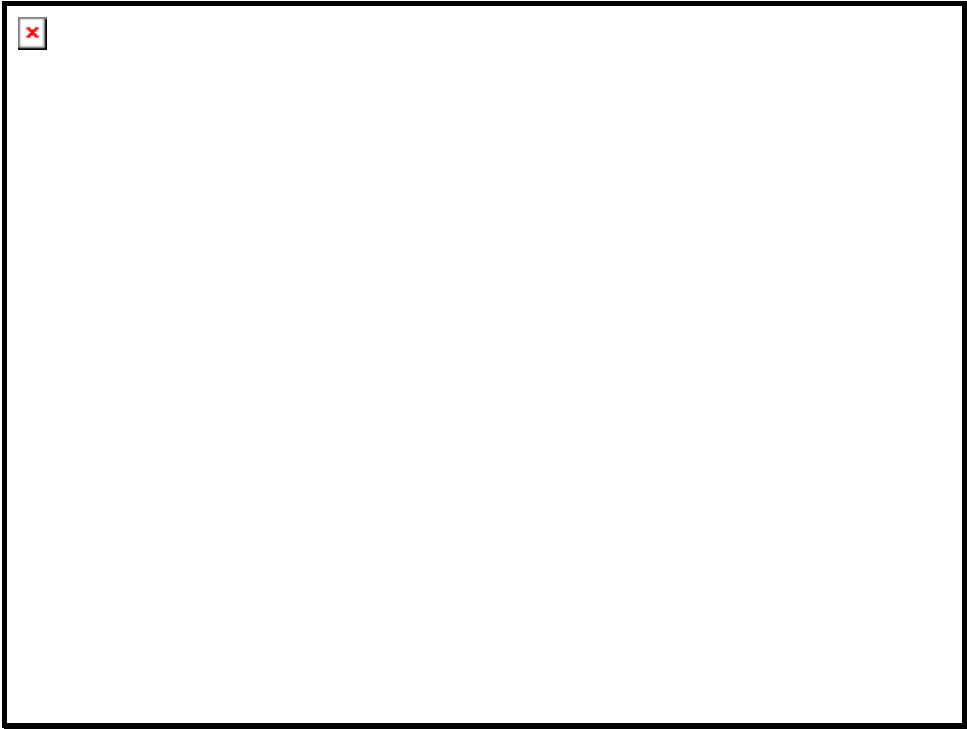
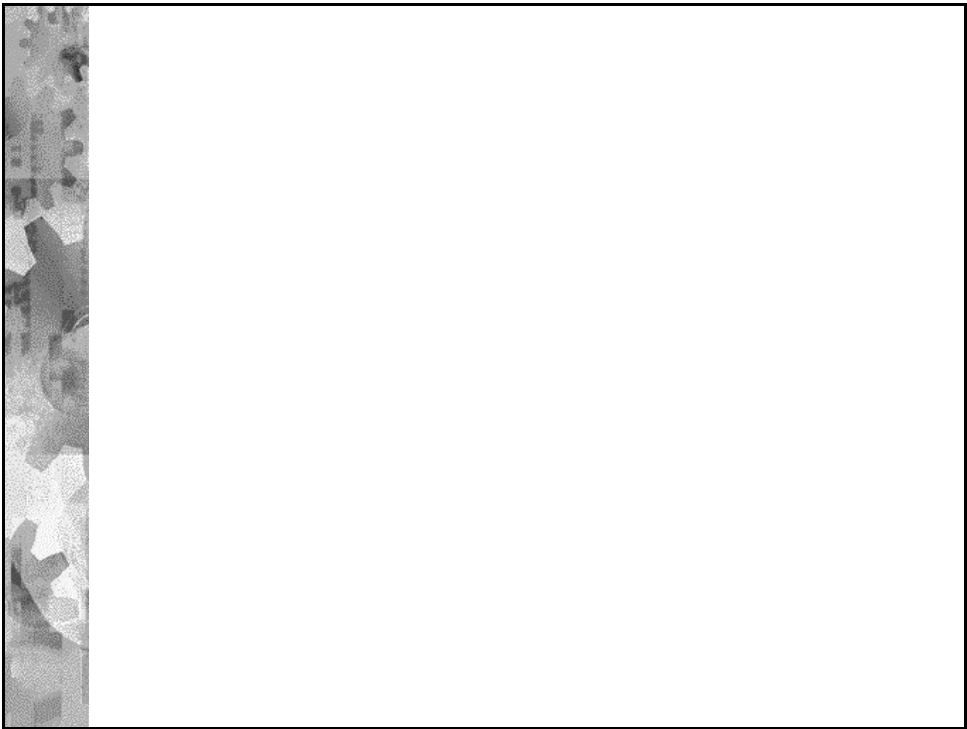




