

**Evaluation Workshop for the Mid-term Evaluation of  
The Regional Environmental Management Improvement Project  
In the Arab Republic of Egypt**

◆ **Purpose**

- 1) To review the progress of activities and inputs and to grasp the achievement of the project outputs and project purpose.
- 2) To find out the problems and issues in the process of implementation and discuss the measures to cope with them.
- 3) To revise the PDM by reflecting the changes and corrections raised during discussions.
- 4) Through sharing the mission of the Project, to reconfirm the commitment to work together.

◆ **Program**

- 1) Outline
  - Date : June 25, 2007 Time : 9:30 – 14:30
  - June 26, 2007 Time : 9:30 – 14:30
  - Venue : Conference Room of Mardi Hotel
  - Participants: Egyptian and Japanese (See attached list)
  - Language : English/ Arabic
  - Moderators : One main moderator (consultant) and 7 group moderators
  - Recorders : 3 recorders

2) Discussion topics (See the attached worksheet)

Group Name	Topics for Problem Identification / Solutions
1 WG1	Regional Air Quality Management
2 WG2	Reduction of Oil Pollution Risk
3 CC1	Sound Management of Hazardous Substances
4 WG3	Training Capability Enhancement
5 WG4	Production Process Improvement
6 WGS/WG6	Promotion of Public Awareness /Awareness by Air Station with Display
7 CC2	Sharing Information and Experiences among RBOs

**3) Program Schedule**

Date/Time	Contents	Persons in charge
<b>June 25, 2007 (Monday)</b> 9:30 – 9:45	• Opening Remark	Project Director Chief Advisor
9:45 – 11:30	• Introduction of the Program - Purpose and schedule of Mid-term Evaluation • Presentations - Achievements by each WG/CC	Evaluation consultant Group leader of WG/CC
11:30 – 11:45	Tea Break	
11:45 – 12:30	• Outline of Evaluation Process - Brief Outlines of Evaluation Methodologies - Brief Outlines of current PDM of the Project - Brief Summary of Findings thru data collection • Explanation of steps of group discussion: - House Rule, Assignment of group moderators & Recorders, explanation of discussion topics, etc.	Evaluation consultant
12:30 – 12:45	Tea Break	
12:45 – 14:30	Group discussion (1) - Review the progress, Status of Implementation (Scoring the progress) - Problem Identification	Group moderators
14:30	Closing	Evaluation Consultant
<b>June 26, 2007 (Tuesday)</b> 9:30 – 10:00	Review of previous day's work	
10:00 – 11:00	Group discussion (2) - Measure to cope with identified problems - Action to be taken - Reflection on PDM (Modification of activities)	Group moderators
11:00 – 11:15	Tea Break	
11:15 – 12:30	Group Discussion (3) - Review / revise the indicators - Discuss the current achievement level - Confirm the data source	Group moderators
12:30 – 12:45	Tea Break	
12:45 – 13:00	Finalize the group work	Group moderators
13:00 – 13:40	Sharing the results of discussions to other groups ---- Questions & Answers Session ----	Evaluation consultant
13:40 – 14:00	Confirmation of revision of PDM	Evaluation consultant
14:00– 14:20	Comments from Evaluation Members Egyptian side, Japanese side	Egyptian side - EEAA Japanese side
14:20 – 14:30	Closing Remarks	Evaluation Mission Leader

List of Participants for Evaluation Workshop

No	Name	Position, Organization	Remarks
<b>Project Management</b>			
1	Eng. Ahmed About Elseoud	Head of the CD for Air and Noise Quality and Project Director, EEA	
2	Ms. Heba Hassanein	Director, International Relations Department & Assistant Project Director EEA	Co-Moderator
<b>WG1: Regional Air Quality Management</b>			
1	Chem. Kawthar Hefny	GM of CCC, EQS EEA	
2	Chem. Moustafa Mohamed Mourad	Environmental Researcher, Air Quality Department, EQS EEA	
3	Chem. Mohammad Ezzidin Savour	Environmental Researcher, CCC EEA	
4	Mr. Mohamed Mosaad	Director of Lab, Greater Cairo RBO EEA	
5	Mr. Mohamed Hagag	Environmental Researcher, Air Quality Department, EQS EEA	
6	Mr. Hossem El Shakhes	IT specialist, CD for Information and Computer EEA	
7	Chem. Mohamed Gamal Hassanein	Tanta RBO EEA	
8	Chem. Mostafa Zayed	Tanta RBO EEA	
9	Mr. Maged M. ElSayed	Mansoura RBO EEA	
10	Mrs. Amaal AlSayed Altia	Mansoura RBO EEA	
11	Hatem Ibrahim El Nadi	Mansoura RBO EEA	
12	Mr. Akira YUKAWA	Air Quality Expert JICA Expert Team, REMIP	Resource person
13	Mr. Keichi TAKAHASHI	Air Quality Expert JICA Expert Team, REMIP	Resource person
<b>WG2: Reduction of Oil Pollution Risk</b>			
14	Chem. Laila El-Khouli	GM of Suez RBO EEA	
15	Chem. Mohamed Al-Asmar	Director of Lab, Suez RBO EEA	
16	Ms. Ghareeb Morsi	Director, EMD, Suez RBO EEA	
17	Chem. Ahmed Kasem Shela	Supervisor, National Center of Oil Spill Response, General Department for special assignment and Environmental Disaster Management EEA	
18	Gehan Mohamed El Sakka	Specialist, Coastal Water Department, EQS EEA	
19	Mr. Tadashi SHOJI	Water Quality Expert JICA Expert Team, REMIP	Resource person
<b>WG3: Training Capability Enhancement</b>			
20	Dr. Hoda Abbas El-Shayeb	GM for Training and Development Department EEA	
21	Mr. Hussien Emam	Advisor, Training and Development Department, CDCEA EEA	
22	Mrs. Laila Kandil	Director of RBOs staff training Dept. CDCEA EEA	
23	Mr. Salah Mohamed Ahmed	Senior Training Specialist, CDCEA EEA	
24	Mr. Yoichi Iwai	Training Advisor JICA Expert Team, REMIP	Resource person
<b>WG4: Production Process Improvement</b>			
25	Chem. Hoda Moustafa Ibrahim	Director of Lab, Alex RBO EEA	

26	Chem. Gihan Ramadan	Environmental Researcher, Alex RBO EEA	
27	Mr. Ghada Abd El-Moniem	Environmental Researcher, Alex RBO EEA	
28	Mr. Ahmed Dorghamy	Technical Assistant JICA Expert Team, REMIP	Recorder
<b>WG5/WG6: Promotion of Public Awareness/Awareness by Air Station w/Display</b>			
29	Mr. Fouad Megahed	GM of Public Awareness, CDCEA EEA	
30	Mrs. Amaal Taha Sayed	Director of Students Awareness Dept. CDCEA EEA	
31	Dr. Essa Shady	EQD, Greater Cairo RBO EEA	
32	Mr. Mohamed Hussein	Tanta RBO EEA	
33	Dr. Nader Shehata	GM of Assuit RBO EEA	
34	Mr. Hany Nabil	EQS, EEA, From WG6	
35	Mrs. Tomoko OHTA	Coordinator JICA Expert Team, REMIP	Resource person
<b>CC1: Sound Management of Hazardous Substances</b>			
36	Chem. Elham Refaat	Director, Hazardous Substances Department EEA	
37	Abed El Aziz	GM of Hazardous Chemical Substances and Wastes Dept. EEA	
38	Chem. Adel Shatef	Director, General Department for Environmental Development EEA	
39	Eng. Mohamed Lotfy	Environmental Researcher, Hazardous Chemical Substances Dept. EEA	
40	Eng. Asmaa Hamouda	Environmental Researcher, Hazardous Chemical Substances Dept. EEA	
41	Dr. Raouf Okasha	Consultant For Hazardous Substances Management, CC1 EEA	
42	Dr. Alwa Hussein Atwa	GM of Greater Cairo RBO EEA	
43	Mr. Hussien Moawad	EMD, Greater Cairo RBO EEA	
44	Chem. Mohamed Galal	Environmental Chemist, Greater Cairo RBO EEA	
45	Chem. Essam E. Saleh	Environmental Chemist, CCC EEA	
46	Ms. Eman Atef	Environmental Chemist, CCC EEA	
47	Mrs. Rasha Mohamoud	Environmental Chemist, CCC EEA	
48	Mr. Norihiko INOUE	Chief Advisor JICA Expert Team, REMIP	Resource person
<b>CC2: Sharing Information and Experiences among RBOs</b>			
49	Dr. Ali Abu Sedira	Head of Sector for Branches Affairs (SBA) EEA	
50	Chem. Fatma El Zahraa Abdallah	Environmental Researcher, Sector for Branches Affairs (SRBA) EEA	
51	Chem. Sayed Mostafa	Senior Environmental Researcher, Sector for Branches Affairs (SRBA) EEA	
52	Mr. Alaa El-Din	Evaluation Advisor JICA Egypt Office	Recorder
<b>JICA Evaluation Mission</b>			
	Mr. Kiyoshi Masumoto	Director, Global Environment Dept. JICA HQ -Tokyo	Resource person
	Mr. Hiromi Chihara	Senior Advisor, Institute for International Cooperation, JICA HQ -Tokyo	Resource person

