

**Attachment 2 List of Counterparts for the Project****List of the Counterpart Personnel as of April 2011**

No.	Name	Position	Project Responsibility
<b>GCEA, MSEA</b>			
1	Mr. Suleman Kalou	General Director	Project Director
2	Dr. Wareef Al Yazgy	Director of Laboratory	Project Manager
3	Ms. Samah Rislan	EIA Department	Chief counterpart for Output 1
4	Mr. Bashar Daie'	EIA Department	Chief counterpart for Output 2
5	Ms. Samar Al-Chami	Water Safety Department	Chief counterpart for Output 3
6	Ms. Heba Salim Ms. Amal Al Sahammas	Laboratory Department	Chief counterpart for Output 4
7	Ms. Hakima Hawash	Air Quality Department	Chief counterpart for Output 5
8	Ms. Safaa Naffaa	EIA Department	Chief counterpart for Output 6
9	Mr. Ali Salameh	Laboratory Department	Chief counterpart for Output 7
<b>DFEAs</b>			
1	Dr. Maher Bouzo	Director, Damascus DFEA	
2	Ms. Reem Sader	Laboratory Chief, Damascus DFEA	
3	Mr. Thaer Al-Deif	Director, Rural Damascus DFEA	
4	Ms. Mona Al-Jomaa	Laboratory Chief, Rural Damascus DFEA	
5	Mr. Mohamad Said Nafloos	Director, Aleppo DFEA	
6	Mr. Zakarya Al-Eisa	Laboratory Chief, Aleppo DFEA	
7	Mr. Adnan Al-Natour	Director, Homs DFEA	
8	Ms. Sana Mansour	Laboratory Chief, Homs DFEA	
9	Mr. Ali Al-Jouaied	Director Hama DFEA	
10	Mr. Samer Al-Maghoot	Laboratory Chief, Hama DFEA	
11	Ms. Lama Ahmad	Director, Lattakia DFEA	
12	Mr. Yamen Suleiman	Laboratory Chief, Lattakia DFEA	
13	Mr. Mohammad Amin Ramadan	Director, Deir Ezzor DFEA	
14	Mr. Saheer Abdollaha	Laboratory Chief, Deir Ezzor DFEA	
15	Mr. Jomanah Hassan	Director, Idleb DFEA	
16	Mr. Mahmoud Tamer	Laboratory Chief, Idleb DFEA	
17	Ms. Rac'ifah Esber	Director, Hasakeh DFEA	
18	Mr. Nawaf Othman	Laboratory Chief, Hasakeh DFEA	
19	Ms. Shamseh Al-Jassem	Director, Raqqa DFEA	
20	Mr. Hassan Okula	Laboratory Chief, Raqqa DFEA	
21	Mr. Mo'tasem Al-Abed	Director, Sweida DFEA	
22	Ms. Omayma Al-Sha'ar	Laboratory Chief, Sweida DFEA	
23	Mr. Ahmad Kablawi	Director, Dara'a DFEA	
24	Mr. Mohammad Al-Hariri	Laboratory Chief, Dara'a DFEA	
25	Mr. Hassan Morian	Director, Tartous DFEA	
26	Ms. Rodayna Al-Ali	Laboratory Chief, Tartous DFEA	
27	Mr. Hmza Suleiman	Director, Quneitra DFEA	
28	Ms. Thanaa Al-Mnizel	Laboratory Chief, Quneitra DFEA	

\*The table above shows the list of administrative C/Ps. List of technical C/Ps is compiled in Annexes.

**Attachment 3 Dispatch Records of Japanese Experts****JICA Experts Dispatched**

	<b>Expert Name</b>	<b>Expertise</b>	<b>Duration</b>	<b>Man-Month</b>	<b>Office Affiliated</b>
1	Norihiko INOUE	Chief Advisor/ Environmental Analysis and Management	Apr. 1st, 2009 - Apr. 15th, 2009	0.50	Nippon Koei Co., Ltd.
			May. 11th, 2009 - Jun. 17th, 2009	1.27	
			Jul. 16th, 2009 - Aug. 14th, 2009	1.00	
			Mar. 5th, 2010 - Mar. 25th, 2010	0.70	
			May. 2nd, 2010 - May. 31st, 2010	1.00	
			Jul. 6th, 2010 - Aug. 4th, 2010	1.00	
			Oct. 2nd, 2010 - Oct. 22nd, 2010	0.70	
Mar. 24th, 2011 - Apr. 22nd, 2011	1.00				
2	Keiichi TAKAHASHI	Deputy Chief Advisor/ Inspection-1/ Pollution Inventory-1/ Data Interpretation-1	Mar. 11th, 2009 - Apr. 24th, 2009	1.50	Nippon Koei Co., Ltd.
			May. 24th, 2009 - Jul. 7th, 2009	1.50	
			Oct. 8th, 2009 - Nov. 13th, 2009	1.23	
			Jan. 10th, 2010 - Mar. 25th, 2010	2.50	
			Jul. 1st, 2010 - Jul. 30th, 2010	1.00	
			Sep. 17th, 2010 - Oct. 16th, 2010	1.00	
			Dec. 4th, 2010 - Dec. 24th, 2010	0.70	
Feb. 15th, 2011 - Mar. 16th, 2011	1.00				
3	Ryunan MATSUE	Deputy Chief Advisor/ Inspection-2	Mar. 1st, 2009 - Mar. 21st, 2009	0.70	Nihon Suido Consultants Co., Ltd.
			Jul. 16th, 2009 - Aug. 14th, 2009	1.00	
			Jan. 5th, 2010 - Feb. 3rd, 2010	1.00	
			May. 29th, 2010 - Jul. 2nd, 2010	1.17	
			Oct. 4th, 2010 - Nov. 11th, 2010	1.30	
Jan. 6th, 2011 - Feb. 4th, 2011	1.00				
4	Shinsuke SATO	Pollution Inventory-2/ Monitoring	Oct. 23rd, 2009 - Nov. 12th, 2009	0.70	Nippon Koei Co., Ltd.
			Feb. 20th, 2010 - Mar. 12th, 2010	0.70	
			Apr. 28th, 2010 - May. 27th, 2010	1.17	
			Oct. 11th, 2010 - Nov. 9th, 2010	1.00	
			Jan. 5th, 2011 - Jan. 25th, 2011	0.70	
Mar. 20th, 2011 - Apr. 29, 2011	1.37				
5	Kouji KIMURA	Water Analysis-1 (AAS)	Mar. 13th, 2009 - Apr. 2nd, 2009	0.70	Nihon Suido Consultants Co., Ltd.
			Jan. 5th, 2010 - Feb. 3rd, 2010	1.00	
			May. 13th, 2010 - Jul. 31st, 2010	2.67	
			Dec. 4th, 2010 - Dec. 24th, 2010	0.70	
Jan. 10th, 2011 - Mar. 10th, 2011	2.00				
6	Yoshiki YAMAMOTO	Water Analysis-2/ Data Interpretation-2/ Equipment/ Coordinator	Mar. 1st, 2009 - Apr. 27th, 2009	1.93	Nippon Koei Co., Ltd.
			Jun. 15th, 2009 - Jul. 29th, 2009	1.50	
			Jan. 3rd, 2010 - Mar. 25th, 2010	2.73	
			Apr. 26th, 2010 - May. 25th, 2010	1.00	
			Jun. 12th, 2010 - Jul. 26th, 2010	1.50	
			Sep. 17th, 2010 - Nov. 15th, 2010	2.00	
			Jan. 11th, 2011 - Feb. 9th, 2011	1.00	
Mar. 4th, 2011 - Apr. 20th, 2011	1.60				
7	Minoru HIRAO	Stack Emission Measurement	Jun. 21st, 2010 - Aug. 4th, 2010	1.50	Osumi Co., Ltd.
			Sep. 17th, 2010 - Nov. 15th, 2010	2.00	
			Jan. 6th, 2011 - Mar. 6th, 2011	2.00	
8	Takafumi KATAYANAGI	EIA	Jun. 1st, 2009 - Jun. 30th, 2009	1.00	Nippon Koei Co., Ltd.

