

IV-4 Expenses for Project

(1) Expenses for Project by Japanese Side

	FY2004 (Jan.2005-Mar.2005)	FY2005(Apr.2005-Mar.2006)
Equipment	58,706	62,145
Spare parts, Additional Instrument and Administrative	1,959	33,561
Total	60,665	95,706

Unit is thousand yen

(2) Expenses for Project by GCEA

	Jan.2005-Mar.2005	Apr.2005-Mar.2006
Construction	<i>ca.</i> 10,000	-
Water, Electricity, installing c ases, painting and other equip ment	-	<i>ca.</i> 3,800
chemical materials	-	<i>ca.</i> 1,700
air-conditions and balance cha mber	-	<i>ca.</i> 1,600
Total	<i>ca.</i> 10,000	<i>ca.</i> 7,100

Unit is thousand S.P.

Source: GCEA

(2) Budget for 14 DFEAs Laboratory

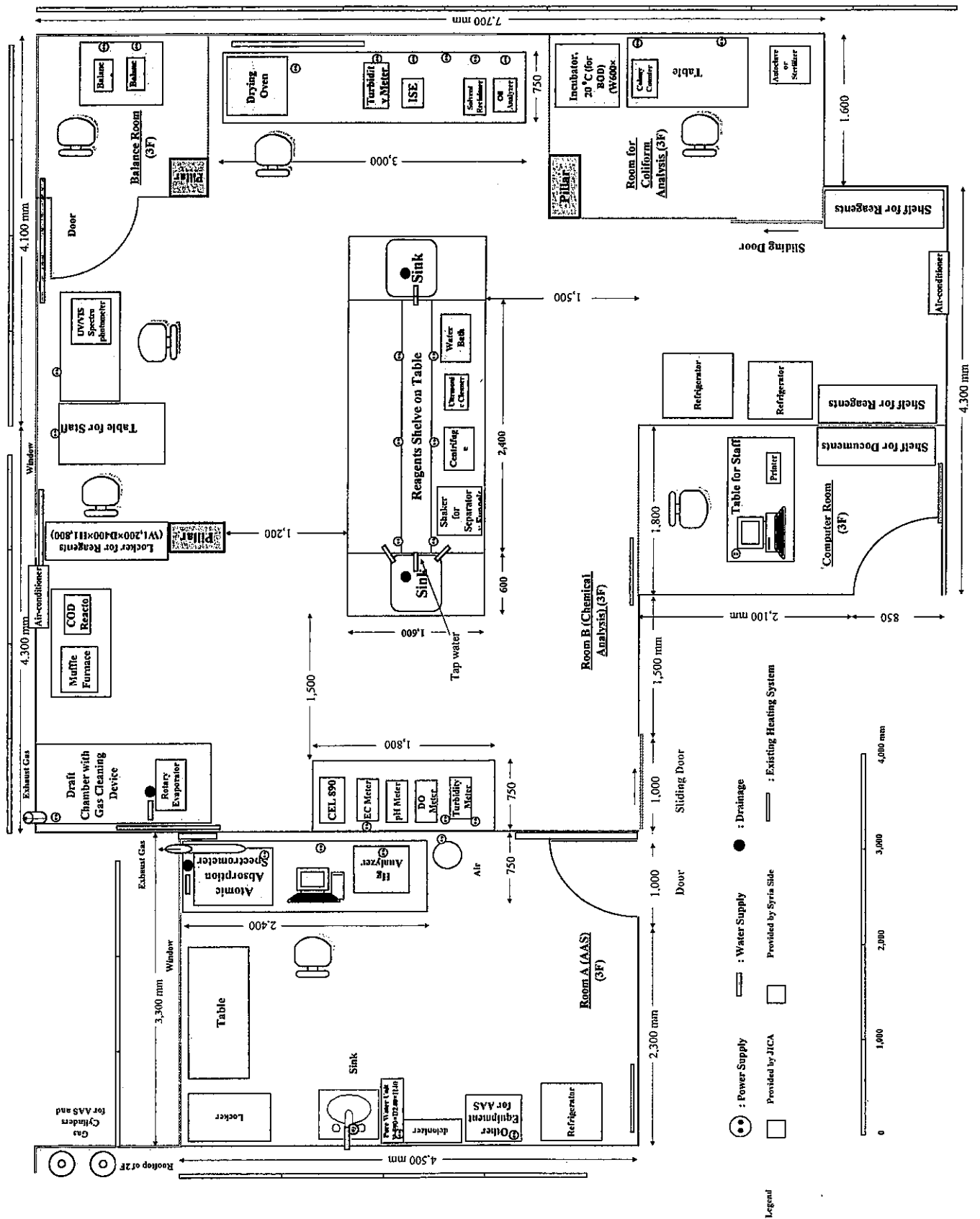
Budget of Year 2006 for 14 DFEAs Laboratory (Basic Water Quality Analysis)

(×1,000 S.P.)

