



POPs Management in Egypt Success stories

ELHAM REFAAT ABDEL AZIZ

**Project Manager , previous Stockholm Convention Focal Point
Environmental Development Department General Director
Hazardous Substances and Waste Expert**



Regional Activity Centre
for Cleaner Production



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Global Water
Partnership
Mediterranean



Presentation topics

- Stockholm Convention.
- Egypt information
- Road Map of Stockholm Convention.
- Implementation of Stockholm Convention activities in Egypt.
- Inventory of POPs and PCBs contaminated sites.
- Pollution Control for PCBs contaminated sites.
- Conclusion and recommendation.



Scope of Stockholm Convention

The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically and accumulate in the fatty tissue of humans and wildlife.





Republic of Egypt

Area: 1,001,450 km²

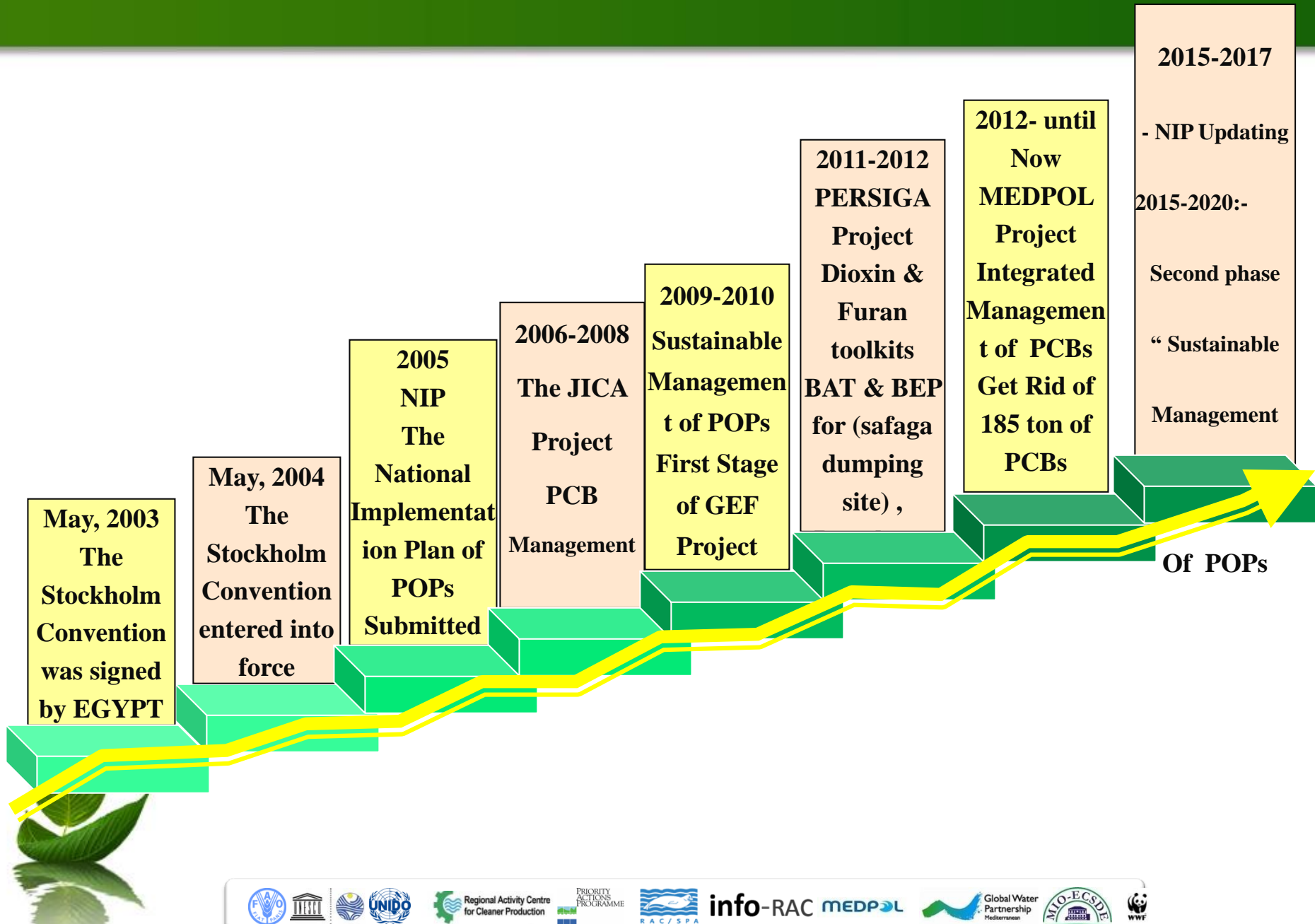
Population : 91,269,000 (2016 est.)