Ms. Eriko Tamura	Environmental Management Team Global Environment Dept. JICA HQ Tokyo	Resource person
Ms. Shinobu Mamiya	Evaluation Consultant Global Link Management Inc.	Moderator
<b>JICA Egypt Office</b>		
Ms. Kaori Tanaka	Project Formulation Advisor Egypt Office	JICA Resource Person
Mr. Sherif Yusef	Program Officer JICA Egypt Office	Recorder

Regional air pollution control management system improvement

Working Group I ( WG I )

Components :

1. Air quality monitoring of the regional hot spots using passive Samplers.
2. Monitoring the impact of rice straw open burning on The air quality.
3. Emission Inventory from stationary sources.
4. Emission Inventory from mobile sources.
5. Load Analysis.
6. Using dispersion modeling to simulate the dispersion of air pollutant.



**Regional Environmental Management Improvement Project ( REMIP )**  
**WG1**

June 2007

1. Air quality monitoring of the regional hot spots using passive Samplers.

- Plan for monitoring the hot spots in delta area and greater Cairo seasonally established.
- monitoring parameters (SO<sub>2</sub>, NO<sub>2</sub>, NO<sub>x</sub>, TSP, PM<sub>10</sub>).
- Passive sampling Training for GC, Tanta, Mansoura staff was conducted by Central lab staff ( site selection criteria , sampling preparation , extraction , chemical analysis ) .
- 60 sites selected in delta area and Greater Cairo for monitoring.

2006-2007 Activities

■ Working group No.1:

- AQD and Three RBOs ( GC , Tanta and Mansoura ) participated in the following Activities :

  1. Air quality monitoring of the regional hot spots using passive Samplers.
  2. Monitoring the impact of rice straw open burning on The air quality.
  3. Emission Inventory from stationary sources.
  4. Emission Inventory from mobile sources.

**1. Air quality monitoring of the regional hot spots using passive Samplers.**

As planned the air monitoring in Delta & G.C using passive sampler PM10 were carried out by Tanta, Mansura, and G.C RBOs. as following:

- Long term Sampling is 12 days .
- Short term sampling is 5 days .
- First season from (17-28/9/2006) autumn season
- Second season (10-21/12/2006) winter season.
- The autumn Samples were analyzed by CCC and Tanta RBO .
- Winter samples (Sox) are analyzed now in Tanta, NOx are analyzed in GC RBO.
- The results will be used for validation of dispersion model.

sampling point selected in the delta and G.C urban Area :

1. Long Term		NO <sub>2</sub>	NO <sub>x</sub>	SO <sub>2</sub>	PM10	
RBOs						
G.C		30	30	30	30	
Tanta		15	15	15	15	
Mansura		15	15	15	15	
Total		60	60	60	60	
2. Short Term		NO	NO <sub>x</sub>	SO <sub>2</sub>	T.S.P	PM10
RBOs						
G.C		12	12	12	3	3
Tanta		5	5	5	1	1
Mansura		5	5	5	1	1
Total		22	22	22	5	5

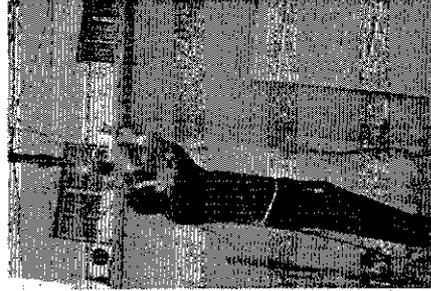
**2. Monitoring the impact of rice straw open burning on The air quality**

■ Three different types of tests/investigations carried out in cooperation with Tabbin institute :

- open burning test in the field.
- Furnace test .
- Hood Test.

■ **Achievement**

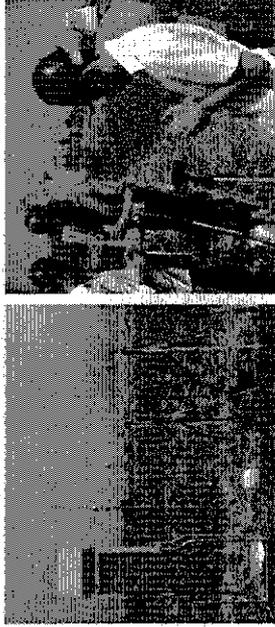
- Determining the influence of rice straw open burning in the air quality.
- Establishing emission factor for rice straw burning , Final report for Emission Factors on Rice Straw was finished .



Furnace test done in Tebbin institute in cooperation with CCC



open burning test carried out by Tanta RBO (26,27/9/2006 in area of 2500 m2) in Kafer El shekh Governorate to determine the influence of rice straw open burning in the air quality in the episode period (black cloud).



### 3. Emission Inventory from different sources.

■ It includes:

- A. Emission Inventory from stationary sources.
- B. Emission Inventory from mobile sources.

The work plan was divided into:

- 1-Determination the geographical locations for the inventory.
- 2-Determination the types of sources that should be included in the emission inventory.
- 3-Determination the participants in the process activities.
- 4- Data collection.
- 5-Data review and data analysis.
- 6-Capacity building and sharing experiences.

Hood Test done in Tebbin institute in cooperation with CCC and GC



### Achievements

- GC RBO has collected the survey sheet from only 7 Facilities.
- Mansoura RBO has collected the survey sheet from 27 Facilities.
- Tanta RBO has collected the survey sheet from 22 Facilities.
- AQD did the inventory survey for Power plants and Cement sector.
- AQD has coordinated with Ministry of petroleum, Industrial cities , Industrial development authority and industrial union.

### A. Emission Inventory from stationary sources.

- Stationary sources was classified into two categories :  
 Major (Large , medium) facilities and Small facilities.  
 Preparing a list of the major industrial facilities (more than 120 Facilities) in Delta area and Greater Cairo as a first stage.
- In first stage the stationary sources list was divided as follow among the 3 RBOs:
  - GC RBO has target 76 Facilities.
  - Tanta RBO has target 30 Facilities.
  - Mansoura RBO has target 40 Facilities.