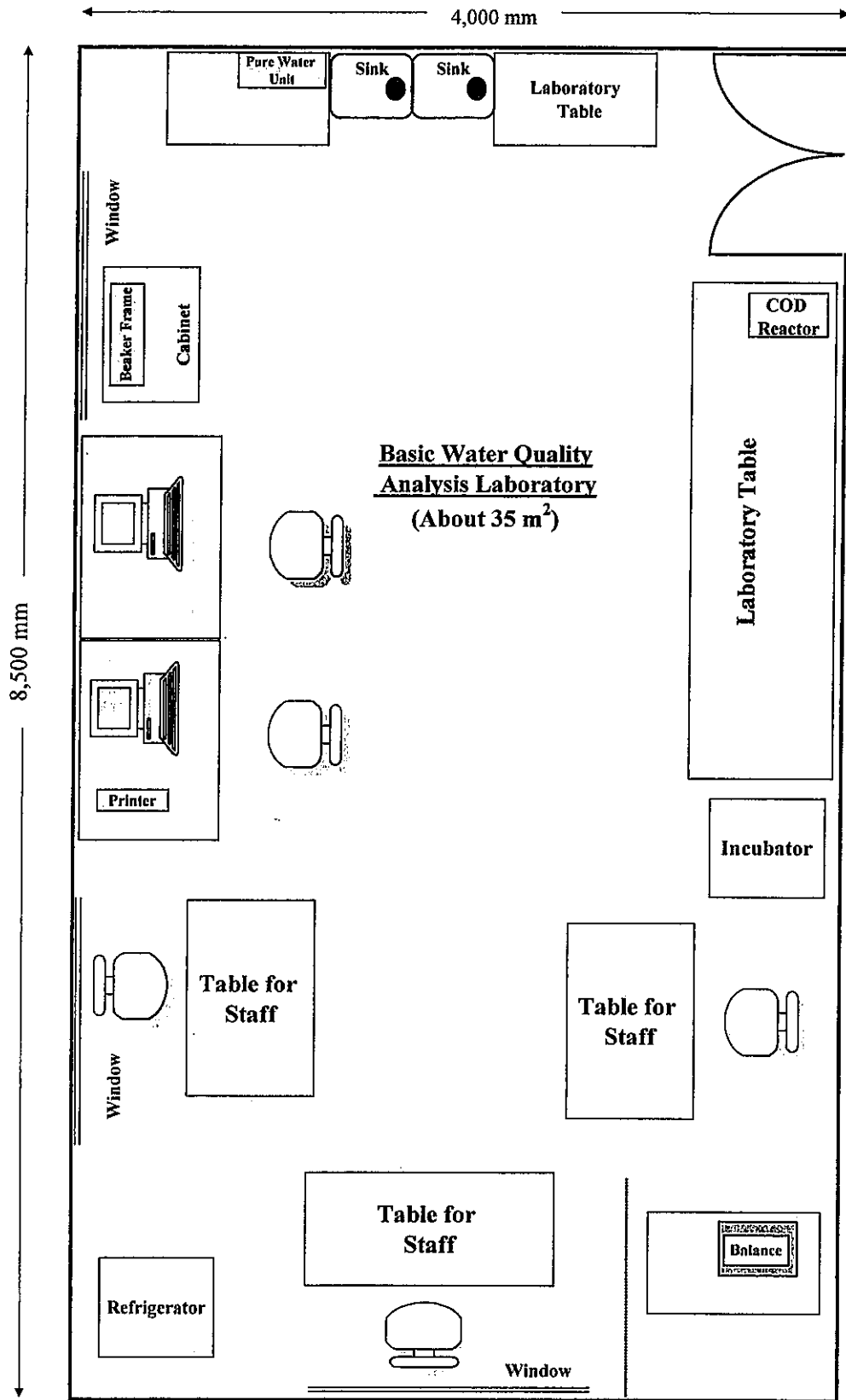
	Damascus	Damascus Countryside	Aleppo	Homs	Hama	Latakia	Deir Zor
Reagents	700	75	61	100	50	462	40
Glassware & other Instrument	160	M ²⁾	13	M ²⁾	M ²⁾	69	15
Lab. O/M	180	M ²⁾	0	M ²⁾	M ²⁾	14	10
Gasoline	100	12	53	M ²⁾	54	78	54
Others	360	M ²⁾	0	M ²⁾	M ²⁾	47	10
Total	1,500	87	127	100	104	670	129
Remarks	1) The number of samples is estimated to be 260 per year. 2) The budget is obtained from Damascus Governorate not from MOLAR. The construction cost of lab. is included.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) Total amount can be increased if needed.	1) Estimated number of samples is 77 which is less than 260. Total amount can be increased if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) There are surplus reagents in the DFEA. Total amount can be increased if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) Total amount can be increased if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget for reagents of AAS, GC and other equipment provided by GCEA is included.	1) Estimated number of samples is 71 which is less than 260. Total amount can be increased if needed.
Reagents	Idleb	Hasakeh	Rakka	Sweida	Dara	Tartous	Quneitra
Glassware & other Instrument	50	298	54	100	160	100	50
Lab. O/M	400	69	M ²⁾	0	150	0	M ²⁾
Gasoline	0	12	17	0	60	0	M ²⁾
Others	44	78	M ²⁾	M ²⁾	70	M ²⁾	M ²⁾
Total	0	45	4	500	60	500	M ²⁾
Remarks	1) The number of samples is estimated to be 260 per year.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) Total amount can be increased if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) Total amount can be increased if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed.	1) The number of samples is estimated to be 260 per year. 2) The budget is mixed with other items, it can be taken from DFEA's budget if needed. 3) Total amount can be increased if needed.