Official Language: Arabic

Capital : Cairo

Capital Population : 22,000,000

Road Map of National Implementation of Stockholm



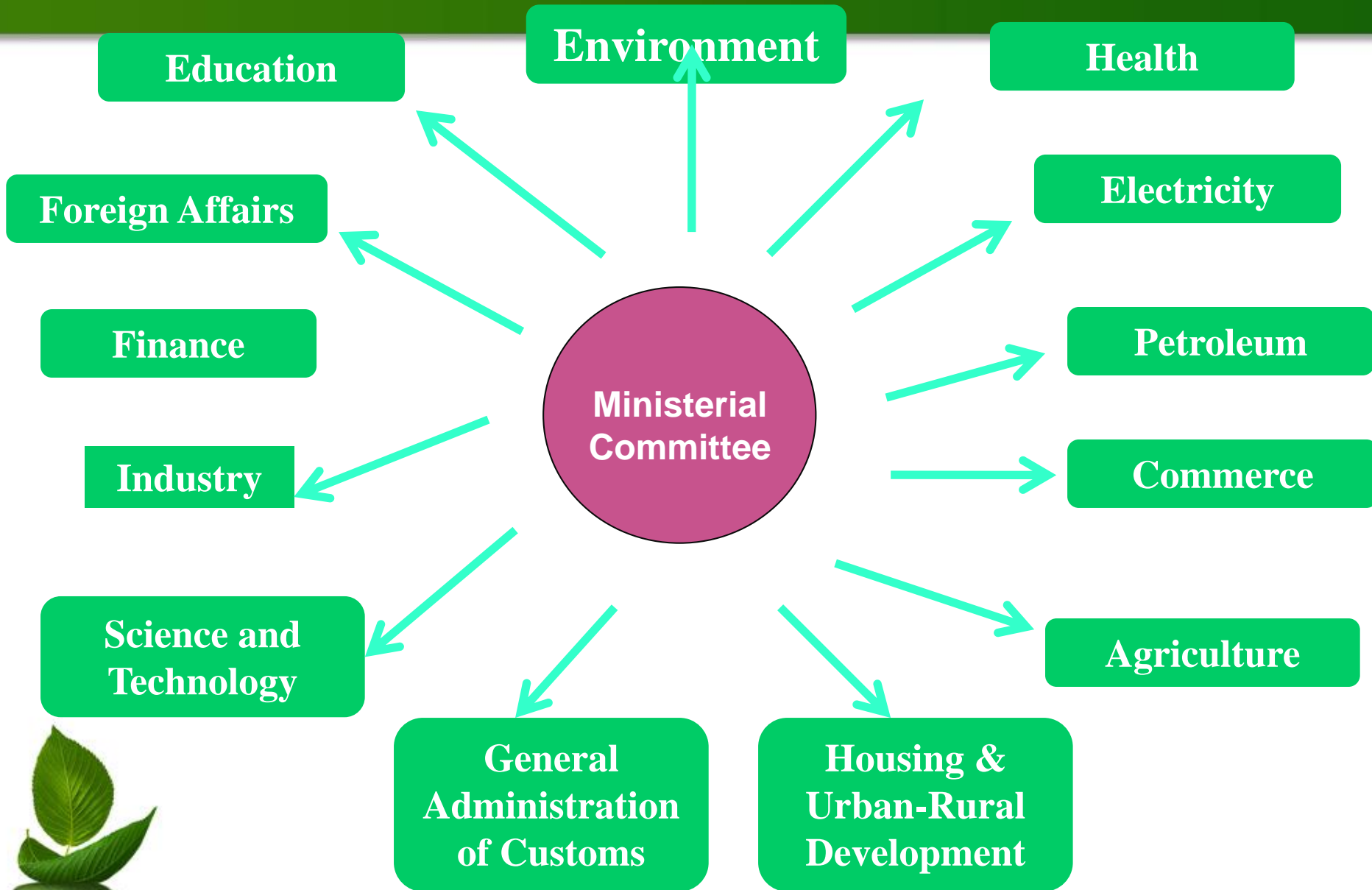
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Synergy between (Stockholm – Rotterdam- Basel)



Stockholm Convention Implementation

Year	Project Name	Activities	Donors
2006-2008	Integrated PCBs Management Shoubra El Khima	<ul style="list-style-type: none"> - Inventory PCBs in Electrical stations. - Data Base for POPs. - Capacity Building programs (TOT). - Analysis Samples with GC. - Final Report. - International Workshop. 	JICA
2009-2010	Sustainable POPs Management All over Governorates First stage	<ul style="list-style-type: none"> - First Stage: - Inventory for POPs all over Egypt. - Analysis with Kites. - Gab Identification - On Job Trainings - Full-sized Project Document - (Second Phase). 	GEF & WB
2009-2011	Dioxin and Furan Inventory(Two stages) Suez- Safaga	<ul style="list-style-type: none"> - Dioxin and Furan (Tookits). - Identify Priorities. - Capacity Building. - BAT & BEP pilot project. - Final Report 	PERSIGA
2012	GMP1	<ul style="list-style-type: none"> - Take samples and analyze(EGYPT- Czech) - Mother Milk (Residue Laboratory) - Air Monitoring - Final Report . 	GEF & UNEP
2012-2015	Integrated Management of PCBs	<ul style="list-style-type: none"> - Complete Inventory for PCBs in Utilities. - 2 Analyzer LX 2000. - Capacity Building for all categories. 	MEDPOL



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PRIORITY
ACTIONS
PROGRAMME



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Year	Project Name	Activities	
2014	Rectox	<ul style="list-style-type: none"> - sampling and analysis (Czech) - Surface Water. - Air Monitoring. 	GEF & UNEP
2015-2017	NIP Updating	<ul style="list-style-type: none"> - Review and Update NIP. - New POPs Inventory. - Capacity Building. 	GEF& UNEP
2015-2020	Sustainable POPs Management (Second Phase)	<ul style="list-style-type: none"> - Safe Disposal for Obsolete Pesticide. - PCBs treatment (Medium & Low Concentration) - Regulation Updating and Capacity Building 	GEF & WB