**Dispatch of Project Consultation Mission**

	<b>Expert Name</b>	<b>Expertise</b>	<b>Duration</b>	<b>Man-Month</b>	<b>Office Affiliated</b>
	Hidenori KUMAGAI	Leader of JICA Project Consultation Mission	Apr. 7th, 2009 - Apr. 16th, 2009	0.33	JICA Tokyo Headquarters
	Masaru KURIMOTO	Member of JICA Project Consultation Mission	Apr. 7th, 2009 - Apr. 16th, 2009	0.33	JICA Tokyo Headquarters

**Dispatch of Mid-term Review Mission**

	<b>Expert Name</b>	<b>Expertise</b>	<b>Duration</b>	<b>Man-Month</b>	<b>Office Affiliated</b>
	Issei AOKI	Member of JICA mid-term evaluation team	Jul. 19th, 2010 - Jul. 22nd, 2010	0.10	JICA Tokyo Headquarters

**Home Assignment of Japanese Experts in Japan**

	<b>Expert Name</b>	<b>Expertise</b>	<b>Duration</b>	<b>Man-Month</b>	<b>Office Affiliated</b>
1	Norihiko INOUE	Chief Advisor/ Environmental Analysis and Management	2011	0.60	Nippon Koei Co., Ltd.
2	Keiichi TAKAHASHI	Deputy Chief Advisor/ Inspection-1/ Pollution Inventory-1/ Data Interpretation-1	2010	0.60	Nippon Koei Co., Ltd.
			2011	1.10	
3	Ryunan MATSUE	Deputy Chief Advisor/ Inspection-2	2010	0.70	Nihon Suido Consultants Co., Ltd.
			2011	1.10	
4	Shinsuke SATO	Pollution Inventory-2/ Monitoring	2011	0.60	Nippon Koei Co., Ltd.
5	Kouji KIMURA	Water Analysis-1 (AAS)	2011	0.60	Nihon Suido Consultants Co., Ltd.
6	Yoshiki YAMAMOTO	Water Analysis-2/ Data Interpretation-2/ Equipment/ Coordinator	2011	2.00	Nippon Koei Co., Ltd.
7	Minoru HIRAO	Stack Emission Measurement	2011	0.60	Osumi Co., Ltd.

## Attachment 4 Records of Counterpart Training in Japan

### 1. Course A: Managing Air Pollution Sources (Inspection) and Experience of Japan

#### 1-1 Purpose of Training Course

Purpose of the training course is as follows.

- A. To understand the lesson learned of Japan's pollution experience.
- B. To acquire knowledge on demarcation of the role between ministry and local government.
- C. To enhance the capacity of inspection (Air) and pollution source inventory through demonstrations and lecture of the factory inspection and self monitoring of air pollution.
- D. To acquire knowledge on industrial exhaust gas treatment (Dust, SO<sub>x</sub>, NO<sub>x</sub>).
- E. To acquire knowledge on the legal structure, and technology of air pollution control in Japan.
- F. To understand the cooperation between local government and factories.
- G. To formulate the action plan of inspection on national or local (Governorate) level for air pollution sources.

#### 1-2 Training Course Program

Program of the training course is as follows. Purpose mentioned above is also listed in the table.

### Training Program for Course A

[22nd May - 11th June 2010]

Date	Time	Content	Lecturer/ Moderator	Output	
22 May	Sat	Leaving Syria			
23 May	Sun	Arriving at Tokyo			
24 May	Mon	9:00-12:00	Briefing	JICE	
		12:00-12:30	Program Orientation	JICA Mr. Aoki, Mr. Yoshida JICE Ms.Hasegawa	
		14:00-15:00	Overall Guidance of the Action Plan	JICA Mr.Tanaka	G
		15:30-17:30	Visiting Environmental Engineering Department, Nippon Koei HQ		
25 May	Tue	9:30-12:30	Overview and History of Air Pollution Control Law The role of Government for pollution source control	Environment Cooperation Division Ministry of Environment (tentative)	A, B, E
		14:00-17:00	History of institutional arrangement on air pollution History of technology development of countermeasures against air pollution Long-term trend of air pollution concentration in Japan	JICA Expert Team	F
26 May	Wed	9:30-12:00	Lecture & Study Visit: Advanced research for air environment (PM; Particulate Matters)	Research Center of Atmospheric Circulation Science, Graduate School of Science, SAITAMA Univ, Prf. Kazuhiko SAKAMOTO	E
		14:00-16:00	Lectures & Study Visit: Chassis dynamometer system	Tokyo Metropolitan Institute of Environmental Sciences	B, E
27 May	Thu	10:00-12:00	Lecture: Introduction to Air Pollution (History of pollution, administrative law, regulatory requirements/ standards, current state of Saitama Prefecture)	Atmospheric Environment Division, SAITAMA Prefecture	A, B, E
		13:00-15:30	Lecture and Study Visit: Introduction to Atmospheric Measurements (tentative) (dust measurement, measurement of chemicals by GC-MS, clean room, visit to environmental education facility)	International Center for Environmental Science, SAITAMA Prefecture	E
28 May	Fri	09:00-12:00	Lecture & Demonstration: Introduction to atmospheric simulation model using inventory data	Department of Environmental Symbiosis, SAITAMA Univ, Prf.Hiroshi YOSHIKADO	E
		13:00-16:00	Lecture: Air quality management system in Japan	Environmental Management Association for Industry, Mr.Norihito ONO, Deputy Director, Environmental Management Division, Environmental Technology Center	C, G