IV-5 Laboratory Layout

IV-5 (1)Damascus DFEA



IV-5 (2)Damascus Countryside DFEA



Legend

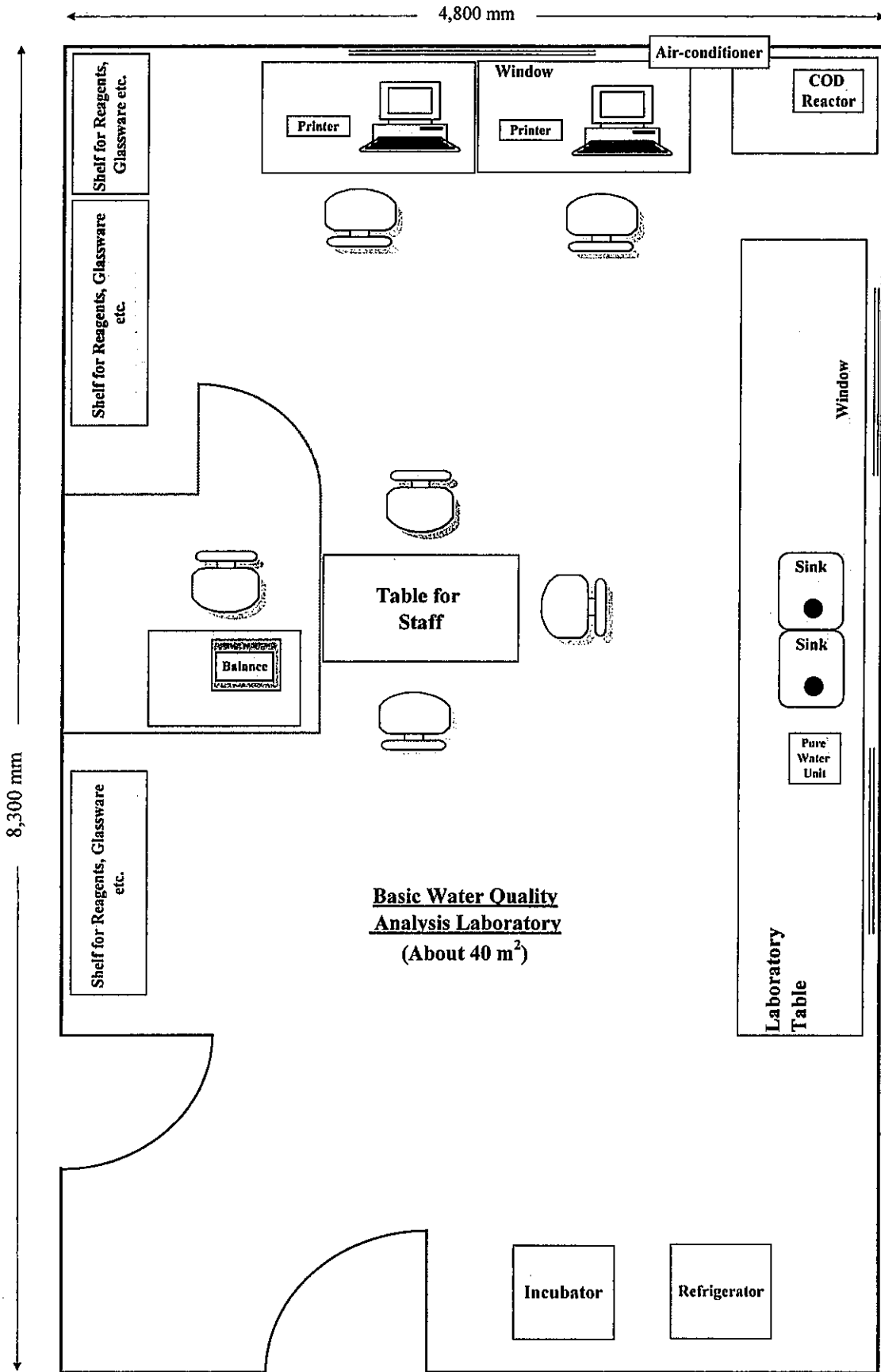


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IV-5 (3)Aleppo DFEA



Legend

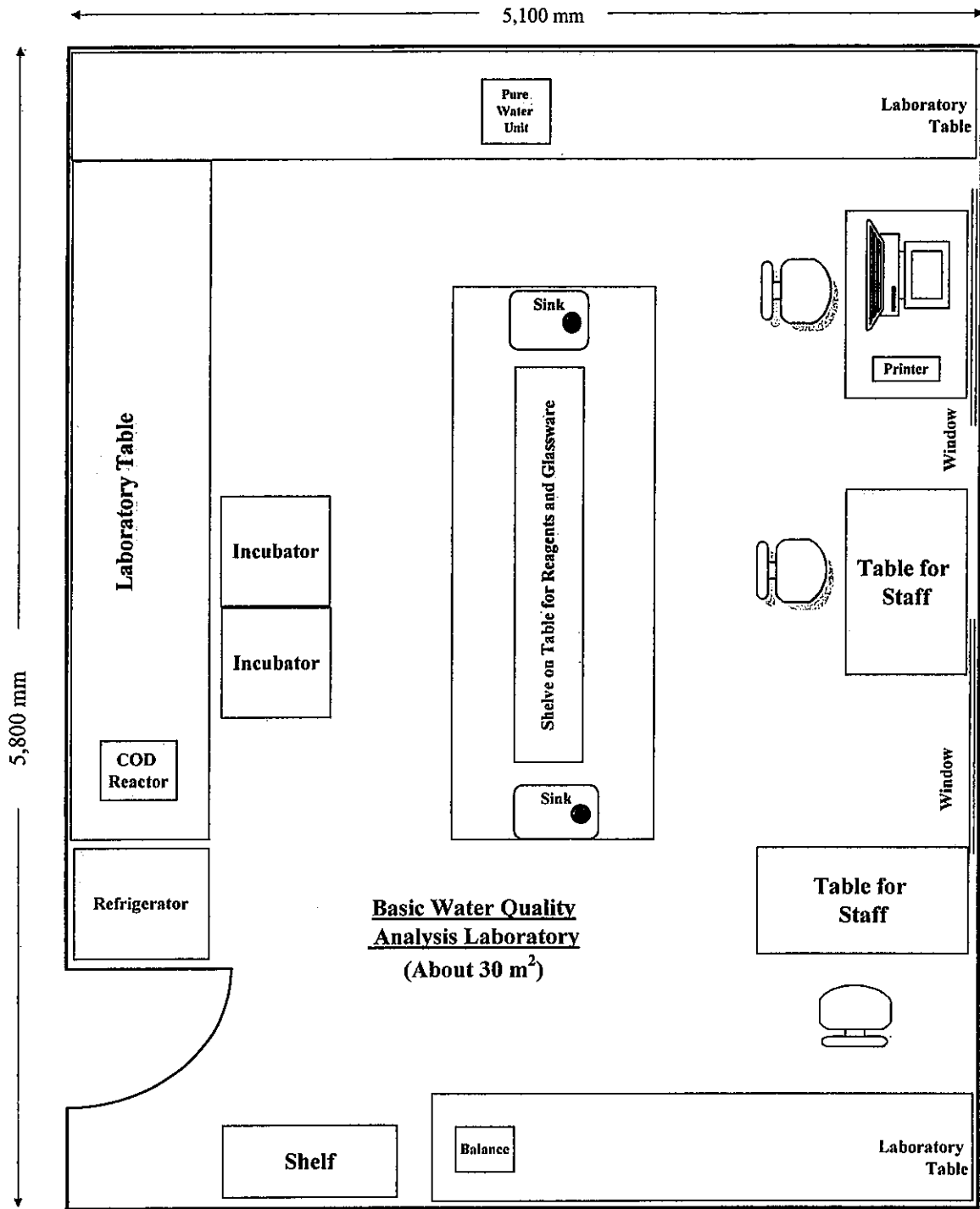