SUBSTANCES COURSE

Department

- * -days course
- * Organized jointly by MOM & ENV
- * Conducted monthly at CET
- * Training officers from MOM, ENV, P
SCDF, Singapore Polytechnic and p
consultancy firms, wide range of rel
- * Participants from the industries and
dealing with or using hazardous che
- * Written assessment after the course
- * Training certificates for those who p
attempts



**B a s e l C o n v e n t i o n (C o n t i n u e)
(I m p o r t a n d E x p o r t o f W a s t e s)**

- * and export of hazardous wastes for final destruction and disposal, except quantities of hazardous waste are exported to UK or France for disposal by high temperature incineration.
- * Applications for import or export of hazardous waste for the purpose of recycling or reclamation are considered on a case by case basis, in accordance with the PIC procedures.



S t o c k h o l m C o n v e n (c o n t ' d)


- * are listed as hazardous substances E P C A .
- * The 8 pesticides, dieldrin, dielder ind, rhne p t a n c h i r e , d toxaphere already banned .
- * Prohibited import of PCBs , including transformers and capacitors contain since 1980 . Those installed prior to phased out .



R o t t e r d a m C o n v e

- * -Informed Consent (PIC) Procedure for Hazardous Chemicals and Pesticides in International Trade.
- * All the 31 pesticides and Industrial Chemicals are controlled under EPC A .



- 
- o Hazardous Chemicals have the potential to endanger life and pollute the environment
 - o Comprehensive chemical safety programme needed to ensure that such Hazardous Chemicals are managed carefully at all times to prevent accidental release.
 - o Judicious Siting of Hazardous Installations, Licensing Control and Education and Training essential in ensuring successful implementation of chemical safety programme in managing and controlling hazardous Chemicals

THAILAND

During the 1990s, the development of industry and agriculture lead to more and more widespread uses of chemicals, in that priority in terms of type and volume. Most chemicals, organic and inorganic are imported, increasing from 1.75 million tons in 1990, to 3.37 million tons in 1999. In addition, the chemicals are produced in the country, increasing from 1.23 million tons in 1990, to 9.87 million tons in 1999. They have been increased 7 times or 78% annually. Thailand is facing a difficult situation in this respect because of increasing international trade in chemicals on the one hand, and increasing complexity of the issues on assessment and regulatory control of health and environmental hazards from chemicals, on the other.

Laws in relation to control of chemical substances

In the past 20 years, the improved governmental policy has resulted in better control hazardous and/or toxic substances in agriculture and industry. However, surveys and studies on chemical residues in the environment made by several institutes have demonstrated the occurrence of some incidences with undesirable consequences on man and the environment. At present, the management and control of chemical substances and the safety of human and environment is one of the prime duties of the government. In fact, the government has exacted several legal measures to control the harmful effect of chemical substances since 1913, despite not very many chemicals have been used. Till now Thailand has more than 20 laws related to the control of chemicals in every field of application and objectives. Some of important laws are:

- The Navigation on the Thai Territorial Water Act. 1913
- The Customs Act. 1926 and amendments 1991
- The Public Health Act. 1941,1992
- The Guns, Ammunitions, Explosives, Fireworks and Weapons Compatible with Guns Act. 1947
- The Radioactive for Peace Act. 1961
- Drugs Act. 1967 and amendments
- Hazardous Substance Act. 1967, 1973, 1992
- The Industrial Products Standards, 1968
- Fuel oil Act. 1968
- The Factory Act. 1969, 1978, 1992
- Notification of the Ministry of Interior Entitled the Protection of Labour. 1972
- Food Act. 1979
- Cosmetic Act. 1971, 1992
- Enhancement and Conservation of National Environmental Quality Act. 1975, 1978, 1992
- The Land Transportation Act. 1979
- The Protection of the Consumers Act. 1979
- The Industrial Estate Authority of Thailand Act. 1979
- The Armament Control Act. 1987, etc.