### Vehicles inventory (Type, Engine capacity and fuel )

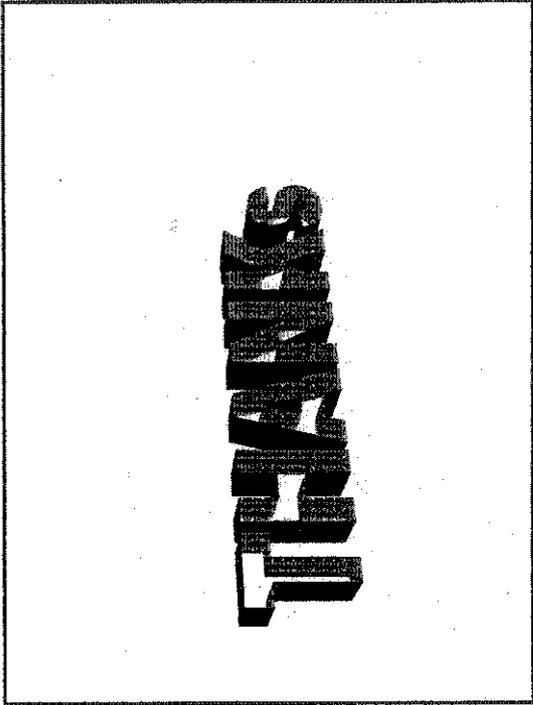
Geometries	Type	Capacity		Power		Cylinder		Grand Total
		liters	HP	CV	liters	HP	CV	
New/old	Private	15146	1525	892	497	132	6	274
	Public	2258	1025	76	3625	1825	864	85
	Bus	1473	1201	52	2585	4557	0	0
	Truck	0	0	275	279	3625	0	0
	Van	47416	0	0	47416	0	0	0
	Other	42228	0	0	42228	0	0	0
Grand Total	Private	25146	1525	892	497	132	6	274
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	Other	42228	0	0	42228	0	0	0

### B. Emission Inventory for mobile sources

- It was conducted by Cairo university consultant group.
- They collect the mobile sources data ( Vehicles data , Road data ).
- Mobile Emission Source Inventory Survey Final Report was prepared by Cairo university consultant team .









REGIONAL ENVIRONMENTAL  
MANAGEMENT  
IMPROVEMENT PROJECT (REMIP)



### Oil Pollution Program Mid-term Evaluation

(WG2)  
Suez RBO

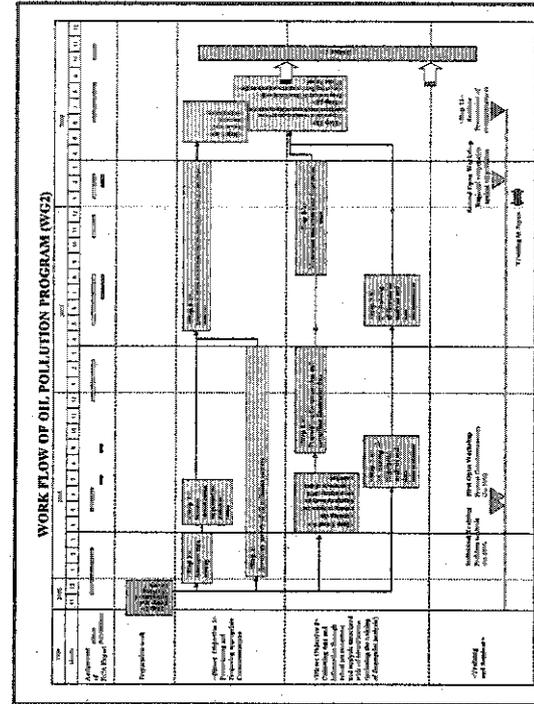
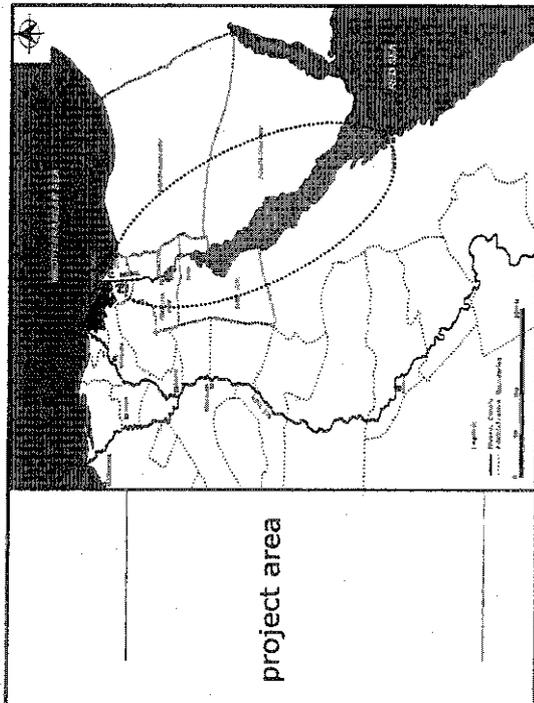
June, 25, 2007

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### Objectives

- Formulate & propose appropriate countermeasures against oil pollution in canal region.
- Collect data & information through measurements/analysis associated with oil identification including finger print analysis.

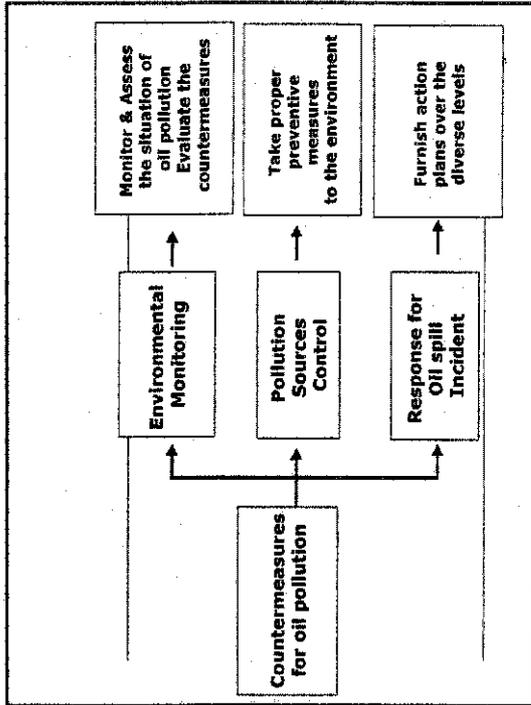
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## Crude oil & products Database

- Establish Crude oil & product database for oils of stationary sources & moving sources ( with collecting sample oils from various sources ) linking with measured fingerprint

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## Sustainability

Approval by EEAA Managements for allocating budget in 2008 for:

1. Lab. Sustainable Operating System (reagents , Glass wares , Replace gas cylinders)
2. Information & Tech. transfers plan between all RBO's in 2008 in cooperation with BAS & WG5.

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## Current status

- Equipment received at April,2006
- Implement 1<sup>st</sup> Tech. Training July&Aug. 2006
- Evaluation of Tech. Training &skills need assessment
- Base line survey Done
- 3 workshops for Inventory survey capacity building for EMD task force.
- Inventory survey by Suez RRO almost done
- Crude oil & Inventory Survey Data base are build
- Preparation for 2<sup>nd</sup> Tech. Training according to lab member need assessment.
- Preparation for Countermeasure plan for Northern Suez gulf in process
- Admerality Charts ( Map's ) Purchased

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## Additional Technical Training

*At March, 2007*

*Under Supervision of Nasr Petroleum CO.*

*Suez RBO Lab. Staff well trained how to measure the oil physical parameter by :*

- Viscosity meter
- Density meter



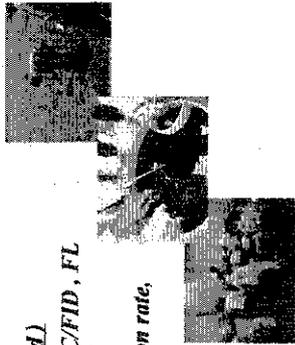
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## Contents of 2<sup>nd</sup> Technical Training

*From July, 2007 (Till Not fixed)*

• *On JOB Training For GC/FID, FL & FTIR analysis*

- *Measurement of Refraction rate,*
- *Measurement of Density*
- *Measurement of Viscosity*
- *QA and QC practice*
- *Data Interpretation & reporting*



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## Suez RBO Lab. Activities

### 2. FTIR

*From Nov. 2006 The Laboratory Staff measured 11 Diff. kind of crude oil At FTIR & Built the crud oil library at FTIR.*