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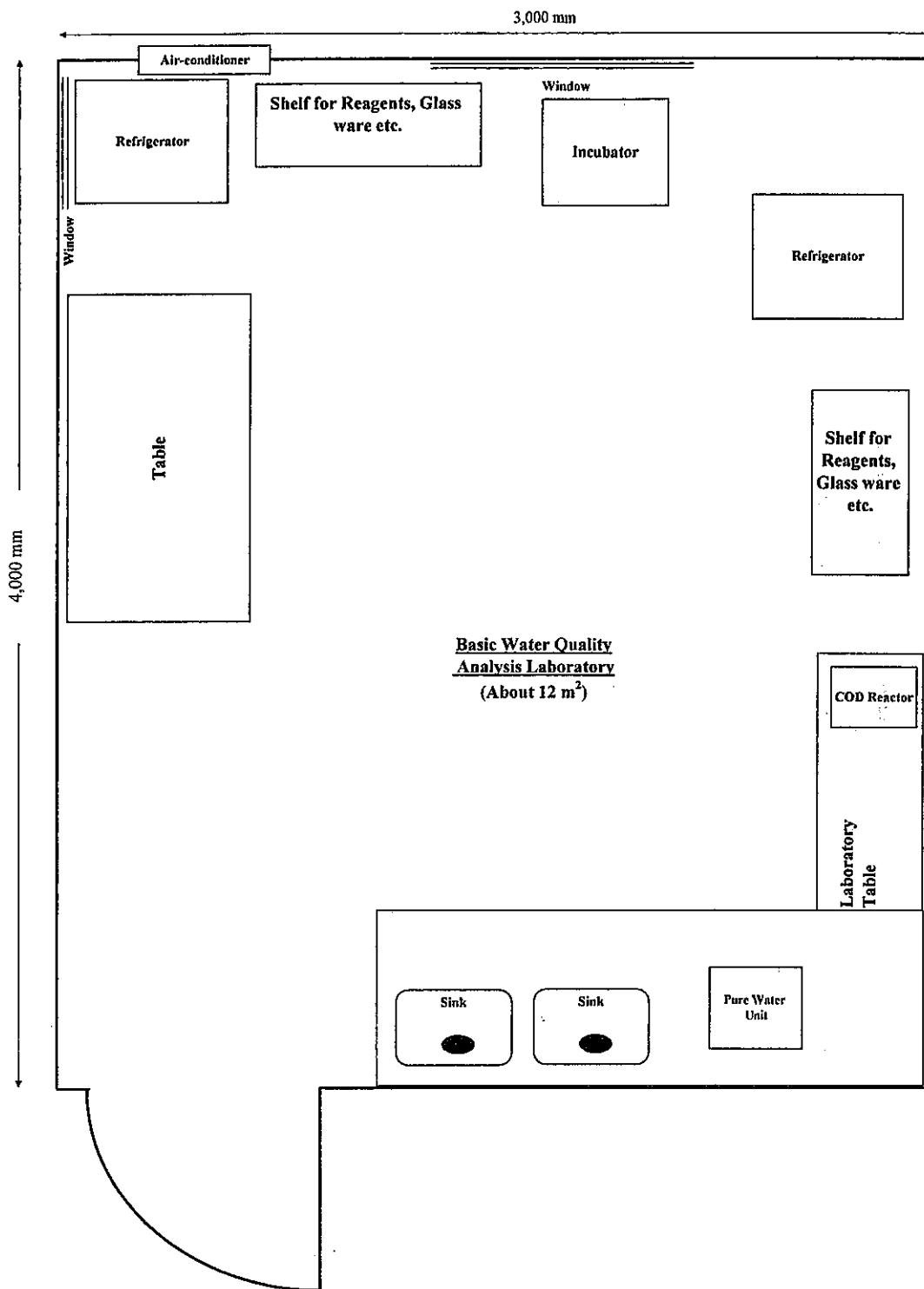
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IV-5 (4)Homs DFEA



Note: Balance table will be installed at new laboratory.

IV-5 (5)Hama DFEA



Note: Balance is installed at another room.