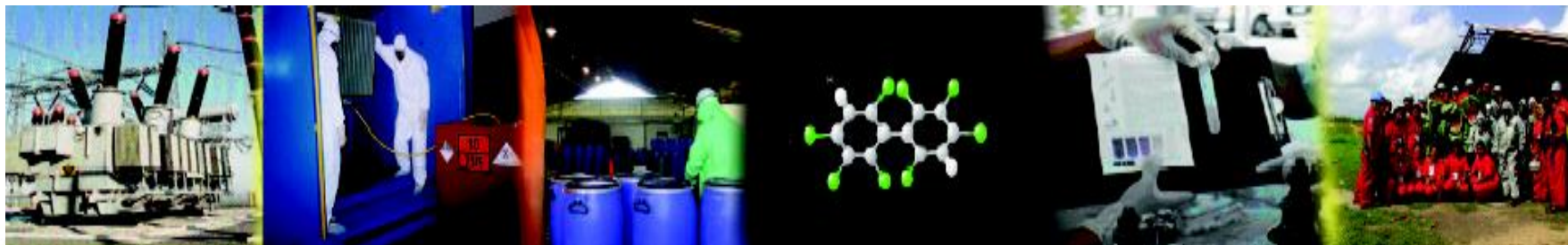


REMIP

Integrated Management of hazardous chemicals substances



2006-2009





■ SHOUBRA EL KHIMA



Inventories Sites

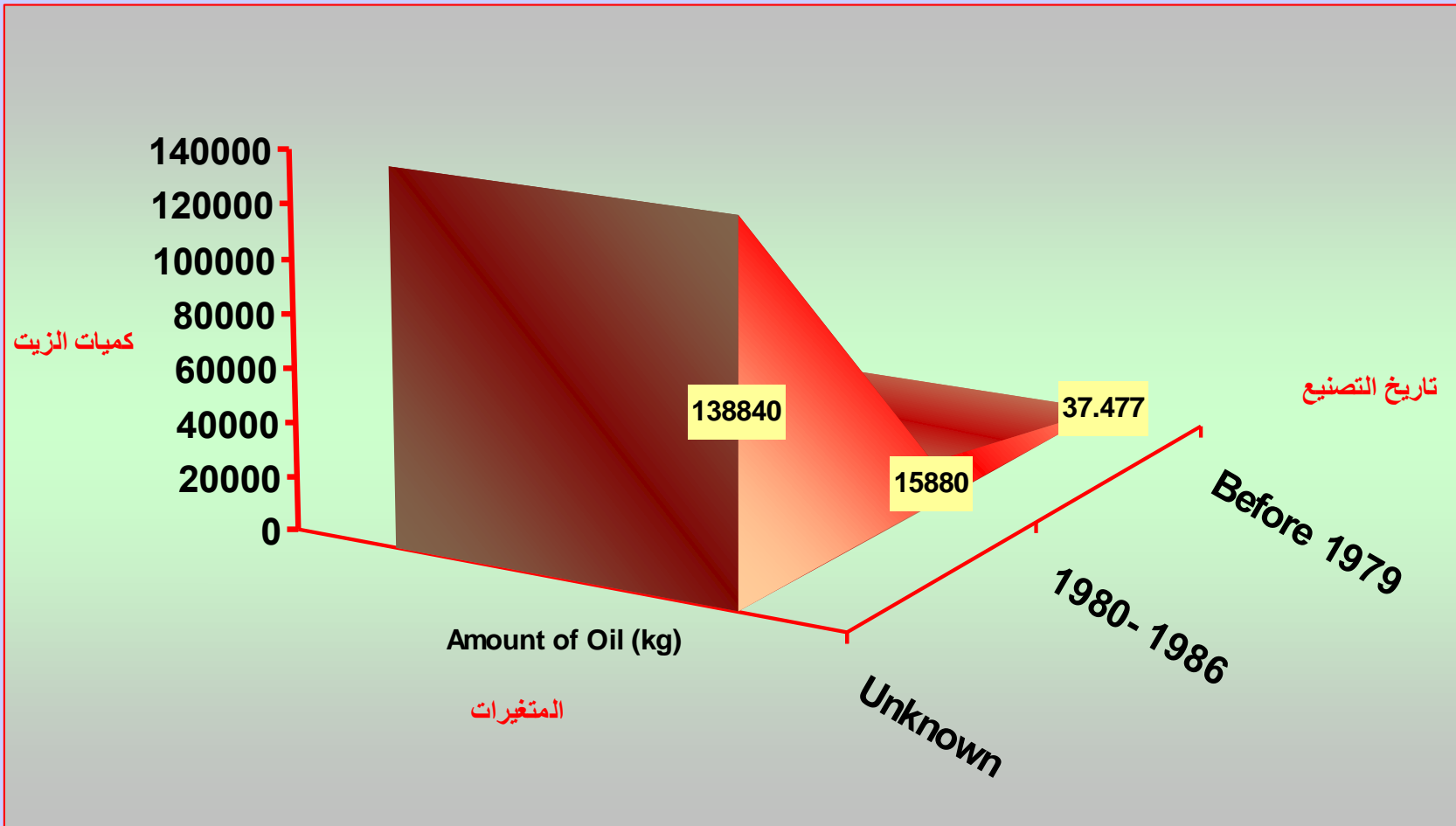


INVENTORY Result

Type of Facility	Before 1979		1980-1990		After 1991		Unknown		Sub-total	
	Number of Transformer	Amount of Oil (kg)	Number of Transformer	Amount of Oil (kg)	Number of Transformer	Amount of Oil (kg)	Number of Transformer	Amount of Oil (kg)	Number of Transformer	Amount of Oil (kg)
Electrical Distribution Station	3	18,600	3	11,880	11	0	4	1,960	21	32,440
Power Station	0	0	6	5,880	0	0	0	0	6	5,880
Private Factory	18	15,937	0	0	2	1,880	4	0	24	17,817
Transformer Storage Yard	10	2,940	7	0	5	0	553	135,000	575	137,940
Total	31	37,477	16	17,760	18	1,880	561	136,960	626	194,077



نتائج عمليات الجرد بمنطقة الدراسة (كميات الزيت مقدره بالكجم)



Trainings

1. Introduction of PCBs & Health and Environmental Effect
2. Inventories on JOB Training
3. Types of treatment
4. Monitoring and analysis Of PCBs



International seminar Feb



Arabian and African countries and
some donors as

... ..



GEF & WB Project 2009

INVENTORYING SAFE GUARDING AND MANAGING POPS IN EGYPT First Stage



Field Visit



Training and Transfer of knowledge



CSD-ENCPC team leading a meeting (4th Nov.) and training 19 persons on the use of PCB testkits.



Results of the Inventory of equipments

Estimation of the volume of PCB-contaminated oil from the data collected.