Hazardous Substance Act. B.E. 2535 (1992)

This Act. has come into force in 1992 and replace the other two of 1967 and 1973. The reason for the proclamation of this Act is that at present a great number of hazardous substance have been used in various business and some of them have caused serious injury to the persons, animals, plants, property, and environments. Although at present there exist some laws which are applicable to the hazardous substance, there are so many of them which are under the powers of several ministries, bureaus, departments as a result of different proclamations made in different periods of time entailing discrepancies and incomprehensive-ness of their provisions. It is therefore expedient to revise the law on toxic substance by expanding the scope of application to cover every kind of hazardous substance as well as to adopt the criteria and procedures for an even more suitable control of the hazardous substance and to agencies the administrative system to promote coordination among various agencies involved in the supervision of the said hazardous.

Main aspects of the Act

In this Act, "Hazardous Substance" means the following substances.

- 1 Explosives.
- 2 Flammable substance.
- 3 Oxidizing agent and peroxide.
- 4 Toxic substance.
- 5 Substance causing diseases.
- 6 Radioactive substance.
- 7 Mutant causing substance.
- 8 Corrosive substance.
- 9 Irritating substance.

Other substance either chemicals or otherwise which may cause injury to
The persons, animals, plants, property, or environments.

The hazardous substance is classified according to the needs for control as follows:

Type 1 hazardous substance is that of which the production, import, export, or having in possession must comply with the specified criteria and procedures.

Type 2 hazardous substance is that of which the production, import, export, or having in possession must first be notified to the authority and must also comply with the specified criteria and procedures.

Type 3 hazardous substance is that of which the production, import, export, or having in possession must obtain a permit.

Type 4 hazardous substance is that of which the production, import, export, or having in possession is prohibited.

For the purpose of prevention and stop of danger that may be inflicted upon the persons, animals, plants, property, or environments, the Minister of Industry with the opinions of the committee, shall have the power to publish in the Government Gazette designating the names or qualifications of hazardous substance, types of hazardous substance, period of application and responsible agencies for the control of the said hazardous substance.

The four terms managed in this Act. are defined as follows:

“Produce” means to make, culture, blend, mix, alter, modify, contain separately or contain collectively.

“Import” means to bring or order into the Kingdom or to transit.

“Export” means to send or undertake to send out of the Kingdom.

“Having in possession” means having in possession whether for oneself or for others and regardless of whether having in possession for sale, for transport or for use or for other purposes and also includes leaving or existing in the area under possession.

Under this Act, all elements of hazardous substances and wastes will be specified in the notification and will be controlled in accordance with its provisions as follows:

The Regulation of the Ministry of Industry B.E. 2538 (1995) defined the possession, usage, manufacturing, packaging, storage, transport, import and export procedures for hazardous substances according to the above notification.

The Notification of the Ministry of Industry B.E. 2538 (1995) amended in B.E. 2543 (2000) on List of Hazardous Substances issued under the Hazardous Substance Act B.E. 2535 (1992) defined more 1,000 hazardous substances including the specified chemical wastes.

The Factory Act. B.E. 2535 (1992)

This Act. is to control factory operations regarding waste disposal, pollution emission and contamination with the main objective of minimizing the impact on the environment.

Under this Act. there is specific notification related the hazardous substance and waste management as follows:

Ordinance No. 24 of the Ministry of Industry in 1987—an ordinance for industrial safety and health) The indication of dangerous substances was which stipulated by the Ordinance No. 24 (1987) are indication of workshops, indication of chemical containers, and indication of transport containers.