Legend

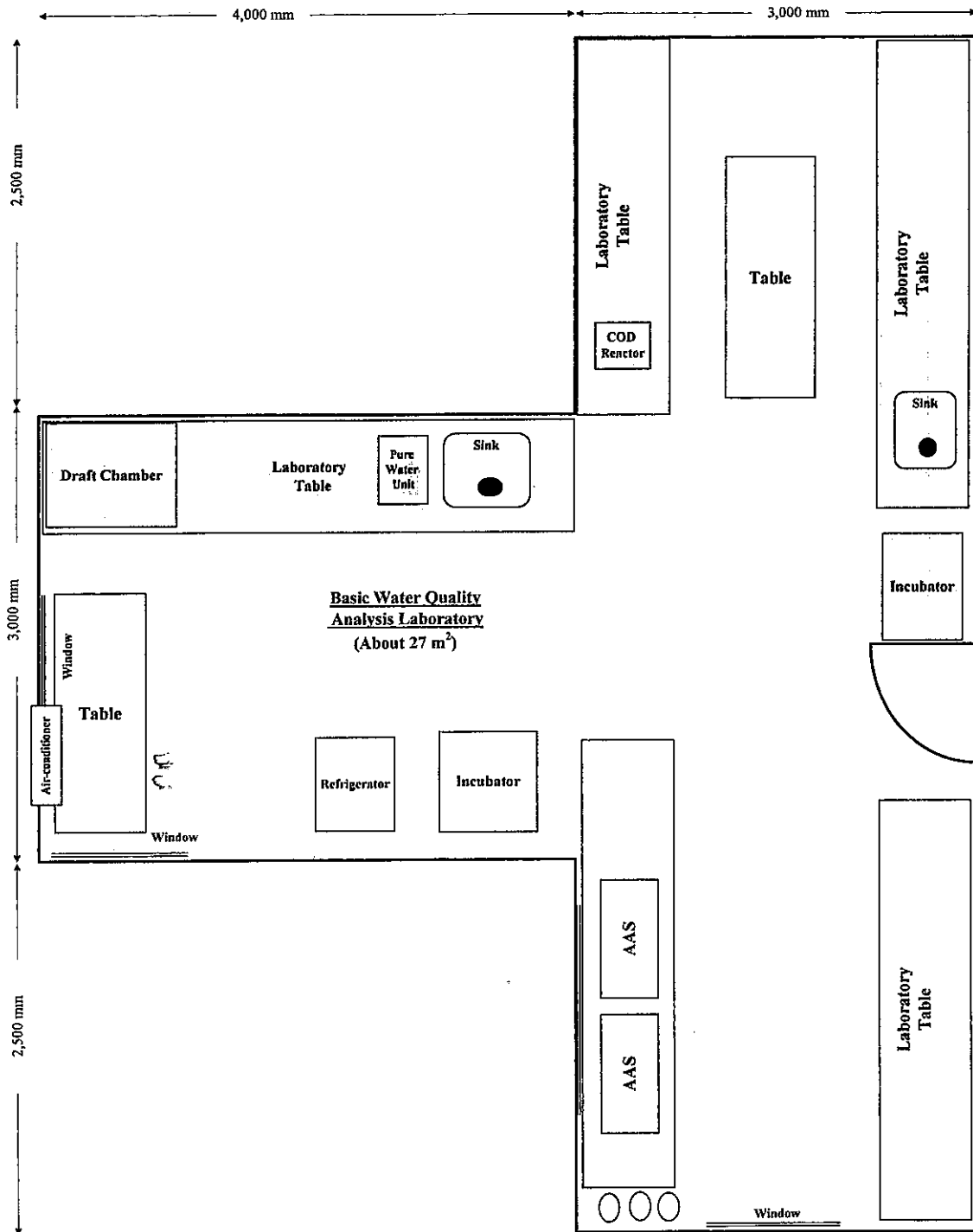


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IV-5 (6) Lattakia DFEA



Note: Balance and balance table is installed in another room.