*For each type of crude oil we had 3 diff. measurements .*

*Without weathering + Weathered 24h. + Weathered 7 day*



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## Suez RBO Lab. Activities

### 1. Crude Oil Collect

*Suez RBO Collect 11 type of crude oil*

*9 Arabian Crude oil :*

1. Light Arabian
2. Extra light Arabian
3. Medium Arabian
4. Heavy Arabian
5. Kweet
6. Light Iran
7. Heavy Iran
8. Qurwazon Iran
9. Basra Iraq

*1 Local Crude oil :*

1. Balaeem
2. Ras badran

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### *Additional Equipment Support*



22

### *Discussion Meeting of WG2 at Jan 25<sup>th</sup> 2007*

*The meeting Chaird by Eng. Ahmed AbouElsoud, the project manager, And Japanese Experts.*

#### *The Recommendation :*

- *Japanese side support & provide standard material for GC/FID Accessories for FTIR (ATR unit) Accessories for GC/FID (Auto injector)*
- *EEAA side support & provide Glass apparatus & Consumables*

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#### • *Suez RBO purchase*

- 1. Glass Fraction Column ( 50ml & 100 ml )*
- 2. Microliter Calibration syringe ( 100, 250 & 500  $\mu$ l )*
- 3. Screw Top Nail Glass with cap ( 2 & 10 ml )*
- 4. Extraction Thimbles ( Pure cellulose) For Soxhlet*
- 5. Glass Pasteur Pipet with Dropper Bulb*

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### *Management Unit*

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## 1. Inventory Survey

- Fixed sources  
Oil refineries, Platforms, Oil transport / storage facilities,  
Ports, .....etc
- Design Questioner for ( Combating equipment, X Accident,  
Oil Spill Response Plan, Safety Control System of Loading  
Oil Leakage )

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## 2. Building Data Base

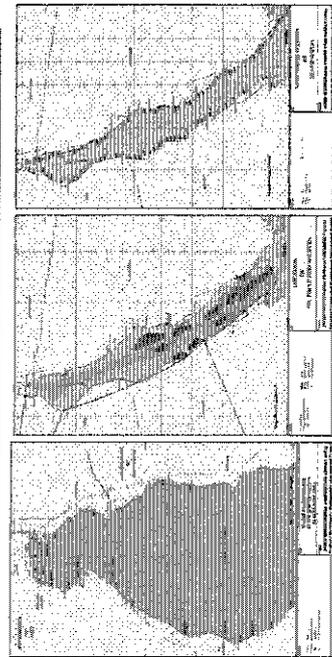
For Total Pollution sources 20 Co.  
In Suez ( 2 Refinery, 2 Transportation, 2 Bunkering )  
In S.Saini ( 3 oil production )  
In Red Sea ( 11 oil production )



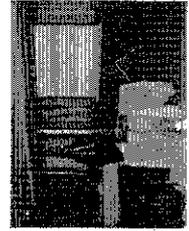
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## 3. GIS Map

Upgrading pollution source sites



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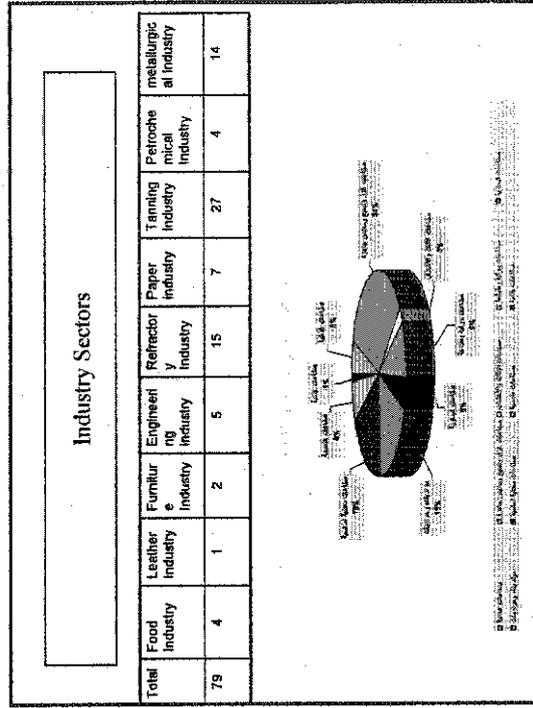
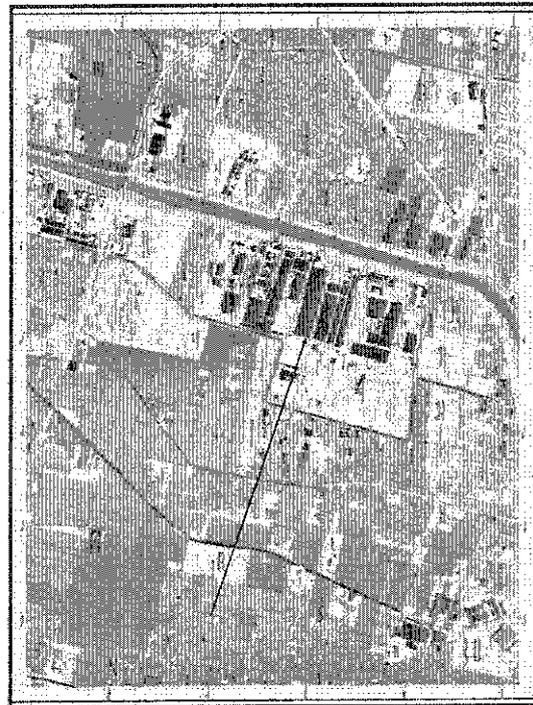
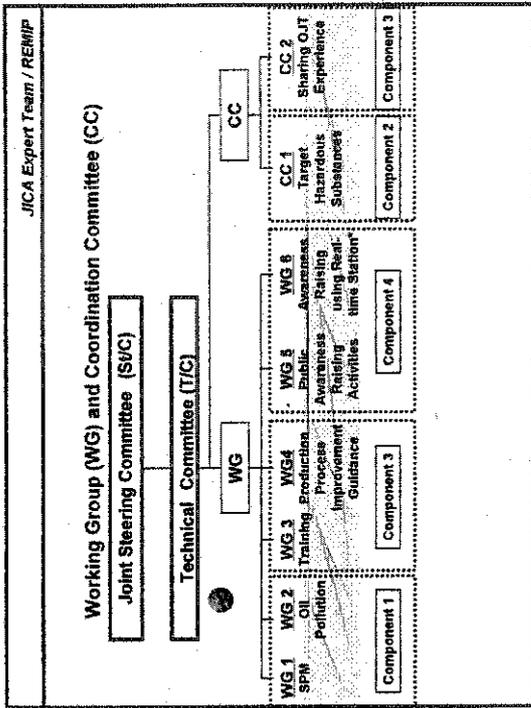
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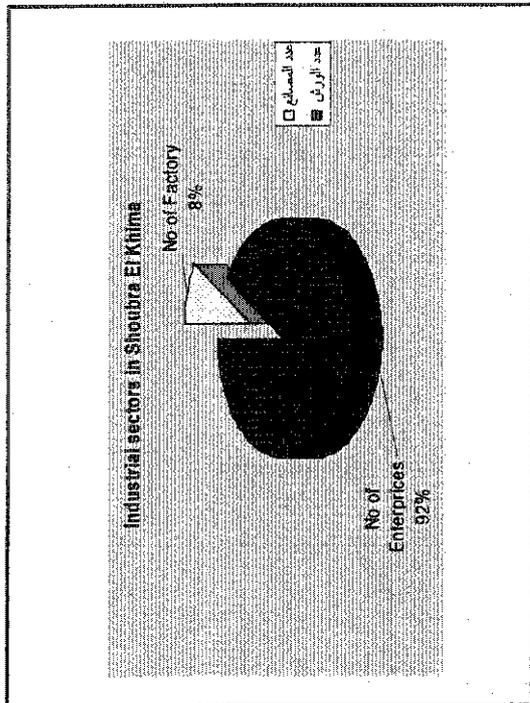
# Sound Management of Hazardous Substances