Date	Time	Content	Lecturer/ Moderator	Output	
29 May	Sat				
30 May	Sun				
31 May	Mon	09:00-12:00	Environmental Policy in Syria and Preparation for Action Plan (tentative)	JICA Expert Team	
		14:00-16:00	Study Visit: SHINAGAWA Thermal Power Plant Exhaust gas treatment technology (desulphurization, denitrification, dust)	SHINAGAWA Thermal Power Plant (tentative)	D, E
01 Jun	Tue	09:30-12:00	Practical experience: Emission measurement (learning Self-monitoring system of factory)	JICA Expert Team (OSUMI)	C
		13:30-16:30			
02 Jun	Wed	10:00-12:00	Practical experience: Emission measurement (learning Self-monitoring system of factory)	JICA Expert Team (OSUMI)	C
		14:00-17:00			
03 Jun	Thu	07:00-12:00	Move to Kyoto from Tokyo by bullet train	---	
		13:30-15:30	Lecture & Study Visit: HORIBA (Equipment for measurement of ambient air, vehicle emission, and factory emission)	HORIBA	E
		16:00-17:30	Move to Osaka from Kyoto by bullet train	---	
04 Jun	Fri	09:00-12:00	Study Visit: MAISHIMA sludge center	Contracts and Property Management Bureau, OSAKA city	D, E
		14:00-17:00	Study Visit: HIRANO cleansing plant (learning system of cleansing plant, emission treatment plant, segregation and recycling)	Environmental Bureau, OSAKA city	D, E
05 Jun	Sat				
06 Jun	Sun				
07 Jun	Mon	09:00-12:00	Guidance and preparation for Action Plan	JICA Mr.Tanaka and JICA Expert Team	G
		14:00-17:00			
08 Jun	Tue	09:00-12:00	Study Visit: Air monitoring stations in Osaka (tentative)	Environmental Bureau, OSAKA city	B
		14:00-17:00	Move to Tokyo from Osaka by bullet train	---	
09 Jun	Wed	10:00-12:00	Presentation of Action Plan	JICA & JICA Expert Team	G
		14:00-17:00	Evaluation meeting, ceremony		
10 Jun	Thu	Leaving Tokyo			
11 Jun	Fri	Arriving at Syria			

## 2. Course B: Industrial Wastewater Inspection and Water Quality Analysis

### 2-1 Purpose of Training Course

Purpose of the training course is as follows.

- A. To understand the lesson learned of the Japanese experiences and legal structure in wastewater pollution control.
- B. To acquire knowledge of industrial wastewater treatment, domestic wastewater treatment and other water treatment.
- C. To acquire knowledge of data recording and interpretation.
- D. To enhance the capacity of industrial wastewater inspection by lectures, field visits and communication with related persons.
- E. To understand the cooperation between local government and industrial facilities.
- F. To acquire knowledge of QA/QC and laboratory waste treatment.
- G. To modify the annual inspection plan on national or local (Governorate) level for wastewater pollution sources based on the results of training in Japan."

### 2-2 Training Course Program

Program of the training course is as follows. Purpose mentioned above is also listed in the table.

### Training Program for Course B

[18th July – 7th August 2010]

Date	Time	Content	Lecturer/ Moderator	Output	
7/18	Sun	Leave Syria (Damascus-Dubai)			
7/19	Mon	Arrival at Japan (Dubai-Kansai-Tokyo) or (Dubai-Tokyo)			
7/20	Tue	09:00-12:00	Briefing	JICE	
		12:00-12:30	Program Orientation	JICA (Mr. Tanaka, JICA Advisor)	
		14 :00-17:00	1) Lecture for Japanese experience on water pollution etc.	Mr. Takesima (NSC, Nihon Suido Consultants)	A E
7/21	Wed	09:30-12:30	2) Lecture for Japanese experience on laws and regulations etc. 3) Effluent regulation in Sewage Water Law	Mr. Takesima (NSC, Nihon Suido Consultants)	A E
		14:00-17:00	1) Lecture for technical guidance on wastewater treatment (Cases instruction) 2) Discussion	Mr. Yoshizawa (Tokyo Bureau of Sewerage)	B D
7/22	Thu	09:30-11:30	Lecture for enforcement actions on no-compliance cases etc.	Mr. Suzuki (Tokyo Bureau of Sewerage)	D
		13:00-15:30	Visit laboratory of Tokyo Bureau of Sewerage (data base etc.)	Tokyo Bureau of Sewerage	C
7/23	Fri	09:30-10:50	Discussion with Japanese inspectors for industrial wastewater inspection practice	Tokyo Bureau of Sewerage	D
		11:00-12:00	Lecture by factory side	Okishiro International, Inc.	D
		14:30-17:00	Field visit (wastewater treatment facilities of ANA: All Nippon Airways)	Okishiro International, Inc.	D
7/24	Sat				
7/25	Sun				
7/26	Mon	10:00-12:00	Visit Kasai Water Reclamation Center	Mr. Takesima (NSC)	E
		14:00-17:00	Field visit (beverage factory)	Mr. Kadoya (Daiki)	D
7/27	Tue	09:45-12:00	Lecture for Japanese general environmental administration (unfixed)	To be decided (Ministry of Environment, Japan)	A
		13:30-17:00	The role of MOEJ against wastewater pollution source control (unfixed)	To be decided (Ministry of Environment, Japan)	A
7/28	Wed	09:30-11:30	Preparation		
		14:00-16:30	Move to Osaka from Tokyo by bullet train		
7/29	Thu	10:00-12:00	Lecture at Osaka's inspection organization	Mr. Matsuura (Public Works Bureau of Osaka City)	A E
		14:00-17:00	Field visit (Wastewater treatment facilities of Nakayama Steel Works)	Mr. Hatamori (Public Works Bureau of Osaka City)	D
7/30	Fri	10:00-12:00	Visit Sewerage Science Museum	Staff of Sewerage Science Museum	D
		14:00-17:00	Lecture & Study Visit: Shimazu	Mr. Nishikawa (Shimazu)	D
7/31	Sat				
8/1	Sun				
8/2	Mon	09:00-13:30	Move to Tokyo from Osaka by bullet train		
		15:00-17:00	Guidance and preparation for inspection plan	Dr. Matsue (JICA Expert Team)	G
8/3	Tue	10:00-12:00	Lecture for instruction of National Institute for Environmental Studies and bio/eco-engineering technology	Dr. Kai-Qin Xu (NIES, National Institute for Environmental Studies)	B
		14:00-17:00	Visit treatment facilities of National Institute for Environmental Studies		
8/4	Wed	10:00-12:00	Visit the laboratory of Nihon Suido, discussion QA/QC and lab. liquid waste disposal	Mr. Kishino (NSC), Mr. Kimura (JICE Expert Team)	F
		14:00-17:00	Visit the laboratory of Nihon Suido, discussion QA/QC and lab. liquid waste disposal		
8/5	Thu	10:00-12:00	Presentation of inspection plan	JICA & JICA Expert Team	G
		14:00-17:00	Evaluation meeting, ceremony		
8/6	Fri	Leave Japan			
8/7	Sat	Arriving at Syria			

### 3. Course C: Environmental management on air and water pollution control for sustainability of the project

#### 3-1 Purpose of Training Course

Purpose of the training course is as follows.

Taking advantage of the achievements of "The Project for Capacity Development of Environmental Monitoring Phase2", to provide training in Japan which can contribute to future efforts in promoting environmental administration of MESA and DFRAs in Syria. Namely, attendants from MSEA and DFEAs can get the insights into the development and enhancement of the national environmental administration after the project. Based on this concept, participants of training in Japan are senior officials of MSEA and senior officials of DFEAs."

- A. To understand the lesson learned of Japan's pollution experience.
- B. To acquire knowledge on the role of governmental officials on pollution control.
- C. To enhance the capacity of pollution control/inspection.
- D. To acquire knowledge on the legal structure, and technology of pollution control in Japan.

### 3-2 Training Course Program

Program of the training course is as follows. Purpose mentioned above is also listed in the table.