Legend

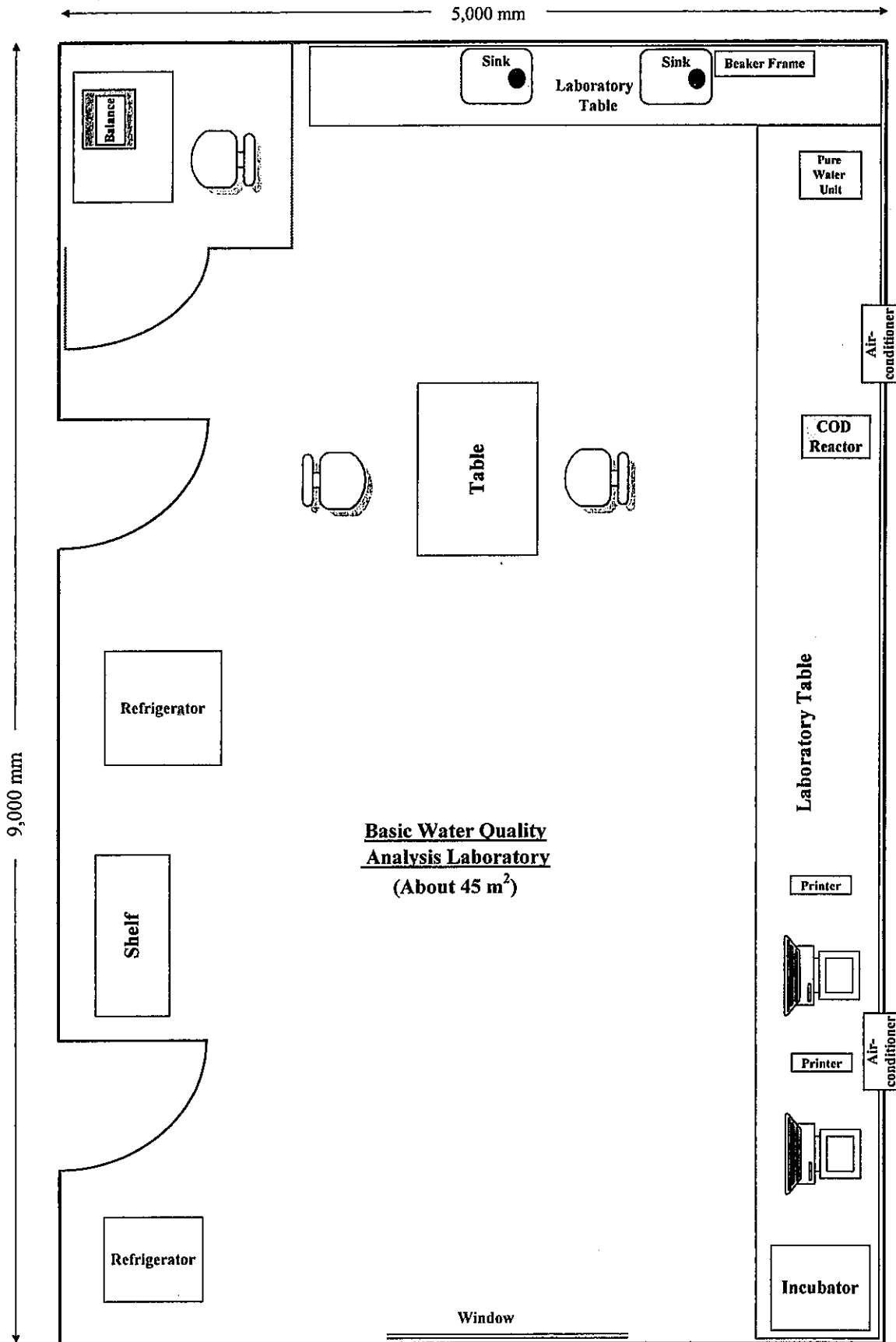


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IV-5 (7)Dier Zor DFEA



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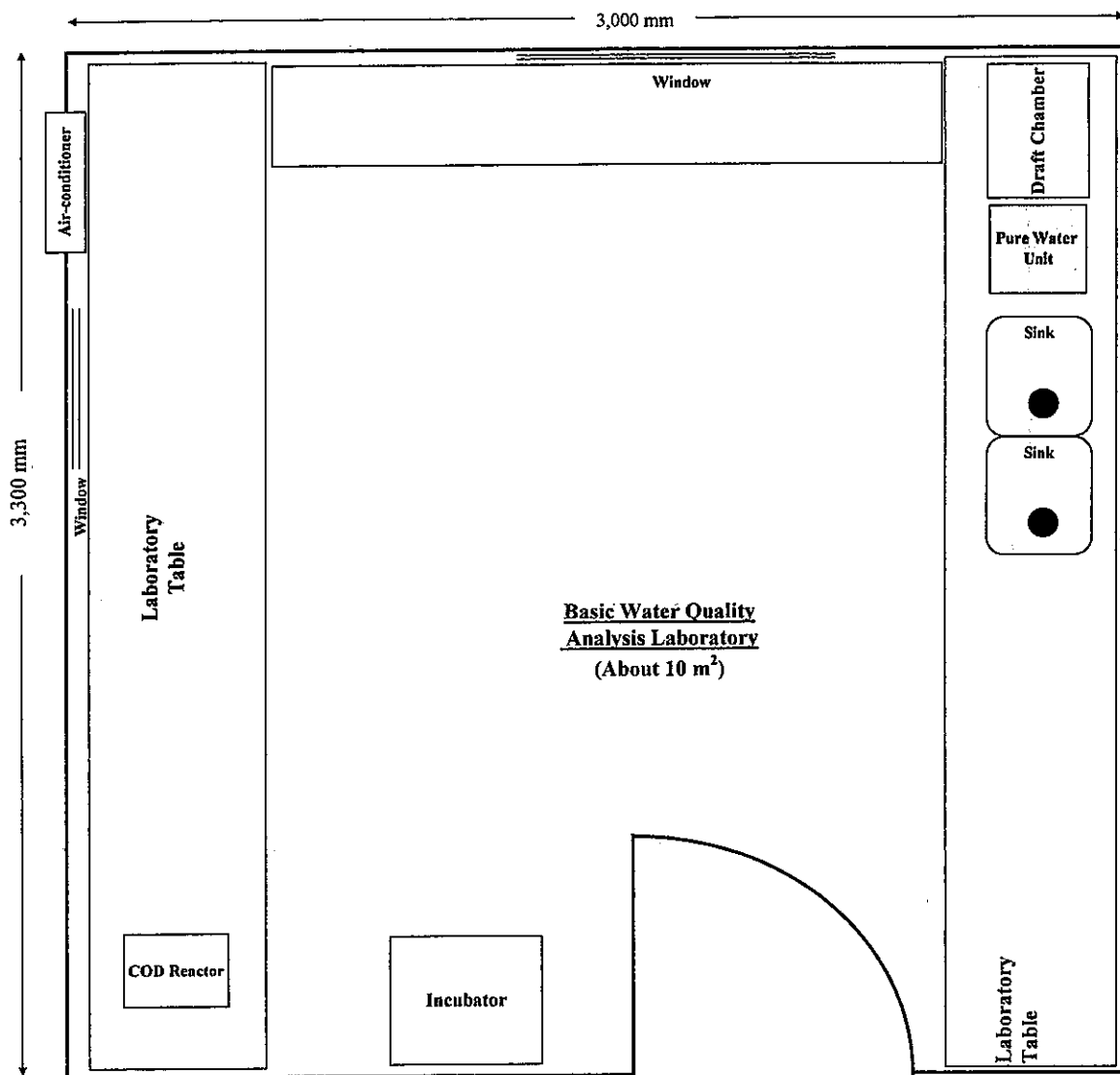


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IV-5 (8)Idleb DFEA



Note: Refrigerator, balance and balance table is installed in another room.

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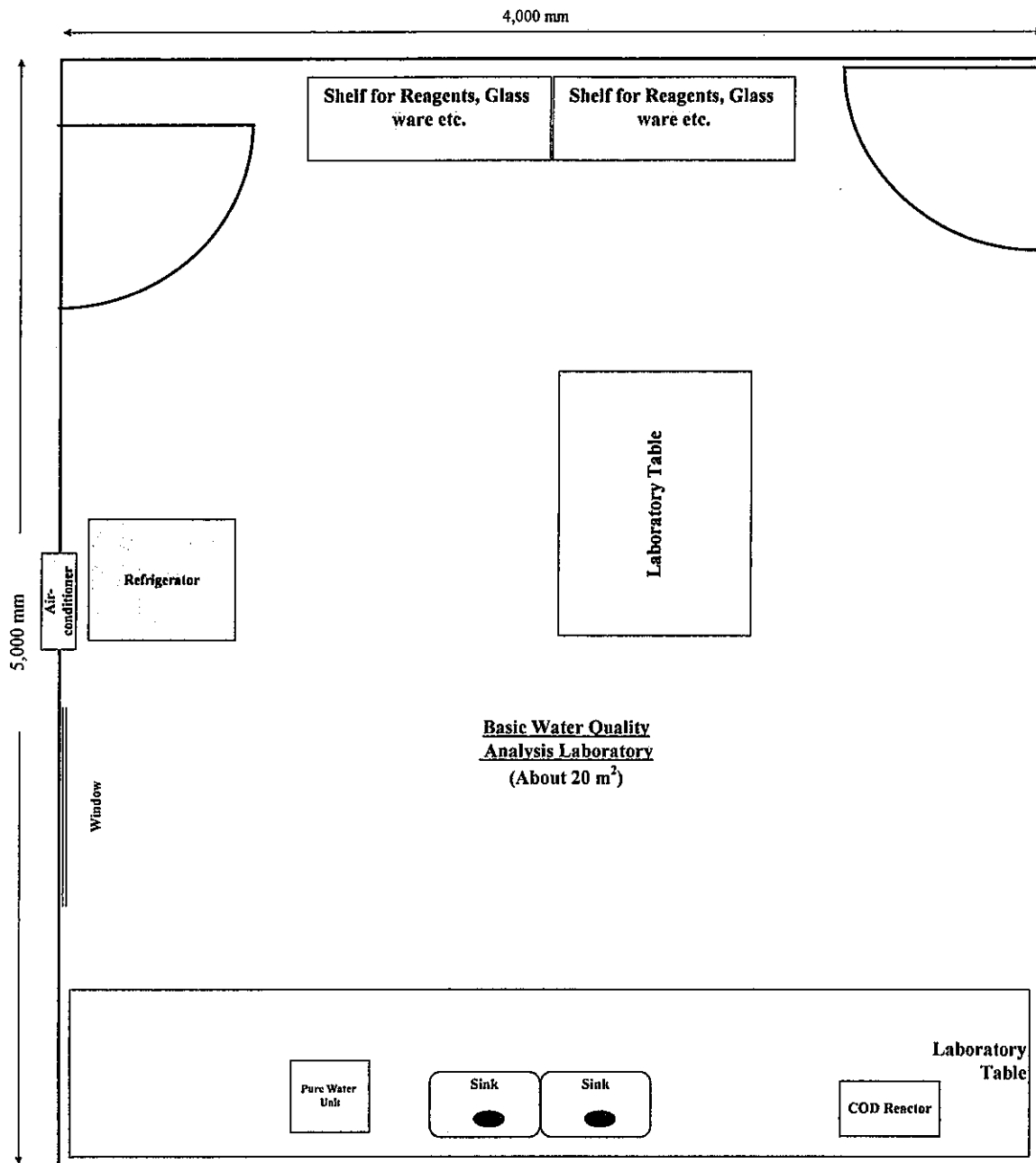


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IV-5 (9) Hasakeh DFEA



Note: Incubator and balance are installed at another room.