(PB's)



## Polychlorinated Biphenyl





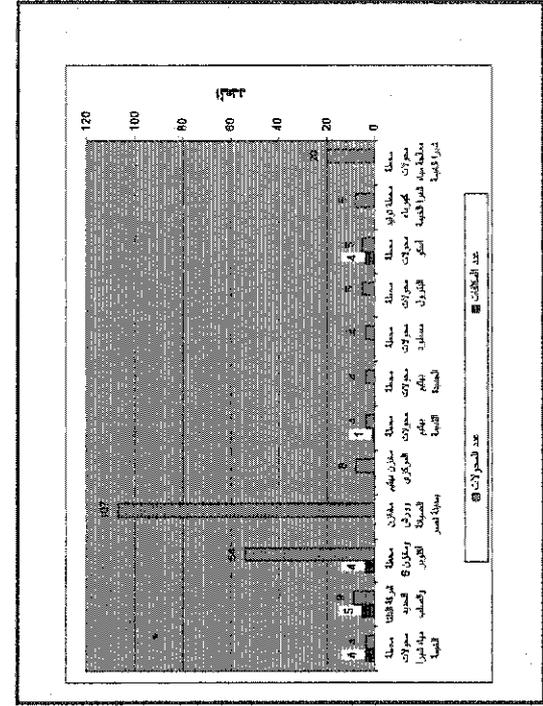
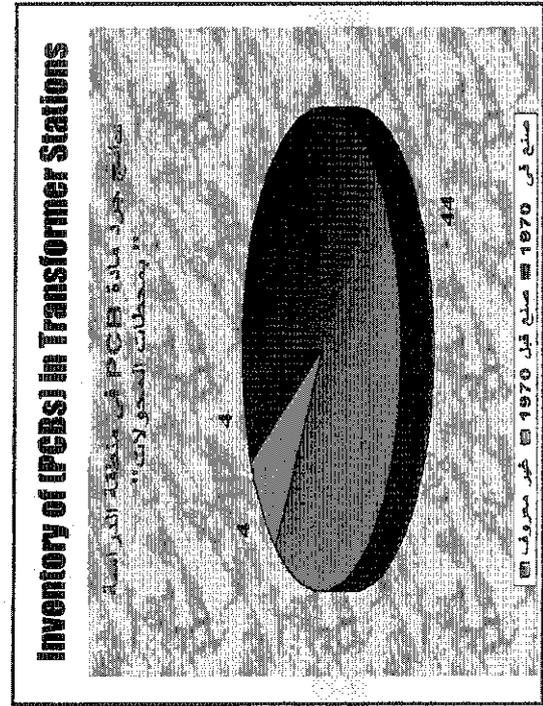
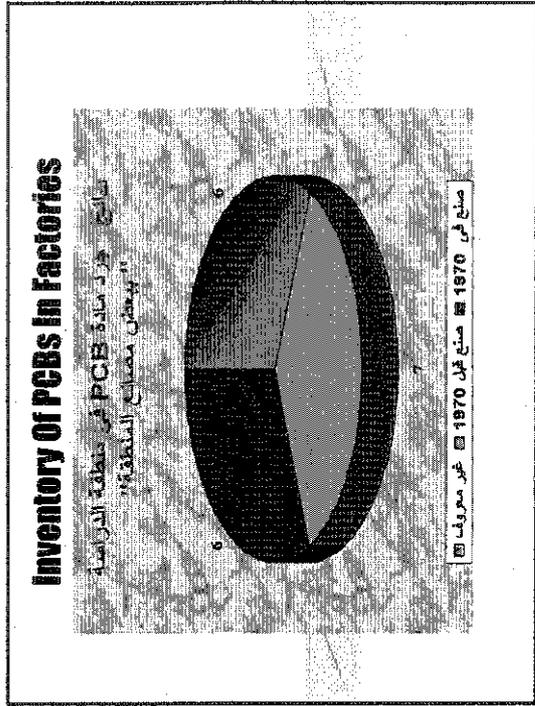
# ACTION PLAN of PCBs

TITLE/ITEM	Strategy / Action plan	Schedule of Operation				Responsible Section/ Department				
		2006-2007	2007-2008	2008-2009	2009-2010					
Inventory	1. Identify the different sources of pollution 2. Identify the different sources of pollution 3. Design the schedule of different work items 4. Training, MSDs, the risk assessment and 5. Prepare a list of work items to apply for	1	4	7	1	1	4	7	1	IS Dept. JICA Dept. OS Dept. OS Dept. JICA Experts
Data Base	1. Create system (spreadsheet DB) 2. OS Dept. 3. OS Dept. 4. OS Dept. 5. OS Dept. 6. OS Dept. 7. OS Dept. 8. OS Dept. 9. OS Dept. 10. OS Dept.									IS Dept. JICA Dept. OS Dept. OS Dept. JICA Experts
Risk Assessment	1. Risk Assessment 2. Risk Assessment 3. Risk Assessment 4. Risk Assessment 5. Risk Assessment 6. Risk Assessment 7. Risk Assessment 8. Risk Assessment 9. Risk Assessment 10. Risk Assessment									IS Dept. JICA Dept. OS Dept. OS Dept. JICA Experts

Activities	3. Assessment Implementation Identify Target Groups Identify the assessment plan Design the assessment plan the company in the public hearing Participants	4. Capacity Building Phase Identify the training needs of the stakeholders Identify the training needs of the stakeholders Design training plans Design training Apply the	5. Data analysis and providing Interpretation OS or appropriate committee/DA	Responsible Section/ Department			
				IS Dept. JICA Dept. OS Dept. OS Dept. JICA Experts			
Capacity Building							
Data analysis and Interpretation							



Transformer NO	Site Name	NO
20 Transformer	Transformer Station (Water Treatment Station)	1
8 Transformers	Shoubraq Ekhims Power plan.	2
5 Transformers - 4 Capacitors	Esco Transformers Station	3
5 Transformers	Petrosum Transformer Station	4
4 Transformers	Mostrod Transformer Station	5
4 Transformers	Bahlime Transformer Station	6
4 Transformers - 1 Capacitors	Old Bahitime Transformer Station	7
5 Transformers	Bahlim Storage area	8
107 Transformers	Naser City Storage Area	9
23 Transformers - 4 Capacitors	6 October Storage area	10
9 Transformer - 5 Capacitors	Delta Iron & Steel Factory	11
4 Transformers - 4 Capacitors	Transformer Station (Water Station)	12



### PCB Inventory Survey

Old transformers found though PCB inventory survey (until 14 January)

Target	Manufactured in 1970s	Manufactured before 1970	Unknown
Distribution Stations	4	4	44
Power Station			
Private Factories	6	7	6
Transformer Storage Station	(note)	3 (note)	(note)

Note: In the Naser City storage yard, approximately 200 transformers were found and some of them were manufactured before 1970s.