The Notification of the Ministry of Industry No.6 B.E. 2540 (1997) on Disposal of Wastes or Unusable Materials, issued under the Factory Act B.E. 2535 (1992) governed the industrial waste management including the classification, testing, treatment and disposal, and notification and reporting system.

The Enhancement and Conservation of National Environmental Quality Act. B.E. 2535 (1992)

The Act. provides a legal basis for the management and control of environmental quality, environmental quality and emission/effluent standards, monitoring, policy development and requirements for EIA as well as the pollution control.

The Public Health Act. B.E. 2535 (1992)

This Act. covers the prevention and management of all aspects of danger and nuisance caused by pollutants.

The Customs Act B.E. 2469 (1926) and amendments B.E. 2534 (1991)

It is the primary law governing the control of customs duties and the collection of taxes on imported and exported goods on behalf of other government agencies, such as value added tax, excise tax and municipal tax as well as the prevention and control smuggling of goods and other illegal products included the imported and exported chemical products and hazardous wastes.

The Notification of Ministry of Interior RE: Occupational Safety Related to Dangerous Substances B.E. 2534 (1991)

This Notification is issued to protect workers from hazards of chemicals in every physical form (solid, liquid, and gas), which can cause corrosion, irritation, allergy, cancers, fire, explosion, and radiation.

Management and Control of POPs Chemicals

Ever since the early 1960s, Thailand has been tackling the occupational health and environmental problems systematically and at national level. At present, there are many government agencies responsible in the field of chemical control and management.

The Pollution Control Department (PCD) formerly part of the Office of National Environment Board has developed policies, strategies and action plans in protecting the environment and other living systems. Recommendations have been made concerning environmental quality standards with regards to the control of pollution and also hazardous chemicals as protective measures under the Enhancement and Conservation of National Environmental Quality Act 1975, 1978 and as amended in 1992.

The Ministry of Industry (MOI) has established quality standards and control for industries and factories involved with chemicals, particularly those generating hazardous or toxic chemicals under the provision of the Factory Act 1969, 1978 and the amended 1992 and of the Hazardous Substance Act. 1967, 1973 and the amended 1992.

The Ministry of Agriculture and cooperatives (MOA) has the authority to control hazardous substances in agriculture (pesticides) under the Hazardous Substances Act 1967, 1973 and the amendment of 1992.

Under the same Act, **the Ministry of Public Health (MPH)** also controls the toxic substances used as consumer products and some purposes for human health.

The MOI, MOA and MPH issued a lot of hazardous substances in the Ministerial Notification periodically following the evaluation of such substances, either old or newly introduced. In addition, the PCD, MOA and MPH have done a great deal of monitoring and analysis of residues of chemicals including those POPs chemicals.

Under this brief description of the relative government agencies responsible, chemicals including POPs life cycle have been managed more or less in a sound manner under the circumstances in Thailand. Import, export, manufacture and the possession of hazardous substances have been controlled under the Hazardous Substances Act. 1992. Banning of the importation or severely restricted uses of chemicals have been notified in the Ministerial Notification following the consideration of the National Hazardous Substances Committee. In particular the specified POPs, most pesticides were banned for importation in the 1980s. (Table) Endrin was the first one in 1981, followed by toxaphene in 1983. DDT has been used both in agriculture and for malaria control it was banned in agricultural uses in 1983 and for malaria control in 1994 following the available of other alternatives. Dieldrin, aldrin and heptachlor were banned in 1988. Chlordane was the last one to be banned in 1995 for public health use and in 2000 for agriculture. Importation of electric capacitors and transformers containing PCBs was totally banned in 1975. However, PCBs has still been allowed to use in industries in small amount as industrial fluids for hydraulic systems and gas turbines, as lubricating oil, and as plastics. Most POPs chemicals were banned for their effects on human health and the environment.