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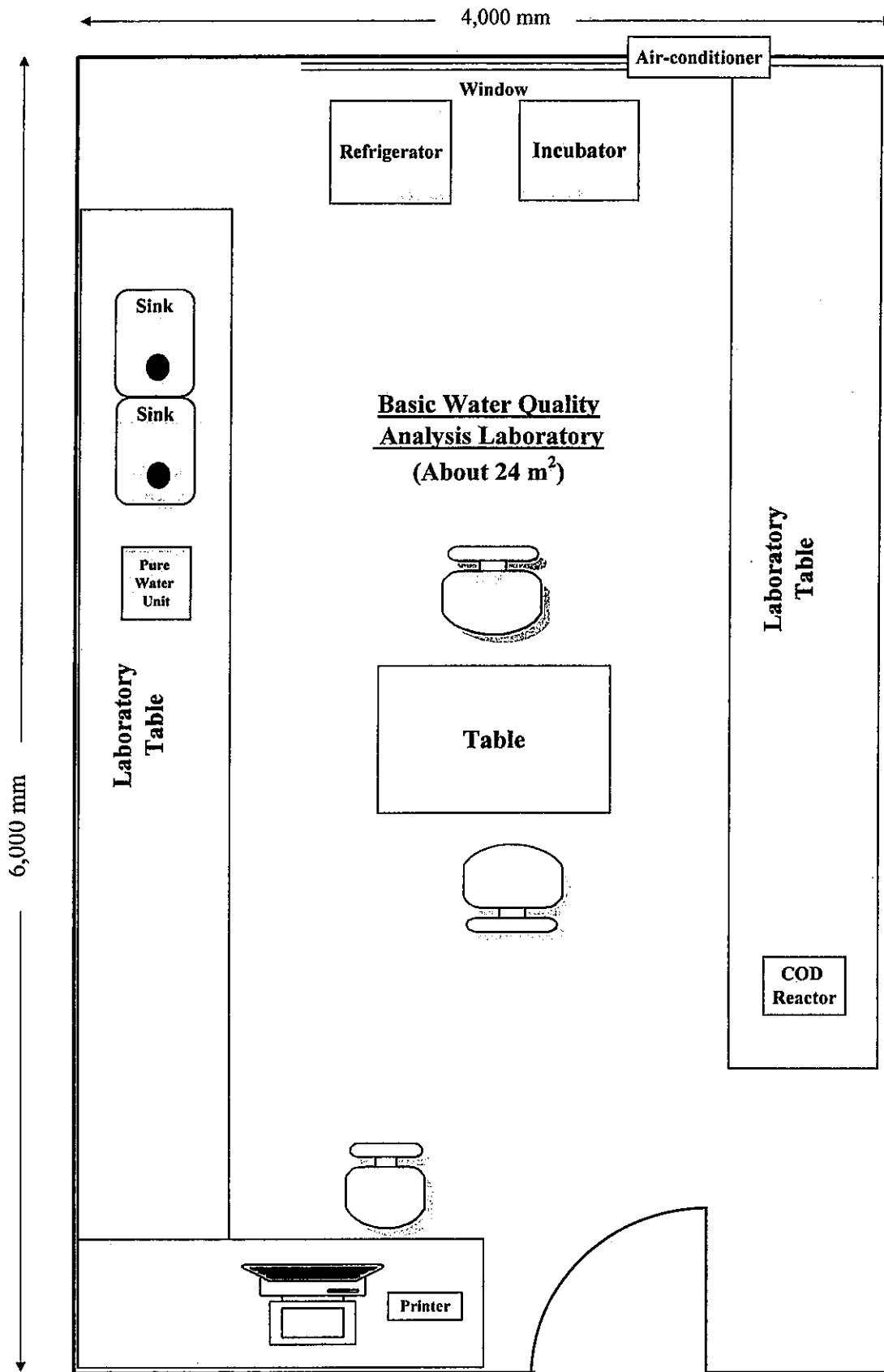