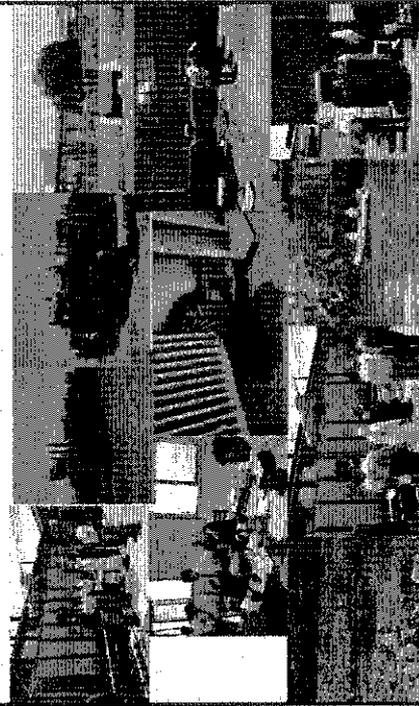
### NO of Samples

Esmaia Canal	Soil	Transformer Oil	Site
2 Sediments 2 Water Samples	1 (around Drum)	* 2 (Shoubra El Khimia power plant)	Transformer Station Power Plant
		* 5 Iron & Steel * 2 Cables Factory	Factories
	21 Petroleum Company 4 (6 Bahatime Storage Area) 1 (Bahatime Storage Area)	* 8 samples (6 October storage area) * 4 (Bahatime Storage area) 1 (Naser City Storage area) * 2 (Oil Container Delta Iron & Steel)	Storage Area

### Results of PCBs

Elmaco Transformers 1966	62.8 mg/L	Dry weight
Conc. of sediments	31.3 ug/kg	dry weight

### Inventories Sites

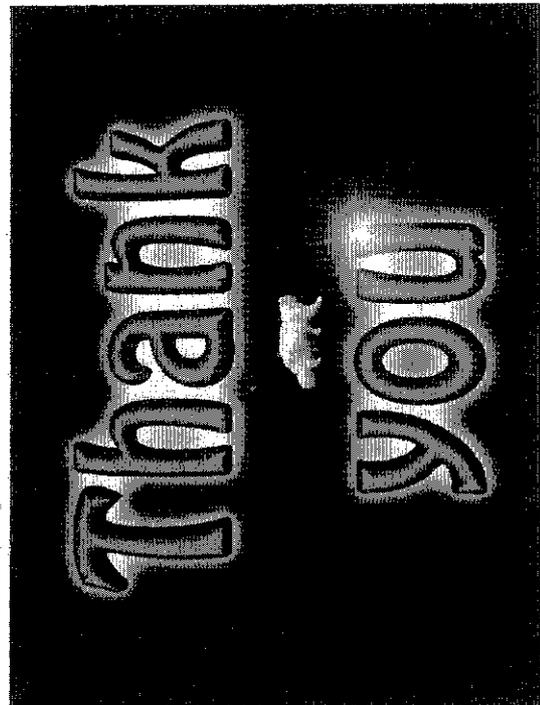


### **obstacles**

- 1- NO available cars for all time
- 2- hardships to compensate consumable lab material
- 3- Lack of logistics ( Fax – Telephone )
- 4- Graphite Furnace for next year.
- 5- Training in Japan for limited person (2)

### **obstacles**

- Delay of delivering of GC affect of program activity.
- Kites and DEMSO very important



## The Main Goal

Technical support & cooperation with the ■  
GDT to transfer the experience between the  
two sides ( EEAA – JICA ) .

## REGIONAL ENVIRONMENTAL MANAGEMENT IMPROVEMENT PROJECT

( WG 3 )

## Roles of WG3 / GDT :

- 6 - Notification/ invitation of trainees .
- 7 – Implementation of training activities { setting  
up of training room and Facilities ( screen ,  
microphone ,,,, etc. ) } .
- 8 – Evaluation for all training Programs .

## Roles of WG3 / GDT :

- 1- Preparation of training plan for all Tech.  
Depts. in EEAA .
- 2- Collaboration with other Techn. Dept. for  
training plan preparation .
- 3- Preparation of budget for implementation  
of training plan .
- 4- Implementation date, duration, and venue.
- 5- Selection of target trainees .

Actual activities done with cooperation between  
REMIP + GDT :-

**B : Experiences Training to the Arab countries :**

In cooperation with REMIP in other Arab Countries ,

A training programme has been implemented on " The Capacity Development of Environmental Monitoring At Directorates for Environmental Affaires in Governorates in The Syrian Arab Republic "  
19/11 - 14/12/2006

Actual activities done with cooperation between  
REMIP + GDT :-

**A On the Job Training :-**

In collaboration with GDT , technical depts . And REMIP , the following activities had been done  
1- Training Programme on " Flue Gas Measurement by Dust Sampler (WGI) " 3-13/12/2006  
2- Training Programme on " Pre-treatment and Analysis of PCB2 " 3-14/12/2006  
3- Training Programme on " Sampling and analysis BTEX using Auto Sampler for Air and GC FID " 24/12/2006 - 18/1/2007

Actual activities done with cooperation between  
REMIP + GDT:-

- 6- In fact and after looking for EEAA organogram . We find that we have more than 25 depts & the number of the questionnaires will exceeded a lot , than the proposed number of ( 125 ) .
- 7- The following table ( for example ) explain the tentative number of the questionnaires must be fulfilled to cover the needs of the agency and hence it will be using to analysis and put the training plan .

Actual activities done with cooperation between  
REMIP + GDT:-

**C : TNA :-**

- 1- Preparation of TNA format .
- 2- Training of the format .
- 3- Dissemination of the format to all target depts and RBO's .
- 4- we completed the Fulfillment of the format for all the RBO's and the EEAA Depts except the protectorated Dep . .
- 5- The Jica expert has proposed to fulfill the format with 25 departments and the RBO's 5 persons from each .

### Collaboration with other Deps. /

#### RBO's in CC2 :

- 1 – Presenting the Deps. , RBO's training needs to the GDT to know the possibility of implementing .
- 2 – Coordination with the technical Deps. To implement the training programs for the RBO's .
- 3 – Presenting to CEO for approving the implementation .

19

### Actual activities done with cooperation between REMIP + GDT:-

- 8- We Started Now to make a tentative analysis to the questionnaires to choose the most training priority courses needed to start implemented in collaboration with the REMIP expert .

### Data Base

- 1- In collaboration with the REMIP , the Japanese side starting to make a summary of training courses required , based on TNA survey .
- 2- This summary survey will be the base of the Bata Base for all the EEAA employee .

**Prepared by Working Group 4  
of Alex. RBO staff**

**Leader of WG4**  
Chemist / Hoda Moustafa

- Members**
- 1- Chemist / Ghada Abd El- Moneum
  - 2- Chemist / Laamia Moustafa
  - 3- Chemist / Gehan Ramadan
  - 4- Chemist / Ihab El- Elsharakawy

**REGIONAL ENVIRONMENTAL  
MANAGEMENT IMPROVEMENT  
PROJECT (REMIP)**

**Achievement of WG4:  
Improvement Guidance of  
Production Process**

The industrial sector in Alexandria governorate hosts around 2000 large and medium size industrial establishments.

The industrial establishments in Alexandria governorate are distributed within the main city (7 districts) as part of the residential area and over a total of seven industrial cities and / or areas.

**Introduction:**

Alexandria governorate is located to the northern side of the Nile delta with a population that exceeds 4 million and a coastal shoreline that exceed 100 km,

the Governorate hosts about 40 % of Egypt's industry including steel and iron industries, fertilizers, textiles, paper pulping, food, chemical, tanneries, cement, salt mining and fishing industries,

the governorate also hosts more than 50 % of the petroleum activities in Egypt.

**Reasons for selecting the proposed project (improvement guidance of production process)**

Accordingly, the industrial development in the city results in generation of air, water, soil pollution as well as generating industrial hazardous wastes (gas, liquid, or solid wastes)

As the principal activities in Alexandria are based on industry, the city suffered from several environmental problems in the following regions:

- 1- Pollution of El-Max Bay.
- 2- Pollution of Abou Kir Bay

- Most of petroleum oil industries are concentrated in one area (El-Max and El-Dekhela region) and some of them are distributed in the west Alexandria (El-Amreya and free zone region and King Maryute).
- Cement industries located in El-Max and El- region .