Thailand has actively supported activities and international actions, including a global legally binding instrument, to reduce or eliminate impacts on human health and the environment related to productions and uses of Persistent Organic Pollutants (POPs) chemicals. Having recognized the impact of POPs chemicals to human health and the environment, Thailand by several government agencies has been carried out monitoring program on chemical residues in soil, water and agriculture products including POPs pesticides and PCBs. Data and results have been compiled and evaluated in annual environmental situation. Taking action to reduce or eliminate problems related to the POPs chemicals in the country especially dioxins and furans. At present, Thailand has no specific legislation for dioxins and furans in general. However, Thailand has established the emission standard of dioxins and furans, generated from municipal waste incinerator (1-50 tons/day) at 30 ng.total/Nm³ since 1997. Considering the National POPs action, The Royal Thai Government decided to establish a national inventory of sources of dioxins and furans emissions and a monitoring program in Thailand with cooperation of German Technical Cooperation (GTZ) Pilot Project Chemical Safety, UNEP Chemicals and the Chemicals Industry Association.

Table: Banned POPs Chemicals in Thailand

Chemicals	Date of Banned	Reasons
Aldrin	1988	Long persistent, accumulate in living organisms
Chlordane	1995 (PH), 2000 (AG)	Possible carcinogen, long persistent, high impact to environment, many alternatives
DDT	1983,1994	For agriculture use in 1983, for malaria control in 1994, long persistent and accumulation in food chains, possible carcinogen in tested animals
Dieldrin	1988	Long persistent, accumulate in living organisms, high acute poisoning, high risk for users
Dioxin	-	-
Endrin	1981	Long persistent in agricultural products and food chains, harm to non-target organisms
Furans	-	-
Heptachlor	1988	Long persistent, accumulate in living organisms
Hexachorobenzene	-	Never been imported
Mirex	1995	Never been imported
PCBs	1975	Risk to human health and the environment
Toxaphene	1983	Possible carcinogen in tested animals, long persistent

VIET NAM

Introduction

Viet nam country is East Asia regional with an area of 331 thousand square km and population approximately 78, 4 million. The tropical climate is hot and wet which favorites for agricultural production around the year; due to climate condition the pests have increased and damaged severely agricultural crops, therefore, the use of pesticide controlling epidemic caused by diseases, insects, weeds... is considered one of main ways controlling pests in Viet nam. Up to now Viet nam have not been produced pesticide, almost pesticides using in Viet nam imported from foreign country. Pass ten years mechanism of new management implemented pesticide market in Viet nam has been effervescent, which increase even quantity and type ...

Current legislation framework on pesticide management in Viet Nam

1.1 Pesticide consumption in Viet nam.

Before 1985:

Pesticide in Viet nam imported and utilized approximately 13,000 – 15,000 tons of finished product. Average quantity using per ha was about 0.30 kg/ha, the most quantity was pesticide having high toxicity, long persistent in environment as DDT, HCH, Methyl parathion, Methamidophos .

Since 1991 up to now:

Quantity of pesticide imported and used displacement in range of 20 – 30 thousand tons of finished products; Average quantity using per ha was about 0.67 – 1.10 kg per ha. The rate of using pesticide groups also changed, insecticide decreased from 83,3 % (1991) to 50,5 (1997); fungicides, herbicides increased quantity and types (table 1).

3. The Pesticide legislation framework

Viet nam compiled and issued documentary regulations on pesticide following:

3.1 The Decree on Plant Protection and Quarantine was promulgated in 1993.

The Ordinance of Pesticide Management was issued in 1993.

The Regulation on the procedures of examination and approval for production, formulation, registration, export, import, storage, disposal, labeling, packaging and advertisement of pesticide was issued 1995 and supplemented and modified 1999.

Status of Obsolete Pesticide remained in Viet nam

On quantity: The quantity of obsolete banned pesticides in Viet nam are not big, approximately 200 tons, but their type is multiform.

One Type: Obsolete pesticide remained in Viet nam mainly include pesticides belonging to organic-chloride group such as DDT, 666 ... and others ones belong to organic-phosphorus having high toxic such as Wofatox, Methamidophos.... Thereto some pesticides belonging to Carbamate, Pyrethroid ... their quality was reduced due to

the passing long storage, these pesticides cannot re-formulate and re-use. These resources mainly remained before and smuggling from foreign country in to Viet nam .