#### Training Program for Course C

[10th December – 19th December 2011]

Date	Time	Content	Lecturer/ Moderator	Output	
12/10	Sat	Leave Syria (Damascus-Dubai)			
12/11	Sun	Transit in Dubai			
12/12	Mon	20:45 Arrival at Japan (Dubai-Seoul-Tokyo)			
12/13	Tue	09:00-11:00	Briefing	TIC	
		11:00-11:30	Program Orientation	Mr. Tanaka (JICA) Mr. Takahashi, Mr. Matsue (JET)	
		11:30-12:30	Lunch		
		12:40-13:10	12:40 Departure from TIC by Taxi		
		13:15-14:20	Visit the laboratory for inspection in Bureau of Sewerage, Tokyo Metropolitan Government)	Mr. Nomoto (Bureau of Sewerage, Tokyo Metropolitan Government)	C D
		14:20-15:40	Moving to Haneda Airport by train and monorail		
		15:40-17:30	Field visit (wastewater treatment facilities of ANA: All Nippon Airways)	Okishiro International, Inc.	D
12/14	Wed	10:00-12:00	Lecture: Introduction to Air Pollution Discussion: with Atmospheric Environment Division of Saitama Prefecture	Mr. Tanaka (Saitama Prefecture)	A B
		13:00-14:30	Visit the laboratory in training facility and visit the facility of environmental education		D
		14:50-16:50	Introduction to Air Quality Measurement (NOx, O <sub>3</sub> , PM, VOC, Bad Odor) Discussion	Mr. Takahashi (CESS, Saitama) Mr. Umezawa (CESS, Saitama)	A B
12/15	Thu	09:30-12:00	Lecture: Japanese Environmental Policy Discussion:	Ms. Nishikawa (MOE, Ministry of Environment)	A B
		13:30-16:00	1. Vehicle Exhaust Emission Regulations in Japan 2. Noise policies and the monitoring measures	Mr. Ariei (MOE) Mr. Ueda (MOE)	A B
12/16	Fri	10:00-11:30	Visit monitoring room of air pollution (Bureau of Environment, Tokyo Metropolitan Government)	Mr. Suetou (Bureau of Environment, Tokyo Metropolitan Government)	C D
		13:30-16:00	Measures against the interruption of the Project, and continuation of the project activities after completion (Instruction and discussion)	Mr. Tanaka (JICA) Mr. Inoue, Mr. Takahashi and Mr. Matsue (JET)	C
		16:00-17:00	Evaluation meeting, ceremony	Mr. Aoki (JICA) Mr. Inoue, Mr. Takahashi and Mr. Matsue (JET)	
12/17	Sat	09:00-14:00 Visit Energy and Earth Exploratorium Tokyo Gas and others	Mr. Takahashi (JET)	D	
12/18	Sun	22:00 Preparation and Leave Japan (TIC→Narita Airport) (Narita-Dubai)			
12/19	Mon	Arriving at Syria (Dubai-Damascus)			

**Attachment 5 List of Equipment Provided under the Project****List of Equipment Provided under the Project**

Equipment Name	JFY Granted	Quantity	Provided by the Project *1			Provided by JICA *2	Site installed	Setup Date	Working Situation as of Mar. 2011
			Amount (SYP)	Amount (JPY)	Amount (USD)	Amount (JPY)			
<b>To analyze air quality (stack emission measurement)</b>									
Isokinetic flue gas sampler including flow gas meter	2009	5				22500000	5 selected DFEAs	Mar. 2010	Working
Portable emission analyzer with Option Sensor for SO2	2009	4				1,000,000	5 selected DFEAs	Mar. 2010	Working
Plobe for Stack gas	2009	5		684,000			5 selected DFEAs	Mar. 2010	Working
Orzat gas analyzer	2010	2		237,400			MSEA	Jun. 2010	Working
CO2 cell for testo 350 xl Flue Gas Analyzer	2010	5			43,000		5 selected DFEAs	Sep. 2010	Working
Gas mask and other safety goods	2009	1 L.S.		178,650			5 selected DFEAs	Mar. 2010	Working
Filtrating Cartridge for Gas Mask	2009	60		61,320			5 selected DFEAs	Mar. 2010	Working
<b>To analyze water quality (COD, NO3-N, oil, and heavy metal measurement)</b>									
Draft chamber	2009	2	1,790,000				DRZ, TAR DFEA	Dec. 2009	Working
Water purification equipment	2009	3	838,500				ALP, HOM, DRZ DFEA	Dec. 2009	Working
Cadmium reduction column (for NO3)	2009	14				406,000	14 DFEAs	Mar. 2010	Working
Hollow cathode lamp (AAS)	2009	5				224,000	DAMR, ALP, HSK, TAR	Mar. 2010	Working
Hollow cathode lamp (AAS)	2009	3			1,590		HAM, DRZ	Mar. 2010	Working
Wastewater treatment facility	2009	1				4,050,000	HOM DFEA	May. 2010	Working
Hot plate	2009	18				640,000	14 DFEAs	Mar. 2010	Working
Water Bath	2009	4	220,000				DRZ, RAQ, TAR, QNT	Mar. 2010	Working
Desiccator	2009	9	99,000				DAMR, HAM, DRZ, IDL, RAQ, SWD, DAR, TAR, QNT	Mar. 2010	Working
Printer	2009	9	90,000				DAM, DAMR, ALP, HOM, LTK, DRZ, SWD, TAR, QNT	Mar. 2010	Working
Helmet	2009	40	7,000				14 DFEAs	Mar. 2010	Working
Gum Boots	2009	40	10,600				14 DFEAs	Mar. 2010	Working
Chemicals and Glassware for Wastewater quality analysis	2009	1 L.S.				8,940,320	14 DFEAs	Mar. 2010	Working
Chemicals and Glassware for Wastewater quality analysis	2009	1 L.S.	1,006,225				14 DFEAs	Mar. 2010	Working
Reaction bath: glassware for Mercury analysis	2011	15			2,700		MSEA	Jul. 2011	Working
<b>Total</b>			<b>4,061,325</b>	<b>1,161,370</b>	<b>47,290</b>	<b>37,760,320</b>			

Remark: Amount includes VAT in any currency.

\*1: Equipment procured by JICA Expert Team.

\*2: Equipment procured by JICA head quarter.



**Attachment 6 List of Equipment Accompanied with JICA Expert Team under the Project****List of Equipment Accompanied with JICA Expert Team under the Project**

Equipment Name	JFY Granted	Quantity	Amount (SYP)	Amount (JPY)	Amount (USD)	Site installed	Setup Date	Working Situation as of Mar. 2011
GPS	2009	15		441,000		14 DFEAs and MSEA	Dec. 2009	Working
Computer (Desktop Type)	2009	1	61,300			Project Office	Apr. 2009	Working
Computer (Note Type)	2009	2	118,000			Project Office	Nov. 2009	Working
Computer (Note Type)	2009	6	354,000			5 selected DFEAs and MSEA	Nov. 2009	Working
MS Office XP Standard	2009	3	60,000			Project Office	Nov. 2009	Working
MS Office XP Standard	2009	6	120,000			5 selected DFEAs and MSEA	Nov. 2009	Working
Copy Machine	2009	1	205,000			Project Office	Apr. 2009	Working
Printer	2009	1	15,000			Project Office	Apr. 2009	Working
Projecter	2009	2	76,000			Project Office	Apr. 2009	Working
Telephone/ FAX	2009	1	1,800			Project Office	Apr. 2009	Working
Total			1,011,100	441,000				

Remark: Amount includes VAT in any currency.