(According results obtained during our mission, we estimate contamination for 5% of low power-rating transformers and 0.1 % for bigger power rating (>3000kVA))

Transformer power rating (kVA)	Number of equipments inventoried	Weight of oil for each type of transformer (tons)		
		Oil in transformer	Oil proven as PCB-contaminated	Estimated PCB-contaminated oil in transformer
< 500	87	48,3	13.7	15,4
501-1000	566	865,8	12.2	54,9
1001-1500	21	28	11.3	12,1
1501-2000	24	41,9	0	2,1
2001-3000	3	14,4	0	0,7
>3000	125	4030,3	0	4,0
Exact power rating unknown	31761	14536.8	15.6	741.7
Total	32587	19565.5	52.8	831



Obsolete pesticides Inventory

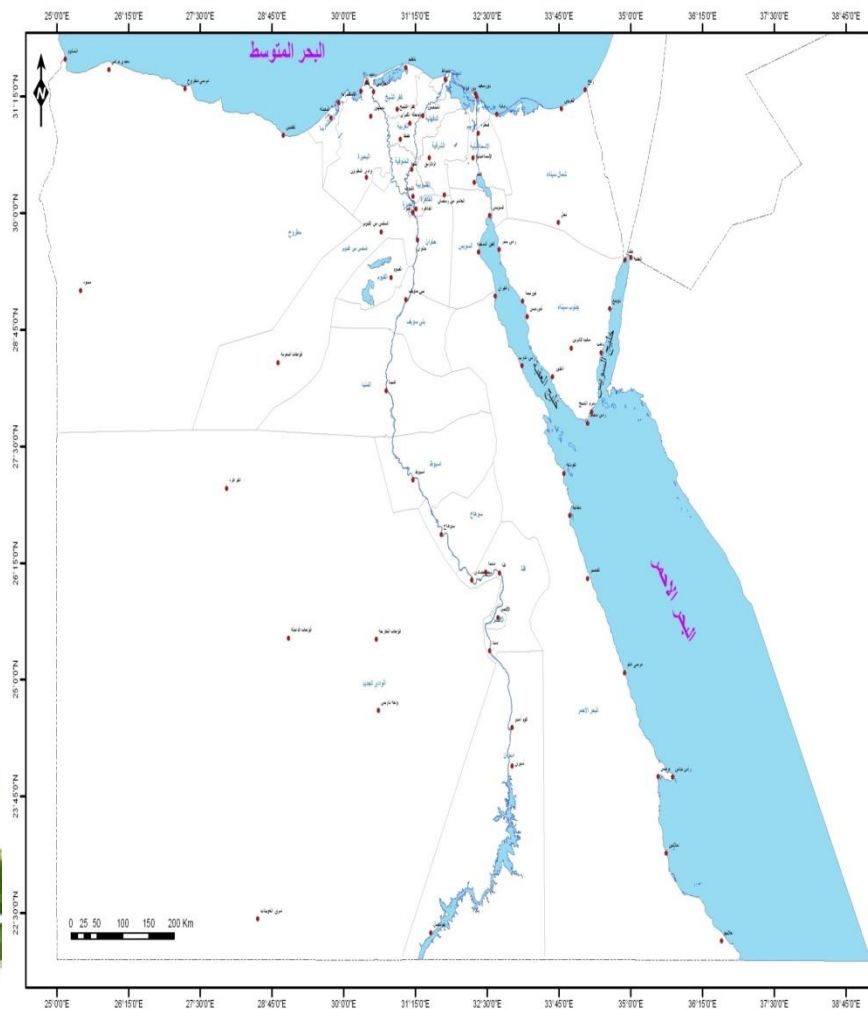
Locations	Quantity of obsolete pesticides
Site 1	Estimated total of 350-450 tons : of those 6 tons of POPs and 250 tons of Ametryn
Site 2	149 tons of magnacide
Institution	60-70 tons of magnacide (6-7 sites) Of those : 0.5 tons 3.5 tons
Site 3	10-12 drums in bad condition with DDT(~0.5tons) and possible toxaphen and dieldrin
Site 4	1'032 tons (1000 tons of Agric. Sulfur)
Site 5	7 containers from Jordan about 12 tons
Site 6	20 storages with chemicals and pesticides sorted but not moved 12 containers with sulfur, new POPs...
<div> </div> <div> <p>Site 7</p> </div>	<div> </div> <div> <p>5 containers from Sudan, 110 tons of Lindane</p> </div> <div> <p>Lindane contained in large containers was discovered in transit in a port</p> </div>