Distribution: Obsolete pesticide remaining in Viet nam is scattered and these resource is not concentration. The risk of pollution the natural environment and affection of the public health is not preventable.

Key of solution on Obsolete Pesticide remained in Viet nam

Obsolete Pesticide remained in Viet nam needs timely disposal for protecting safe of human being health and natural environment. Viet namese government takes full power for this work.

On August 25, 1998 Government Prime Minister issued the instruction No 29/1998/CT-TTg on strengthening the control on the use of the pesticides and of other organic chemical difficult for decomposition (POP).

On July 16, 1999 Government Prime Minister issued the Decision No 155/1999/QD-BKHCHNMT on the management of dangerous waste.

On December 10, 1999 the MOSTE promulgated the technology procedure disposing of remained and banned to use organis-phosphorous substances, attached Decision No 1970/1999/QD-BKHCHNMT.

On December 10, 1999 the MOSTE promulgated the technology procedure disposing or re-use xyanua substances, attached Decision No 1971/1999/QD-BKHCHNMT

On December 10, 1999 the MOSTE promulgated the technology procedure disposing of remained and banned to use organis-chlorite substances, attached Decision No 1972/1999/QD-BKHCHNMT.

In the passing years there are many International Organizations, Nationals, NGO Organizations have been invested, assisted to Vietnamese government authorities projects implementing inventory, collected and disposal the obsolete and remained pesticides in Viet nam

Status of disposal obsolete and remained pesticides in Viet nam

Up to now Viet nam have disposed approximately 30 tons of the obsolete and remained pesticides in some provinces by fired the kiln reaching 1000 temperatures degree centigrade, other pesticides including Hg was disposed by electrolysis method. All pesticide containers, the soil polluted pesticide was disposed by buried method in the ground.

7. Conclude.

The quantity of obsolete Pesticide remained in Viet nam is not much but multiform type, they was scattered in many places on the whole Viet nam. The inventory, collection and disposal is urgent work need to be finished as soon as possible. However, what disposal methods in accordance with Viet nam situation, beside Viet nam make efforts, the disposal of obsolete Pesticide remained in Viet nam needs collaboration, assistance from International organizations, Nationals and Ngo organizations.

Propose.

Viet nam requested assistance from International Organization as UNEP, FAO, WHO on financials, technology, technical expert, training of staff membersto continue set-up and complete the procedures applied for other pesticide group which is not available procedures for disposing in Viet nam .

Pesticide consumption in Viet nam

	Cultivated Area (Million ha)	Quantities	Values	Average per ha		Insecticide
		Tons of finished Product	(Millions US)	kg a.i	USD	%
Before 1990	8,9	13,000 - 15,000	8.50	0.30-0.4	0.95	
1990	9,0	15,000	9.00	0.5	1.0	
1991	9,4	20,300	22.50	0.67	2.4	83,3
1992	9,7	23,100	24.50	0.77	2.4	75,4
1993	9,9	24,800	33.40	0.82	3.3	72,7
1994	10,4	20,380	58,90	0.68	5.6	68,3
1995	10,5	25,666	100.40	0.85	9.5	64,1
1996	10,5	32,751	124.30	1.08	11.8	53,0
1997	10,5	30,406	126.00	1.01	12.0	50,5
1998	10,5	42,738	196.70	1.35	18.7	47,9
1999	10,5	33,715	158.70	1.05	15.1	48,3

Pesticides registration in Viet nam

Year	Countries having registered pesticide	Firms have Registered pesticide	A.I Having Registered	Trade Names	A.I Restricted To use	A.I Banned To use
Before 1992	10	25	77	96	0	0
1992	12	32	96	159	14	20
* 1993	17	51	111	259	15	22
1994	19	65	132	413	15	22
1995	22	88	213	590	21	22
1996	23	103	240	707	20	23
1997	25	106	257	753	20	23
1998	25	109	275	733	26	26
1999	25	109	269	784	27	26

Resource: Plant Protection Department (PPD)

Note: * From 1993 data including domestic firms registered.

** Data of A.I registered including compound pesticides except house pesticides transferred to Ministry of Health since 1998 .