**General Objective:**

1. Collecting information on industrial pollution abatement technologies including process improvements for compiling as knowledge basis at selected industrial areas.
2. Making inspection manuals / guidelines for inspectors of RBOs.
3. Holding seminars to introduce and disseminate some successful cases of introductions of pollution abatement technologies for factories (good practices)
4. Training for instruction of production process improvement on petrochemical , petroleum and cement industry , and then exchange knowledge and experience to other RBOs

- 3- pollution of Lake Mariut
- 4- Air pollution in Wadi El-Kamer (western Alexandria)
- 5- Pollution from metal foundries
- 6- Pollution from leather tanneries
- 7- Pollution of petrochemical region in El-Amreya
- 8- Pollution from petroleum industries

### Action plan of baseline survey for Improvement guidance of production process

**Objective :** The objective of this baseline survey is :

- To clarify the present situation of industrial pollution abatement in Egypt and the Alexandria area , and to define applicable technologies for pollution abatement including production and / or manufacturing process improvement , and
- To specify respective tasks in the joint work between the Japanese side and the Egyptian side. Information data of industrial pollution in Alex. Area including:

5. Technology Transfer and Capacity Development through implementing OJT , individual training and seminars.

6. Assistance on factory inspection including production process improvement by RBOs staff.

**Part 3 :**

- Collection of good practices of production process improvement in petroleum – related petrochemical and cement industry ...

**Part 4 :**

- Interview survey for industries of petroleum – related petrochemical and cement industry

### Items of Baseline Survey

**Part 2:**

1. Overview of industrial sector in the Alexandria area (for all of the industrial sectors) and

2. Inventory of the petroleum – related and petrochemical, includes oil refinery, gas production industries, lubricants production and wax production (called selected industries) in Alexandria area.

**Work Plan of WG4 (part2) is divided into 4 items:**

- 1- Collecting data on industrial sector in Alexandria (for one month).
- 2- Carrying out the inventory of the selected category in Alexandria area "Petroleum and Cement industries" (for one month and half)
- 3- Compiling the data collected and report output.
- 4- the Interview Survey for the 10 Selected Industries.

## **Work Plan for Baseline Survey ( Part 2) (during 2006)**

- this plan included the steps for carrying out component 3 of production process improvement.
- Baseline Survey part 2 includes the data and information of industrial pollution in the Alexandria area .
- Baseline Survey part 2 Is the main duty of Alexandria RBO

## **Methodology**

- Setting work plane for baseline survey
- Designing application for collecting data and information from factories
- Collecting the available data from Alex. RBO.

**Target area :**  
The target Area is Alexandria governorate

**Survey Implementer :**  
working team of Alex. RBO staff under supervision of Alexandria – RBO general manager and local expert as a technical assess tent .

## Achievements:

### \* Part 2

**Item one:** Collection of the following information has been done, which is:

Overview of industrial sector in the Alexandria area ( for all the industrial sector) including:

- Number of Industries , by respective ategory
- Locations ( District )
- Respective shipping amount
- Respective Number of Employee

\* Time line : Jan 22,2006 to Feb 28,2006

➤Connecting related organization and EMU to support us with the available data.

➤Making survey visits for some industries of the selected category to collect the remaining needed data and information.

**Item 3:** final report for baseline survey has been prepared and presented to Jica experts in a meeting in Cairo in presence of the subcontractor (Eco Con Sery) that was selected at this time.

It was suggested in this meeting to invite 10 companies that was selected in part 2 survey to Alex RBO in presence of Jica team to present the objectives of the project and its benefits to the selected companies.

\* Time line : June 6,2006

**Item 2:** Collection of the following information has been done, which is:

Inventory of Petroleum -- related and Petrochemical in Alex. Area including: Name of Company

- Location ( address )
- Kind of Production
- Production Amount
- Number of Employee
- Water Consumption
- Electricity Consumption
- Fuel Consumption

\* Time line : March-1st,2006 to May 31,2006

**\* Part 3 : Phase I: Training for instruction of pollution abatement and process improvement on the selected sector (petroleum related industries)**

**Alex RBO has been provided by two instruments from the (REMIP) project these are:**

- 1- Auto sampler for air and,**
- 2- Auto sampler for water**

- Local expert has been selected to be involved to participate in the project.
- The 10 companies have been Selected as the following :

- Egyptian Petrochemicals Co. - Gasco Co.
- Amreya oil refining Co. - Misr Petroleum Co
- Midor refinery Co. - Alexandria Petroleum Co.
- Amoc Co.
- ANRPC Co. - Alexandria for Cement and Amereya for Cement

**The objectives of the training are:**

To sample and analyze BTEX in the air by activated charcoal adsorption method, using an auto sampler, solvent extraction, and analysis using GC/FID.

To interpret data obtained from the measurement and analysis, and

To transfer the technologies associated with analysis of BTEX in the air by using the auto sampler (STS-25), GC-FID to the staff of Alexandria RBO.

Technical training for sampling and analyzing BTEX using Auto Sampler for air and Gas chromatography (GC)/FID is one of the component of the improvement guidance of production process (WG4) in the regional environmental management improvement project (REMIP)

## Phase II: Interview Survey

- Collection of good practices of production process improvement in petroleum – related petrochemical and cement industry ...

### Achievements (During 2007)

- This Phase is started from 5, march 2007

## The training is divided into two phases:

1<sup>st</sup> phase: from 24/12 to 28/12/2006 (already done) including:

- Lectures
- Sampling of BTEX and solvent extraction

2<sup>nd</sup> phase: from 14/1 to 25/1/2007 including:

- Analysis by GC-FID
- Quality Assurance/Quality Control
- Data interpretation and evaluation of the data and result of analysis.

## Work Plane Of WG4 for Improvement Guidance of Production Process (During 2007-2008)

Part 4: providing assistant to inspection team of Alexandria RBO staff, and EEAA

- Execution: The end of June to 30<sup>th</sup> July, 2007

### Achievements:-

Part 3 : Phase II (Interview Survey) – during march and april, 2007

- Local expert has been selected to be involved to participate in the project ( Dr. Shadia el Shishini)

- The 10 Selected Companies has been invited to Alex. RBO (at 22,feb 2007) in presence of Jica team and the national expert for discussing the objective and benefit of the project, and presenting the survey checklist that had been designed by WG4, and discussing the work plan for companies visit.

- Starting the companies visit at 5<sup>th</sup> March 2007, according to the prepared work plan ,to fill the survey checklist and to be aware of industrial processes, environmental management ,point of emissions, water consumption and releases, fuel consumption and type , number of Boilers, Transformers, .....

- This phase will be finished at the second week of June

#### **Continue: Part 4**

##### **\* Activity components**

- Jointly inspecting industries of the selected sub-sector with inspectors.
- In the course of inspection, discussing and suggesting the applicable technologies to be introduced, among inspectors, industries and the team.
- Introduction of Japanese experience on instruction to industries regarding pollution abatement or process improvement.

##### **Objective of activities**

- Inspectors and other related staff of RBO are trained so as to be able to suggest and promote the technologies to industries , regarding pollution abatement and production process improvement.
- Inspectors and other related staff become aware of cleaner production technology, such as production efficiency improvement, conversion of raw material, recycle of material.

#### **Part 6: Holding seminar to disseminate successful cases of pollution abatement technology for petroleum – related industry**

- Execution : 20<sup>th</sup> Jan., 2008.
- Activity components:
  - \* Preparation of hand out for seminar.
  - \* Holding seminar including presentation by staff of RBOs / EEAA worked jointly through the above activities.

#### **Part 5: Revision of factory inspection manual and training to RBOs and EEAA staff for petroleum – related industries**

- Execution : 1st Jan., to 30th Jan., 2008
- Activity components:
  - \* Jointly revising factory inspection manual, prepared by FINNIDA, when necessary based on above activities.
  - \* training to inspectors and officers of Alexandria RBO on the inspection manual based on the above activities.
- Objective of Activities: Preparing of factories inspection manual and use it by RBO's .