Obsolete Pesticides Situation:

- Documented amount of obsolete pesticides in Egypt : 2'232 tons with at least 6.5 tons of POPs and 100 tons of new POPs
- Main holders of obsolete pesticides are the public sector, especially the Ministry of Agriculture.
- There is awareness
 - ✓ that obsolete pesticide can have health effects but protective equipment or measures are not adapted to that risk.
 - ✓ About life cycle management and shelf-life of the product. Holders know when they detain obsoletes pesticides and know also they are in illegality. Although it certainly exists, we did not find evidence of illegal use of obsolete pesticides.
- Holders don't have plans for their disposal. Bad conditions of storage (e.g. site 1) and localization near habitations and food stockpiles. Warehouse presents particular risks to human health and to the environment
- Difficulties encountered in data collection



Promotion of Strategies to Reduce Unintentional POPs Production in PERSGA Region Project

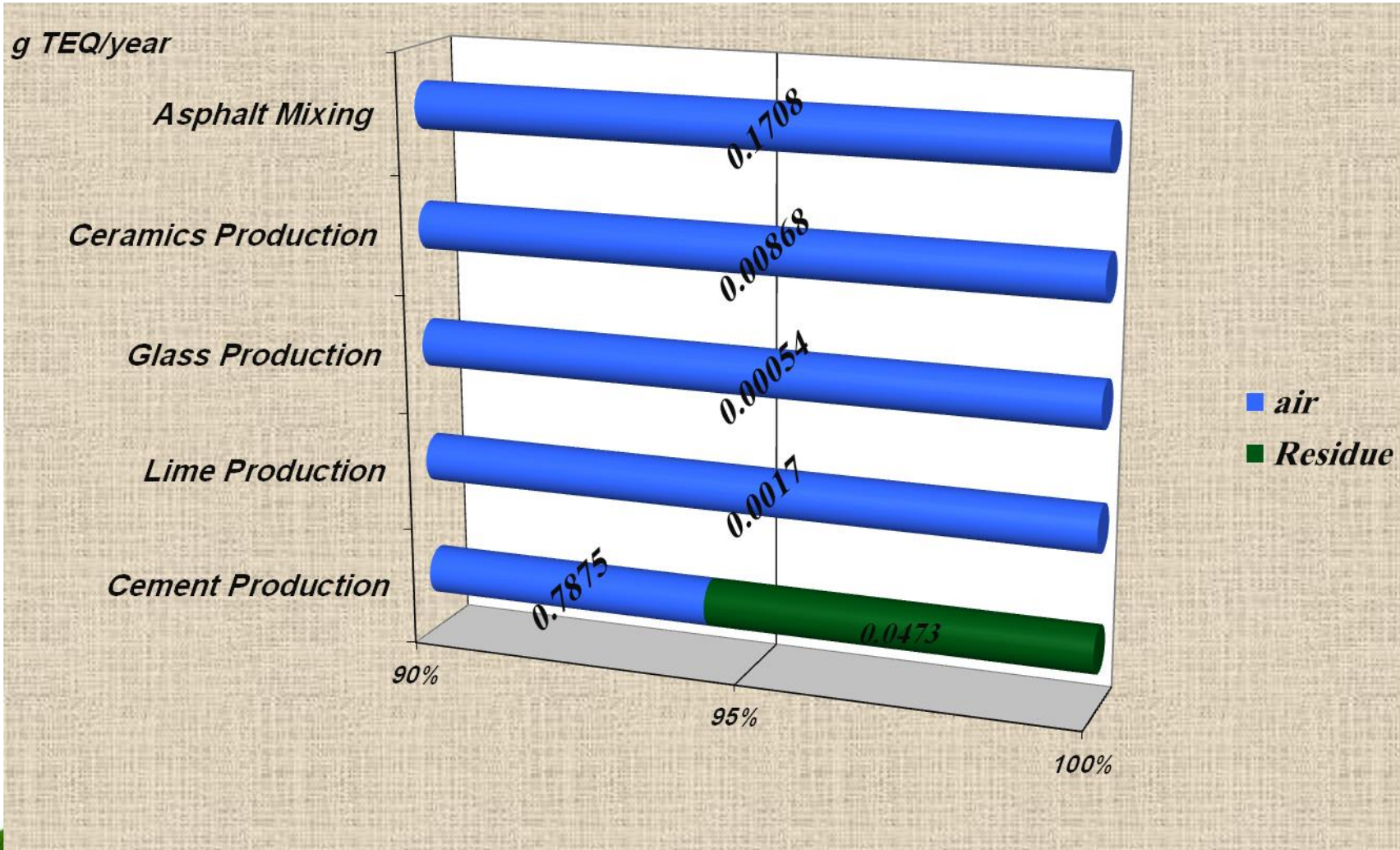


■ Red Sea

■ Suez

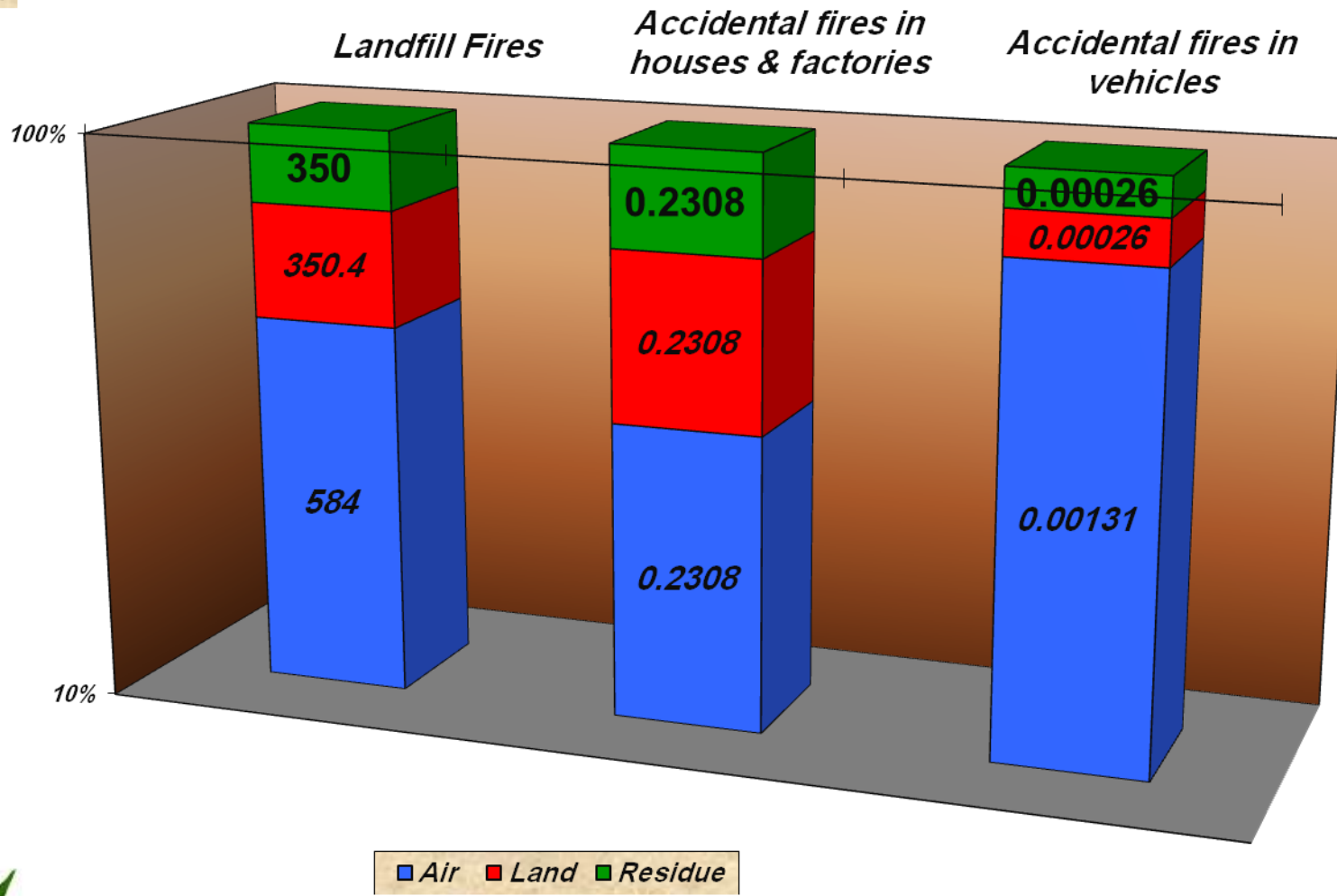
■ South Sinai

Emission from Production of Mineral Products in the Red Sea Coast



Emission from Open Burning Processes in the Red Sea coast

gm TEQ/year





Strategic Partnership for the Mediterranean Sea Large Marine Ecosystem

MedPartnership

Integrated Management of Equipment Stocks and Waste containing PCBs in National Electrical Companies of Mediterranean Countries