**Attachment 7 Project Design Matrix (PDM) and Plan of Operation (PO) Agreed on 23rd November 2008**

**Annex I: Tentative Project Design Matrix (PDM)**

November 11, 2008

Project Name: Capacity Development of Environmental Monitoring Phase II  
 Project Duration: 4 years  
 Target Area: 14 Governorates in Syria  
 Target Group: Relevant staff of the DFEAs and MOLAE, Approximately 20 million inhabitants of Syria.

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p><b>Overall Goal</b>                      Environmental management capabilities are strengthened in each Governorate by enhancement of the capabilities for implementing inspection and pollution sources management of DFEA.</p> <p><b>Project Purpose</b>                      Capabilities of the DFEAs for implementing inspection and environmental monitoring concerning the water and air pollution sources are strengthened under the management by GCEA.</p>	<ol style="list-style-type: none"> <li>The number of enforcement based on the inspection in Governorates is increased.</li> </ol>	<ol style="list-style-type: none"> <li>The enforcement record based on the inspection.</li> </ol>	The Syrian Government keeps its policy support for environmental protection.
<p><b>Outputs</b>                      1. Capabilities for preparing pollution sources inventory are strengthened.</p>	<ol style="list-style-type: none"> <li>The number of the qualified inspector of the laboratory staff is increased.</li> <li>The number of the inspection case is increased.</li> <li>The number of the monitoring item is increased.</li> </ol>	<ol style="list-style-type: none"> <li>Certification of the inspector.</li> <li>Inspection record</li> <li>Monitoring activity report</li> </ol>	The Syrian Government keeps its policy support to provide staff, and budget to the Directorates.
<p>2. Capabilities for implementing inspection are strengthened.</p>	<ol style="list-style-type: none"> <li>The proper Pollution Sources Inventory is prepared.</li> <li>A revision of "Industrial Facilities Inspection Guideline" is prepared.</li> </ol>	<ol style="list-style-type: none"> <li>1-1 Specification of the Pollution Sources Inventory.</li> <li>1-2 Pollution Sources Inventory.</li> <li>2-1 A revision of "Industrial Facilities Inspection Guideline"</li> </ol>	Execution instructions are promulgated.

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<p>3. Necessary sampling skills for inspection for water effluent are strengthened.</p>	<p>3-1 SOP for water effluent sampling is prepared in more than 11 DFEAs. 3-2 More than 60% of the staff, who got the training, are able to conduct the water effluent sampling based on the SOP.</p>	<p>3-1 SOP for water effluent 3-2 Training record of the water effluent sampling.</p>	
<p>4. Capabilities concerning water quality analysis for water effluent and surface water are improved.</p>	<p>4-1 SOP for water quality analysis is prepared in more than 7 DFEAs of the 9 DFEAs, except Damascus DFEA, which possess AAS. 4-2 A (Acceptable) grade of the AEC Program is obtained for at least 6 parameters in each DFEA. 4-3 The number of possible analytical parameter is increased by 8 different parameters more on average in 9 DFEAs, which possess AAS. 4-4 Water quality analyses with preparation of reagent are able to conduct for at least 1 parameter in more than 11 DFEAs.</p>	<p>4-1 SOP for water quality analysis 4-2 Participant Record of the AEC Program 4-3 Analyses record 4-4 Analyses record</p>	
<p>5. Capabilities concerning measurement of stack emissions (gases and particulate matter) are strengthened.</p>	<p>5-1 SOP for stack emissions is prepared in more than 5 DFEAs. 5-2 More than 60% of the staff, who got the training, is able to conduct the stack emissions measurement based on the SOP for stack emissions. 5-3 The number of possible analytical parameter for stack emissions is increased by 3 different parameters more.</p>	<p>5-1 SOP for stack emissions measurement 5-2 Training record of for stack emissions measurement 5-3 Analysis record for stack emissions</p>	

<p>6. Capabilities concerning evaluation of present conditions of water and air quality in each governorate are strengthened.</p>	<p>6-1 A report, which includes water pollution situations and water pollution maps on the governorate level is prepared in more than 11 DFEAs.                  6-2 A report, which includes air pollution situations and air pollution maps on the governorate level is prepared in more than 11 DFEAs.                  6-3 Materials for public awareness based on the present situations for water and air quality is prepared in more than 11 DFEAs.</p>	<p>6-1 Report, which includes water pollution situations and their maps                  6-2 Report, which includes air pollution situations and their maps                  6-3 Materials for public awareness based on the present situations for water and air quality.</p>
<p>7. Capabilities concerning formulation and implementation of environmental monitoring plan are strengthened.</p>	<p>7-1 The environmental monitoring plan is revised and implemented in 14 DFEAs.</p>	<p>7-1 Each environmental monitoring plan</p>

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Narrative Summary	Inputs	Important Assumption
<p><b>Activities</b></p> <p>1.1 GCEA reviews the results of "Pollution Sources Survey" done in the Phase I, and identifies the necessary information for preparing pollution sources inventory.</p> <p>1.2 GCEA identifies the situations to prepare pollution sources inventory and its utilization purposes by each DFEA.</p> <p>1.3 GCEA designs specification of the pollution sources inventory.</p> <p>1.4 Each DFEA prepares the pollution sources inventory based on the activity 1.3.</p>	<p><u>Syrian Side Inputs</u></p> <p>1. Preparation of equipment</p> <p>2. Daily allowance and transportation/accommodation fees for the trainings.</p> <p>3. Land, building, laboratories, office space and other necessary facilities for the Project.</p> <p>4. Assignment of counterparts and administrative personnel.</p> <p>5. Running expenses for the implementation of the Project.</p> <p><u>Japanese Side Inputs</u></p> <p>1. Provision of equipment</p> <p>2. Dispatch of experts team</p>	<p>Laboratory staff trained by the Project stay in laboratories and keep working on the environmental monitoring.</p> <p>Agents/manufactures timely provide spare parts for the equipment.</p> <p><b>Pre-conditions</b></p> <p>1. Appropriate number of laboratory staff who have chemical background are assigned.</p> <p>2. Laboratory spaces are prepared in DFEAs.</p>
<p>2.1 Each DFEA identifies technical and institutional issues of present inspection.</p> <p>2.2 GCEA understands the issues of present inspections by DFEAs, and prepares a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.3 Each DFEA conducts inspection based on a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.4 Each DFEA identifies the issues of inspection based on a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.5 GCEA reflects the identified issues of inspections by DFEAs for a draft revision of "Industrial Facilities Inspection Guideline".</p>		