## Experience Gained

- 1- Overview of industrial sector in the Alexandria area for all industrial sector as indicated in the attached report.
- 2- Inventory of petroleum – related and cement industries in Alexandria area as indicated in the attached report
- 3- Provide knowledge and experience obtained to other staff in RBOs
- 4- The information collected will include successful examples of manufacturing process improvement

With cooperation of WG4 and WG5 ,  
Alex. RBO suggest having Training and Workshops  
on the following subject :

- Risk Assessment in Petroleum – related Industries .
- Self Monitoring in Industries .
- Environmental Management Improvement and Sustainable Development .
- Cleaner Production Technology .
- Calculation of Pollution Load in Cement and Petroleum Industries .
- Risk Assessment in work places for Safety measurements and Occupational Health .
- Industry pollution Abatement in Cement and Petroleum Industries .

## Other achievements of WG4

- 10/6/2007 Japanese and Egyptian local experts of the project (REMIP) visit Alex RBO and discuss the following:
- Initial survey reports made by (WG4) team has been discussed with the Egyptian expert to make the second visit to the companies and to finalize the survey reports.

5- Transfer technology and cleaner production technology , where through the inspection available cleaner production technologies as shown below will be examined and selected to be promoted :

- improvement of production efficiency ,
- conversion of raw materials , improvement of equipment , segregation and recycle of materials, introduction of process management system , introduction of life cycle management.

## Constraints

1. The REMIP project Provided Alex RBO with auto sampler for air without the (Automatic thermal part) ATD part that is required to dissolve and transfer collected sample to the GC instrument, which leads to using the traditional method that takes long time and using of carcinogenic compounds as (CS2)

- Finalization of the survey report will be at the middle of July 2007.
- Discussing the arrangements for the workshop that will be held at January 2008

2. It is not clear who will be responsible to establish the required inspection manuals of the selected industrial sectors (petroleum, petrochemicals and cement) after finishing the survey reports that is already done by WG4 team
3. There is no availability of accommodation during several meeting that has been held at Cairo

### The main outputs :

1. Implementation of the 1<sup>st</sup> Environmental Awareness survey .
2. Planning and implementing Environmental Awareness raising Activities .
3. Implementation of the second Environmental Awareness survey .
4. Formulation of an Environmental Awareness raising plan .

## **Component 4 W . G 5**

**Promotion of public  
Awareness  
Raising Activites**

### ❖ The target groups :

- Youth
  - Women
  - FARMERS
- \* EEAA received the final Report
- \* four members was trained on the survey process.

### The status of the main outputs:

#### **1 - The first Environmental survey:**

- ❖ The goal is understanding the present public Awareness to Environment for planning the Activities .
- ❖ The survey implemented in 5 governrates .

\*People behavior to environment was effected by residential area and educational level .

\*In general people's awareness and behavior to environment are originated from their living situation , also they are interested in environment but limited to the connection with their daily life .

\*The final report included the most important environmental problems in each governorate and some recommendations .

❖ **The survey covered about 3270 sample in the 5 governorates According to the population of each .**

❖ **The overall results described the following:**

- The people in the targeted areas concerned about environment at some degree .
- The people behavior is not necessary accord with their environmental interest .

**\* Jica expert team identified the**

**Awareness raising Activities within**

**L E 57,000 (Component & Branches)**

**\* EEAA will support the implementation**

**with L E 150,000 ( Activities & Brochures )**

**\* JICA will support General Department of Public Awareness with Some Equipment.**

**2 - Planning and implementation of the Activities:**

❖ **EEAA Prepared the proposed Activities with Estimated Budget about 2,6 Million EGYPTIAN POUND .**

❖ **The proposed Activities Covered the component and Branches.**

❖ **The DESIGN SHEETS of the proposed activities was sent to JICA EXPERT TEAM.**

**3 – implementation of the second environmental awareness survey :**

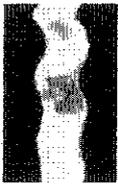
The second environmental awareness survey will be conducted in 2008 After Implementing The Activities .

**\*The Program of implementation was prepared with support of JICA EXPERT TEAM**

**\*The implementation will be at the beginning of 2008**

**4 – Formulation of an Environmental Awareness raising plan :**

**\* A New Environmental Awareness raising plan Will be formulated after the second environmental awareness survey.**



Ministry of State for  
Environmental Affairs



Regional Environmental Management  
Improvement Project (REMIP)

**WG6**

**Tahrir Publishing Monitoring Station**

Dr. Mawaheb About El Azem  
Head of Environmental Quality sector  
Egyptian Environmental Affairs Agency

## Introduction

- The Aim of this component: Is to establish an Air monitoring station in Tahrir Square with a screen display for data dissemination
- The planned date of station installation was the end of March 2007.
- Jica delayed the purchase of the screen display to the fiscal year of 2007/08

## Achievements to Finalize the Station Specifications at Tahrir

- The Technical Staff at Air Quality Dep. set the specifications of each monitor in the station.
- The Proposed Parameters to be measured at this station:
  - Sulfur Dioxide ( $SO_2$ ).
  - Nitrogen Oxides ( $NO_x$ ).
  - Particulate Matter 10 Miron ( $PM_{10}$ ).
  - Carbon Monoxide (CO).
  - Meteorological Station (Temp, RH, Pressure, WS, WD)

## Executive Work Done to Establish the Station Approvals at Tahrir

### Third Proposed Site

Many Meetings have been held to discuss the procedure to get the final approval of the station at Tahrir square: three sites were proposed by the Air Quality dep. To establish the new station.

### First Proposed Site

### Second Proposed Site



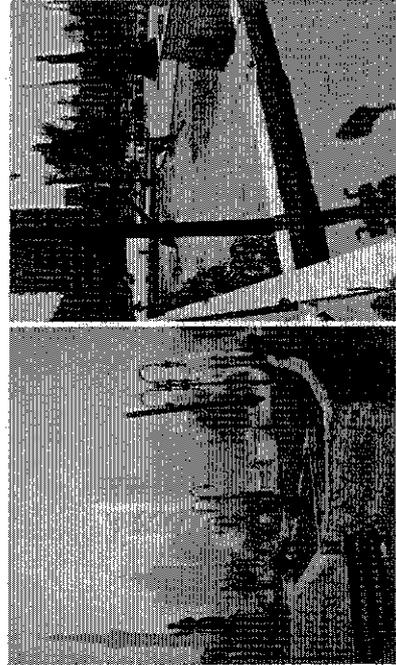
### Following ... Executive Work Done to Establish the Station Approvals at Tahrir

- Based on a joint field visit with the governorate staff, EEAA, and Jica experts, letters have been issued for the following organizations to finalize the approval of the station location:
  1. Subway Operation Agency.
  2. Civilization Management Authority.
  3. Omar Makram Garage Owner (TICO Co.).

### Following ... Executive Work Done to Establish the Station Approvals at Tahrir

- A letter has been issued to the Cairo Governorate Office to approve one of these three sites.
- The Governor approved the establishment of the new station.
- A joint committee evaluated the three sites and approved the first locations above Omar Makram Garagr (Environmental quality sector, Environmental Awareness dep, The engineering dep., Jica Experts)
- Several Meetings were made with the civilization Management Authority to get their approval to the station
- The delay in getting the approval for the station location delayed the station installation to end of June 2007

### Location Above Omar Makram Garage



### Achievements to Establish the Station Approvals at Tahrir

- JICA Main Office had issued the Equipment tender and evaluated the offers.
- The supplier had been chosen and identified to be Chemical and Technical Services Company (CTS).
- The supplier already delivered the station equipment
- The Civil Work has been designed by the contractor and reviewed and approved by the Engineering Dep.
- Civil work has been finished in April 2007
- EEAA finished the supply of the station with source of power electricity and the telephone line in mid June 2007

## What is Next??

- The Installation of the station equipment and test operation (24-27 June, 2007)
- Training on operation and maintenance of the station equipment (end of June, 2007)
- Link the station to the National Air Quality Monitoring Network (Mid July 2007)
- Finalize the specifications of the display screen
- Finalize the tender to purchase the display screen
- Develop Mechanism for the display Operation Procedure
- Install the display and link it with the station
- Training on operation and maintenance
- Start data dissemination through the display screen.



**CC2 The Coordination Committee among RBOs Management of Training Program**

Jan. 2007