Regional project

Egypt – Turkey -Albania - Bosnia& Herzegovina





Picture 7: Transformer No 1



Picture 8: Screening Name Plate of the transformer



Picture 10: In the front the small transformer



Picture 11: In buck site the bigger transform



Training And Awareness Programs



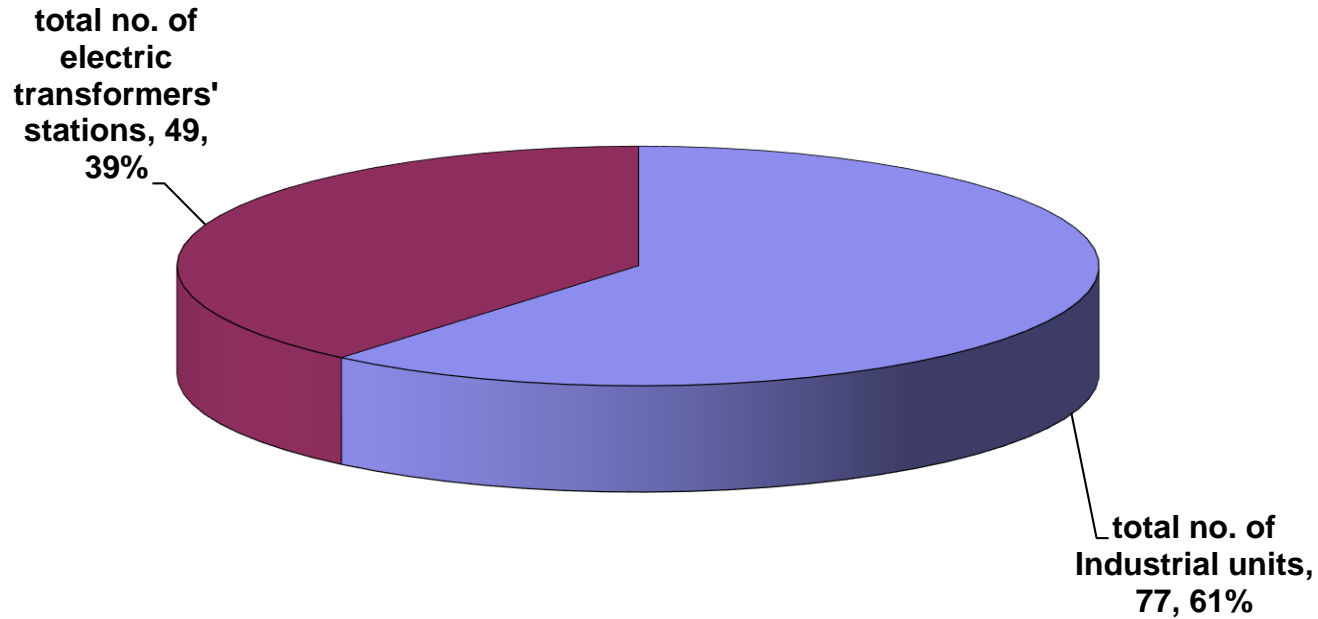
Egypt actions and facts

-2013 December delivery L2000DX in Egypt, conduction of theoretical and practical training on PCBs Sound Management and physical auditing of transformers and capacitors

-In Egypt was trained **99** local experts on Overall PCBs Management and **40** to audit transformers / capacitors and use of L2000DX Analyser



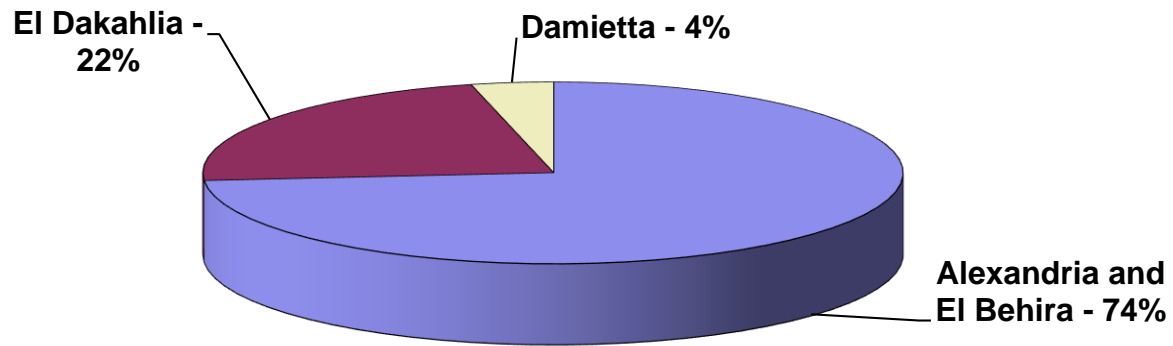
No. of Industrial Utilities and No. of electric transformers' stations (total of 126)