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<p>3.1 GCEA prepares water effluent sampling training plan, and manages the implementations.</p> <p>3.2 Water effluent sampling trainings for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEA for regional training.</p> <p>3.3 A sample SOP of water effluent sampling for the 14 DFEAs is prepared in 5 (North, North-East, South, Central, Coastal Area) selected DFEA for regional training.</p> <p>3.4 Each DFEA prepares a SOP of water effluent sampling.</p> <p>3.5 Each DFEA conducts sampling based on a SOP of water effluent sampling.</p>	
<p>4.1 GCEA prepares water quality analyses training plan, and manages the implementations.</p> <p>4.2 Analyses trainings, including COD, NO<sub>3</sub> - N, Oil for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEAs for regional training.</p> <p>4.3 Trainings concerning reliability of the analyses data for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEAs for regional training.</p> <p>4.4 Heavy metals analyses trainings using AAS for the 13 DFEAs (except Damascus DFEA) are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEAs for regional training.</p> <p>4.5 A sample SOP concerning the water quality analyses for the 14 DFEAs is prepared in 5 (North, North-East, South, Central, and Coastal Area).</p> <p>4.6 Each DFEA conducts necessary analyses based on the trainings.</p> <p>4.7 Each DFEA prepares SOPs concerning necessary water quality analyses.</p> <p>4.8 Each DFEA conducts necessary water quality analyses based on the SOPs.</p>	<p>4.1</p> <p>4.2</p> <p>4.3</p> <p>4.4</p> <p>4.5</p> <p>4.6</p> <p>4.7</p> <p>4.8</p>



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	<p>5.1 GCEA prepares stack emissions (gases and particulate matter) measurement training plan, and manages the implementations.</p> <p>5.2 Stack emissions (gases and particulate matter) measurement trainings using portable stack emissions (gases and particulate matter) measurement equipment for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>5.3 A SOP concerning the stack emissions (gases and particulate matter) measurement for the 14 DFEAs is prepared in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>5.4 Each DFEA conducts necessary stack emissions (gases and particulate matter) measurement based on the SOP.</p>
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		<p>6.1 GCEA prepares a training plan of water quality interpretation/report preparation and interpretation of stationary emission sources of air pollution/report preparation, and manages the implementations.</p> <p>6.2 Trainings for water quality interpretation/report preparation for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>6.3 Each DFEA interprets present water quality situations based on the available water quality data concerning the water quality pollution sources and the public water bodies.</p> <p>6.4 Each DFEA prepares a report, which includes water pollution situations and water pollution maps on the governorate level.</p> <p>6.5 Trainings for interpretation of stationary emission sources of air pollution/report preparation are conducted for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>6.6 Each DFEA interprets each stationary emission sources of air pollution.</p> <p>6.7 Each DFEA prepares a report using reference data, which includes air pollution situations and air pollution maps on the governorate level.</p> <p>6.8 Materials for public awareness based on the present situations for water and air quality are developed.</p>
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		<p>7.1 GCEA prepares training plan of data interpretation and revising environmental monitoring plan, and manages the implementations.</p> <p>7.2 Each DFEA identifies the technical issues of the present monitoring plan.</p> <p>7.3 Trainings of monitoring data interpretation for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>7.4 Trainings for revising environmental monitoring plan based on the monitoring data interpretation for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) for regional training.</p> <p>7.5 Each DFEA revises the present environmental monitoring plan.</p> <p>7.6 GCEA evaluates the revised environmental monitoring plans by DFEAs, and provides the technical suggestions.</p> <p>7.7 Each DFEA conducts environmental monitoring based on the revised environmental monitoring plan.</p>
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**Annex II: Tentative Plan of Operation (PO)**

Activities	1st Year				2nd Year				3rd year				4th Year			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Output 1: Capabilities for preparing pollution sources inventory are strengthened.																
1.1 GCEA reviews the results of "Pollution Sources Survey" done in the Phase1, and identifies the necessary information for preparing pollution sources inventory.																
1.2 GCEA identifies the situations to prepare pollution sources inventory and its utilization purposes by each DFEA.																
1.3 GCEA designs specification of the pollution sources inventory.																
1.4 Each DFEA prepares the pollution sources inventory based on the activity 1.3.																
Output 2: Capabilities for implementing inspection are strengthened.																
2.1 Each DFEA identifies technical and institutional issues of present inspection.																
2.2 GCEA understands the issues of present inspections by DFEAs, and prepares a draft revision of "Industrial Facilities Inspection Guideline".																
2.3 Each DFEA conducts inspection based on a draft revision of "Industrial Facilities Inspection Guideline".																
2.4 Each DFEA identifies the issues of inspection based on a draft revision of "Industrial Facilities Inspection Guideline".																
2.5 GCEA reflects the identified issues of inspections by DFEAs for a draft revision of "Industrial Facilities Inspection Guideline".																
Output 3: Necessary sampling skills for inspection for water effluent are strengthened.																
3.1 GCEA prepares water effluent sampling training plan, and manages the implementations.																
3.2 Water effluent sampling trainings for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEA for regional training.																
3.3 A sample SOP of water effluent sampling for the 14 DFEAs is prepared in 5 (North, North-East, South, Central, Coastal Area) selected DFEA for regional training.																
3.4 Each DFEA prepares a SOP of water effluent sampling.																
3.5 Each DFEA conducts sampling based on a SOP of water effluent sampling.																
Output 4: Capabilities concerning water quality analysis for water effluent and surface water are improved.																
4.1 GCEA prepares a water quality analyses training plan, and manages the implementations.																
4.2 Analyses trainings, including COD, NO3 - N, Oil for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEAs for regional training.																
4.3 Trainings concerning reliability of the analyses data for the 14 DFEAs are conducted in 5 (North, North-East, South, Central, Coastal Area) selected DFEAs for regional training.																
4.4 Heavy metals analyses trainings using AAS for the 13 DFEAs, except Damascus DFEA are conducted in 4 (North, South, Central, Coastal Area) selected DFEAs for regional training.																
4.5 A sample SOP concerning the water quality analyses for the 14 DFEAs is prepared in 5 (North, North-East, South, Central, Coastal Area)																
4.6 Each DFEA conducts necessary analyses based on the trainings.																
4.7 Each DFEA prepares SOPs concerning necessary water quality analyses.																
4.8 Each DFEA conducts necessary water quality analyses based on the SOPs.																



**Attachment 8 Plan of Operation (PO) revised at the Inception Stage on 13th April 2009**

Revised PO (Final)		Joint implementation of the JICA expert team and Syrian C/P		Continuous implementation by Syrian side																																												
<b>Output 1: Pollution Sources Inventory</b>		JFY 2008/2009		JFY 2010		JFY 2011		JFY 2012		JICA Expert in Charge																																						
		SFY 2009		SFY 2010		SFY 2011		SFY 2012																																								
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
1.1	GCEA reviews the results of "Pollution Source Survey" done in the Phase I, and identifies the necessary information for preparing pollution source inventory.	Revised	[Gantt chart showing implementation from Jan 2009 to Jun 2009]																								Takahashi Sato																					
1.2	GCEA identifies the situation to prepare pollution sources inventory and its utilization purposes by each DFEA.	Revised	[Gantt chart showing implementation from Jan 2009 to Jun 2009]																								Takahashi Sato																					
1.3	GCEA designs specification of the pollution source inventory.	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2009]																								Takahashi Sato																					
1.4	Each DFEA prepares the pollution sources inventory based on the activity 1.3.	Revised	[Gantt chart showing implementation from Jan 2010 to Dec 2011]																								Takahashi Sato																					
Main	Takahashi (Air)	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													
Main	Sato (Water)	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													
<b>Output 2: Inspection</b>		JFY 2008/2009		JFY 2010		JFY 2011		JFY 2012		JICA Expert																																						
		SFY 2009		SFY 2010		SFY 2011		SFY 2012																																								
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
2.1	Each DFEA identifies technical and institutional issues of present inspection.	Revised	[Gantt chart showing implementation from Jan 2009 to Jun 2009]																								Takahashi Matsue																					
2.2	GCEA understands the issues of present inspections by DFEAs, and prepares a draft revision of "Industrial Facilities Inspection Guideline".	Revised	[Gantt chart showing implementation from Jan 2009 to Jun 2009]																								Takahashi Matsue																					
2.3	Each DFEA conducts inspection based on a draft revision of "Industrial Facilities Inspection Guideline".	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2011]																								Takahashi Matsue																					
2.4	Each DFEA identifies the issues of inspection based on a draft revision of "Industrial Facilities Inspection Guideline".	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2011]																								Takahashi Matsue																					
2.5	GCEA reflects the identified issues of inspections by DFEAs for a draft revision of "Industrial Facilities Inspection Guideline".	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2011]																								Takahashi Matsue																					
Main	Takahashi (Air)	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													
Main	Matsue (Water)	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													
<b>Output 3: Sampling for Water Effluent</b>		JFY 2008/2009		JFY 2010		JFY 2011		JFY 2012		JICA																																						
		SFY 2009		SFY 2010		SFY 2011		SFY 2012																																								
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
3.1	GCEA prepares water effluent sampling training plan, and manages the implementations.	Revised	[Gantt chart showing implementation from Jan 2009 to Jun 2009]																								Matsue Yamamoto																					
3.2	Water effluent sampling trainings for the 14 DFEAs are conducted in 5 selected DFEA for regional training.	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2009]																								Yamamoto																					
3.3	A sample SOP of water effluent sampling for the 14 DFEAs is prepared in 5 selected DFEA for regional training.	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2009]																								Yamamoto																					
3.4	Each DFEA prepares a SOP of water effluent sampling.	Revised	[Gantt chart showing implementation from Jul 2009 to Dec 2009]																								Yamamoto																					
3.5	Each DFEA conducts sampling based on a SOP of water effluent sampling.	Revised	[Gantt chart showing implementation from Jan 2010 to Dec 2011]																								Yamamoto																					
Main	Yamamoto	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													
Sub	Matsue	Revised	[Gantt chart showing implementation from Jan 2009 to Dec 2011]																																													



Output 7: <b>Environmental Monitoring Plan</b>		JFY 2008/2009				JFY 2010				JFY 2011				JFY 2012				JICA Expert in Charge						
		SFY 2009				SFY 2010				SFY 2011				SFY 2012										
		3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	
7.1	GCEA prepares training plan of data interpretation and revising environmental monitoring plan, and manages the implementations.																						Sato	
7.2	Each DFEA identifies the technical issues of the present monitoring plan.																							Sato
7.3	Trainings of monitoring data interpretation for the 14 DFEAs are conducted in 5 for regional training.																							Sato
7.4	Training of revising environmental monitoring plan based on the monitoring data interpretation for the 14 DFEAs are conducted in 5 for regional training.																							Sato
7.5	Each DFEA revises the present environmental monitoring plan.																							Sato
7.6	GCEA evaluates the revised environmental monitoring plans by DFEA, and provides the technical suggestions.																							Sato
7.7	Each DFEA conducts environmental monitoring based on the revised environmental monitoring plan.																							Sato
<b>Main</b>	<b>Sato</b>																							
<b>Common Activity</b>		JFY 2008/2009				JFY 2010				JFY 2011				JFY 2012				JICA Expert in Charge						
		SFY 2009				SFY 2010				SFY 2011				SFY 2012										
	<b>Report</b>																							
	<b>S/C</b>																							
	<b>T/C</b>																							
	<b>WS. Evaluation</b>																							
<b>Main</b>	<b>Inoue</b>																							
<b>Sub</b>	<b>Takahashi</b>																							
<b>Sub</b>	<b>Matsue</b>																							
<b>Sub</b>	<b>Yamamoto</b>																							

Attachment 9 Project Design Matrix (PDM) Revised at the Mid Term Review on 22nd August 2010

APPENDIX I: Project Design Matrix (PDM) [Revision 04]

Project Name : Capacity Development for Environmental Monitoring Phase II July 22, 2010  
 Project Duration : 3 years  
 Target Area : 14 Governorates in Syria  
 Target Group : Relevant staff of the DFEAs and MSEA, Approximately 20 million inhabitants of Syria.

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p><b>Overall Goal</b> Environmental management capabilities are strengthened in each Governorate by enhancement of the capabilities for implementing inspection and pollution sources management of DFEA.</p> <p><b>Project Purpose</b> Capabilities of the DFEAs for implementing inspection and environmental monitoring concerning the water and air pollution sources are strengthened under the management by MSEA.</p> <p><b>Outputs</b> 1. Capabilities for preparing pollution sources inventory are strengthened.</p>	<p>1. The number of enforcement based on the inspection in Governorates is increased.</p> <p>1. The number of the qualified inspector of the laboratory staff is increased. 2. The number of the inspection case is increased. 3. The number of the monitoring item is increased.</p>	<p>1. The enforcement record based on the inspection.</p> <p>1. Certification of the inspector. 2. Inspection record 3. Monitoring activity report</p>	<p>The Syrian Government keeps its policy support for environmental protection.</p> <p>The Syrian Government keeps its policy support to provide staff, and budget to the Directorates.</p>
<p>2. Capabilities for implementing inspection are strengthened.</p>	<p>1-1 The proper Pollution Sources Inventory is prepared.</p>	<p>1-1 Specification of the Pollution Sources Inventory. 1-2 Pollution Sources Inventory</p>	<p>Execution instructions are promulgated.</p>
<p>3. Necessary sampling skills for inspection for water effluent are strengthened.</p>	<p>2-1 A revision of "Industrial Facilities Inspection Guideline" is prepared.</p>	<p>2-1 A revision of "Industrial Facilities Inspection Guideline"</p>	
<p>4. Capabilities concerning water quality analysis for water effluent and surface water are improved.</p>	<p>3-1 SOP for water effluent sampling is prepared in more than 11 DFEAs. 3-2 More than 60% of the staff, who got the training, are able to conduct the water effluent sampling based on the SOP.</p>	<p>3-1 SOP for water effluent 3-2 Training record of the water effluent sampling. 4-1 SOP for water quality analysis</p>	
	<p>4-1 SOP for water quality analysis is prepared in more than 7 DFEAs of the 9 DFEAs, except Damascus DFEA, which possess AAS.</p>	<p>4-2 Participant Record of the AEC Program</p>	
	<p>4-2 A (Acceptable) grade of the AEC Program is obtained for at least 6 parameters in each DFEA.</p>	<p>4-3 Analyses record</p>	
	<p>4-3 The number of possible analytical parameter is increased by 8 different parameters more on average in 9 DFEA, which possess AAS.</p>	<p>4-4 Analyses record</p>	
	<p>4-4 Water quality analyses with preparation of reagent are able to conduct for at least 1 parameter in more than 11 DFEAs.</p>		