**61% of high Concentration PCBs contaminated transformers
in the industrial sectors**



No. of operating transformers 1950–1986

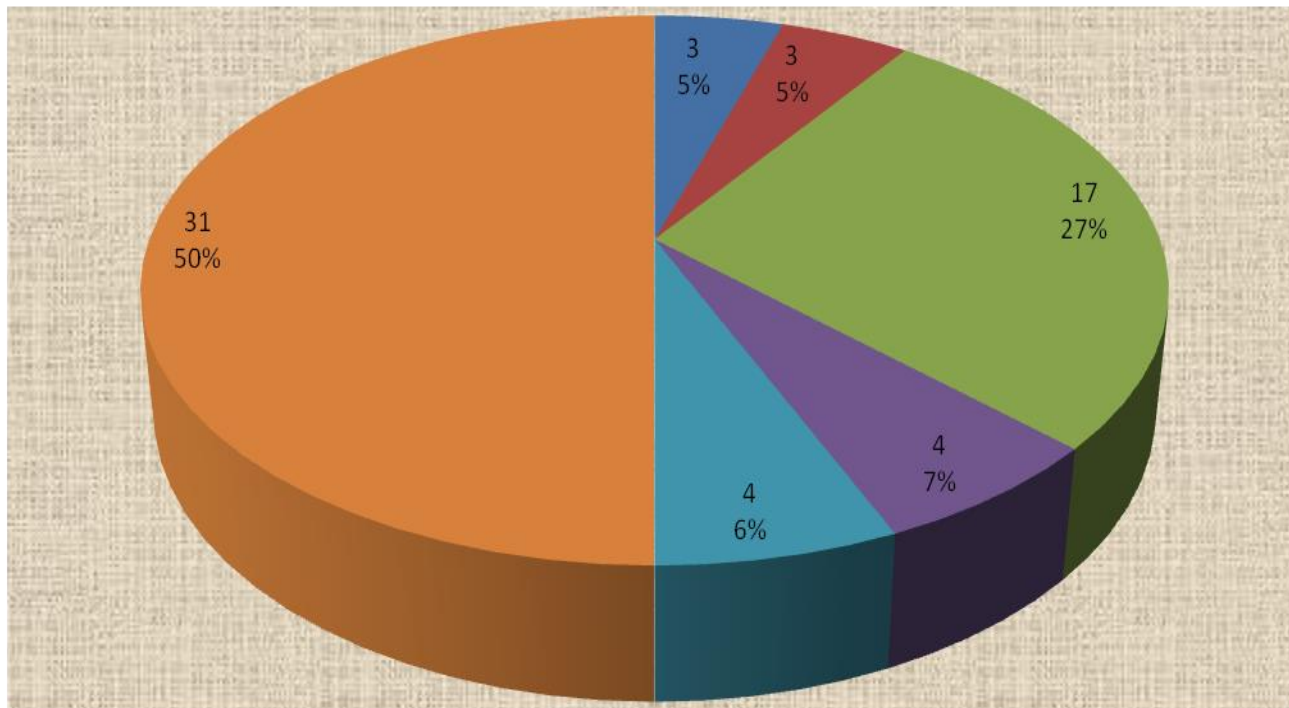


74% of inventory(No of transformers) was carried out in Alexandria and El Behira, 22% in El Dakahlia, 4% in Damietta



The results of this screening demonstrates

■ Pure PCBs ■ High PCBs contaminated (>5000ppm) ■ < 50 ppm ■ 50-100 ppm ■ 100– 500 ppm ■ Total





Sustainability and Synergy of Three Conventions in EGYPT

POPS MONITORING IN EGYPT

- South Cairo Electricity Distribution Company Oil Laboratory
- Established ministerial Committee
- Hazardous Substances and Waste List in process for Updating
- Accredited Laboratory (Residue Laboratory - Ministry of Agriculture)

Tuesday,
August 11th

Achievements of POPs Management

- POPs real Inventory.
- POPs Data Base.
- Well qualified Staff for (Equipment Identification- Inventory - Analysis) .
- 2 L2000DX Analyzers
- Expected New contaminated Areas.
- NIP Updating Project.
- Third Phase of GMP (Air - Surface Water)
- MEDPOL Project for Safe Disposal of 185 ton .



PCBs Management

Actions taken:

- Keep PCBs contaminated equipment in secure storage area.
- Stop mixing used Oil.
- Continuously Capacity building on “ POPs Management” for different groups RBOs, Ministries, Journalist & Media, NGOs.
- Notification Document for shipments/movements.
- The first approval for PCBs waste transportation Egyptian company.
- Established Interministerial committee for POPs Management.

Next Steps:

2-185ton of PCBs Safe Disposal out of EGYPT.

3- Trained Egyptian transportation companies on safe pumping / packing / labeling.

4- Trained Staff for Trans-boundary movement according to Basel convention / IMDG / ADR rules.

Challenge

- No Interim safe Storage area for PCBs Contaminated Equipment and oil.
- Cross contamination occurs in maintenance Workshops.
- Illegal Trade of PCBs contaminates waste in New electrical transforms.
- No National limits for PCBs conc. In (air, water, soil in our environmental law (4/94 modified by 9/2009
- Lack of analyzers equipment, ex L2000DX analyzer in ministries and relative authorities.
- Electrical Transformer Half life about 40 years.
- No Inventory for New POPs.



- Lesson Learned from GMP1:
- Quality Assurance Quality Control QA/QC very important in laboratories analysis
- Good identification for contaminated sites
- Good coordination important
- Reduce contamination in laboratories
- Continuously capacity building for POPs analysis for sustainability




Egypt expectation from New GMP

- Real inventory for new POPs.
- Center of Excellence for POPs analysis
- Strengthening the infrastructure existing laboratories
- Strengthening the national capabilities in soil and blood analysis for new POPs
- Support the central laboratory in ministry of environment for accreditation
- Continue the technical and financial support for new POPs analysis .
- Increase the no of samples in all matrix



Thank you for your attention!

"The dirty dozen"



PCDD
PCDF
PCBs
Aldrin
Chlordane
DDT
Dieldrin
Endrin
HCBs
Heptachlor
Toxaphene
Mirex

UNEP

**Stockholm
Secretariat**

GEF

**Rectox
Laboratory**

UNITAR

**"The nasty nine" alpha-, beta-, gamma-HCH,
PeCB, Chlordecone, PeBDE, OBDE, HBB, PFOS,**

www.pops.int ; www.ospar.org

http://www.eea.europa.eu/publications/technical_report_2007_1