<p>5. Capabilities concerning measurement of stack emissions (gases and particulate matter) are strengthened.</p>	<p>5-1 SOP for stack emissions is prepared in more than 5 DFEAs.                      5-2 More than 60% of the staff, who got the training, is able to conduct the stack emissions measurement based on the SOP for stack emissions.                      5-3 The number of possible analytical parameter for stack emissions is increased by 3 different parameters more.</p>	<p>5-1 SOP for stack emissions measurement                      5-2 Training record of stack emissions measurement                      5-3 Analysis record for stack emissions</p>
<p>6. Capabilities concerning evaluation of present conditions of water and air quality in each governorate are strengthened.</p>	<p>6-1 A report, which includes water pollution situations and water pollution maps on the governorate level is prepared in more than 11 DFEAs.                      6-2 A report, which includes air pollution situations and air pollution maps on the governorate level is prepared in at least 5 selected DFEAs.                      6-3 A report, which includes the workshops mentioned in Activity 6-8 to share the present situations for water and air quality among DFEAs and other relevant authorities, is prepared by MSEA.</p>	<p>6-1 Report, which includes water pollution situations and their maps                      6-2 Report, which includes air pollution situations and their maps                      6-3 Report, which includes the workshops</p>
<p>7. Capabilities concerning formulation and implementation of environmental monitoring plan are strengthened.</p>	<p>7-1 The environmental monitoring plan is developed and implemented in 14 DFEAs.</p>	<p>7-1 Each environmental monitoring plan</p>

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Narrative Summary	Inputs	Important Assumption
<p><b>Activities</b></p> <p>1.1 MSEA reviews the results of "Pollution Sources Survey" done in the Phase 1, and identifies the necessary information for preparing pollution sources inventory.</p> <p>1.2 MSEA identifies the situations to prepare pollution sources inventory and its utilization purposes by each DFEA.</p> <p>1.3 MSEA designs specification of the pollution sources inventory.</p> <p>1.4 Each DFEA prepares the pollution sources inventory based on the activity 1.3.</p> <p>2.1 Each DFEA identifies technical and institutional issues of present inspection.</p> <p>2.2 MSEA understands the issues of present inspections by DFEAs, and prepares a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.3 Each DFEA conducts inspection based on a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.4 Each DFEA identifies the issues of inspection based on a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>2.5 MSEA reflects the identified issues of inspections by DFEAs for a draft revision of "Industrial Facilities Inspection Guideline".</p> <p>3.1 MSEA prepares water effluent sampling training plan, and manages the implementations.</p> <p>3.2 Water effluent sampling trainings for the 14 DFEAs are conducted in 5 selected DFEA for regional training.</p> <p>3.3 A sample SOP of water effluent sampling for the 14 DFEAs is prepared in 5 selected DFEA for regional training.</p> <p>3.4 Each DFEA prepares a SOP of water effluent sampling.</p> <p>3.5 Each DFEA conducts sampling based on a SOP of water effluent sampling.</p>	<p><u>Syrian Side Inputs</u></p> <ol style="list-style-type: none"> <li>1. Preparation of equipment</li> <li>2. Daily allowance and transportation/accommodation fees for the trainings.</li> <li>3. Land, building, laboratories, office space and other necessary facilities for the Project.</li> <li>4. Assignment of counterparts and administrative personnel.</li> <li>5. Running expenses for the implementation of the Project.</li> </ol> <p><u>Japanese Side Inputs</u></p> <ol style="list-style-type: none"> <li>1. Provision of equipment</li> <li>2. Dispatch of experts team</li> </ol>	<p>Laboratory staff trained by the Project stay in laboratories and keep working on the environmental monitoring.</p> <p>Agents/manufactures timely provide spare parts for the equipment.</p> <p><u>Pre-conditions</u></p> <ol style="list-style-type: none"> <li>1. Appropriate number of laboratory staff who have chemical background are assigned.</li> <li>2. Laboratory spaces are prepared in DFEAs.</li> </ol>

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<p>4.1 MSEA prepares water quality analyses training plan, and manages the implementations.</p> <p>4.2 Analyses trainings, including COD, NO3-N, Oil for the 14 DFEAs are conducted in 5 selected DFEA for regional training.</p> <p>4.3 Trainings concerning reliability of the analyses data for the 14 DFEAs are conducted in 5 selected DFEAs for regional training.</p> <p>4.4 Heavy metals analyses trainings using AAS for the 13 DFEAs (except Damascus DFEA) are conducted in 5 selected DFEAs for regional training.</p> <p>4.5 A sample SOP concerning the water quality analyses for the 14 DFEAs is prepared in 5.</p> <p>4.6 Each DFEA conducts necessary analyses based on the trainings.</p> <p>4.7 Each DFEA prepares SOPs concerning necessary water quality analyses.</p> <p>4.8 Each DFEA conducts necessary water quality analyses based on the SOPs.</p>	<p>5.1 MSEA prepares stack emissions (gases and particulate matter) measurement training plan, and manages the implementations.</p> <p>5.2 Stack emissions (gases and particulate matter) measurement trainings using portable stack emissions (gases and particulate matter) measurement equipment for the 14DFEAs are conducted in 5 for regional training.</p> <p>5.3 A SOP concerning the stack emissions (gases and particulate matter) measurement for the 14 DFEAs is prepared in 5 for regional training.</p> <p>5.4 Each DFEA conducts necessary stack emissions (gases and particulate matter) measurement based on the SOP.</p>

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<p>6.1 MSEA prepares a training plan of water quality interpretation / report preparation and interpretation of stationary emission sources of air pollution / report preparation, and manages the implementations.</p> <p>6.2 Trainings for water quality interpretation / report preparation for the 14 DFEAs are conducted in 5 for regional training.</p> <p>6.3 Each DFEA interprets present water quality situations based on the available water quality data concerning the water quality pollution sources and the public water bodies.</p> <p>6.4 Each DFEA prepares a report, which includes water pollution situations and water pollution maps on the governorate level.</p> <p>6.5 Trainings for interpretation of stationary emission sources of air pollution/ report preparation for the 14 DFEAs are conducted in 5 for regional training.</p> <p>6.6 Each DFEA interprets each stationary emission sources of air pollution.</p> <p>6.7 Each DFEA prepares a report using reference data, which includes air pollution situations and air pollution maps on the governorate level.</p> <p>6.8 Workshops are held by MSEA to share the present situations for water and air quality for DFEAs and other relevant authorities.</p>	<p>7.1 MSEA prepares training plan of data interpretation and revising environmental monitoring plan, and manages the implementations.</p> <p>7.2 Each DFEA identifies the technical issues of the present monitoring plan.</p> <p>7.3 Trainings of monitoring data interpretation for the 14 DFEAs are conducted in 5 for regional training.</p> <p>7.4 Trainings of revising environmental monitoring plan based on the monitoring data interpretation for the 14 DFEAs are conducted in 5 for regional training.</p> <p>7.5 Each DFEA revises the present environmental monitoring plan.</p> <p>7.6 MSEA evaluates the revised environmental monitoring plans by DFEAs, and provides the technical suggestions.</p> <p>7.7 Each DFEA conducts environmental monitoring based on the revised environmental monitoring plan.</p>
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89