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IV-5 (10)Rakka DFEA



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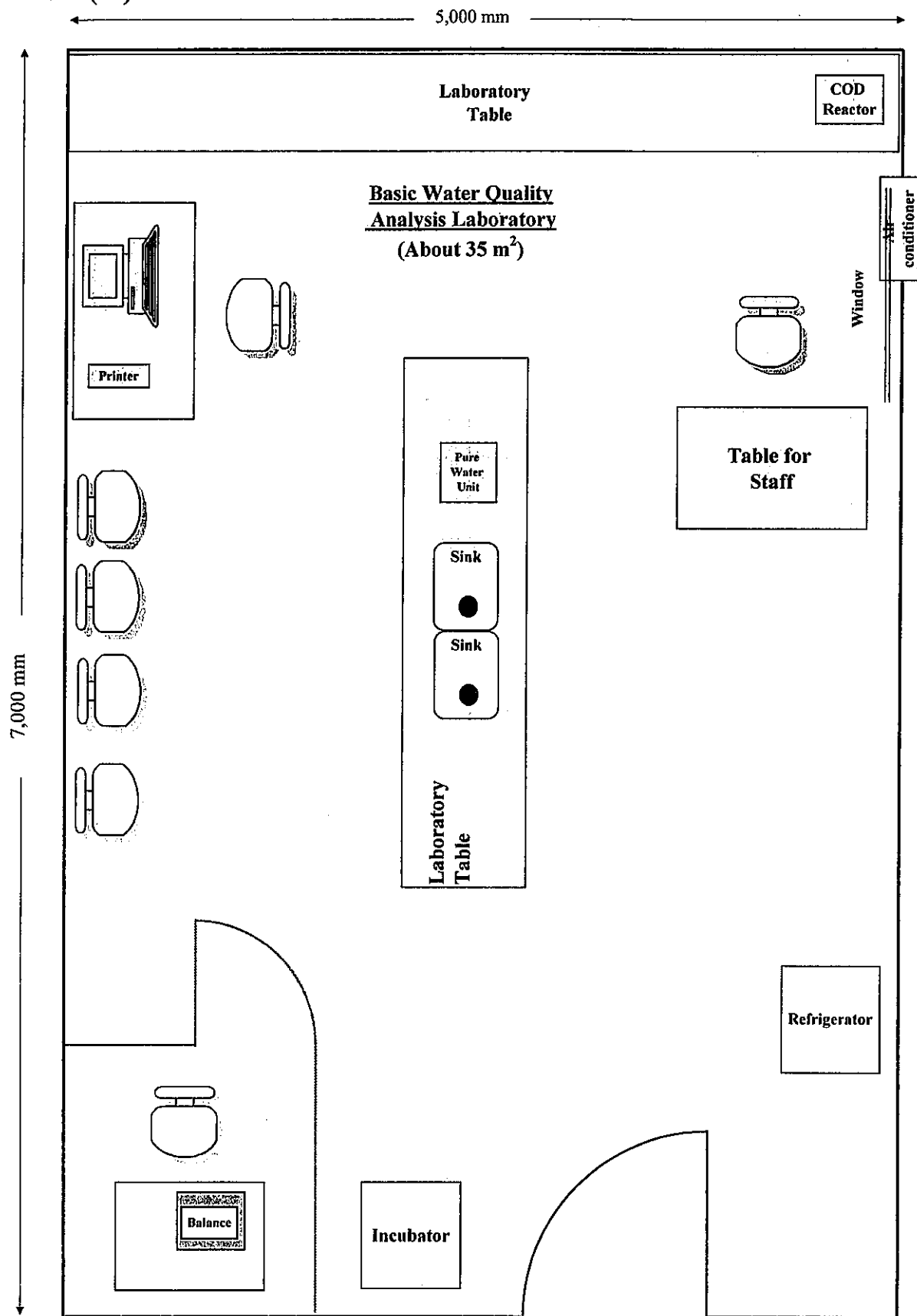


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IV-5 (11) Sweida DFEA



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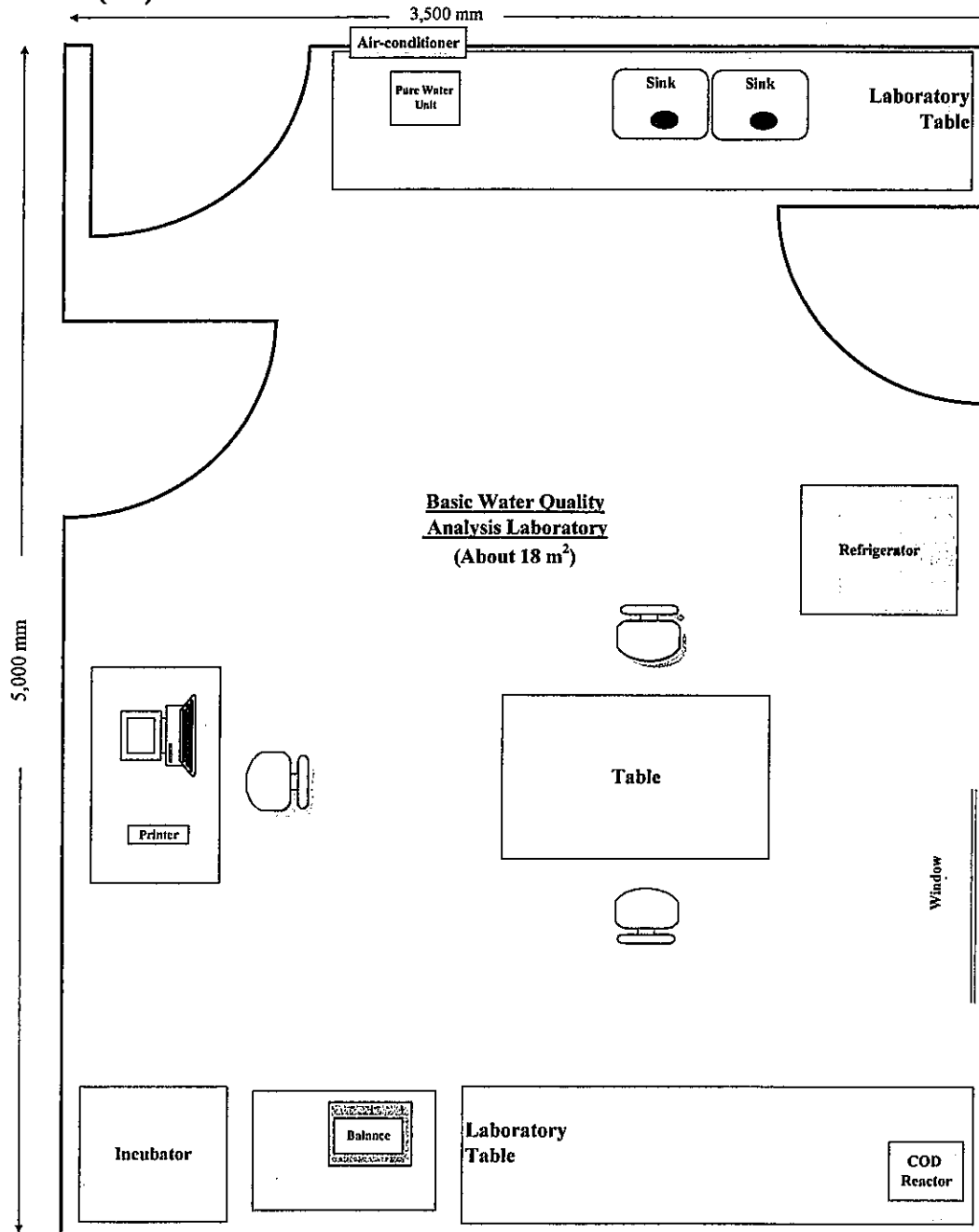


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IV-5 (12)Dara DFEA



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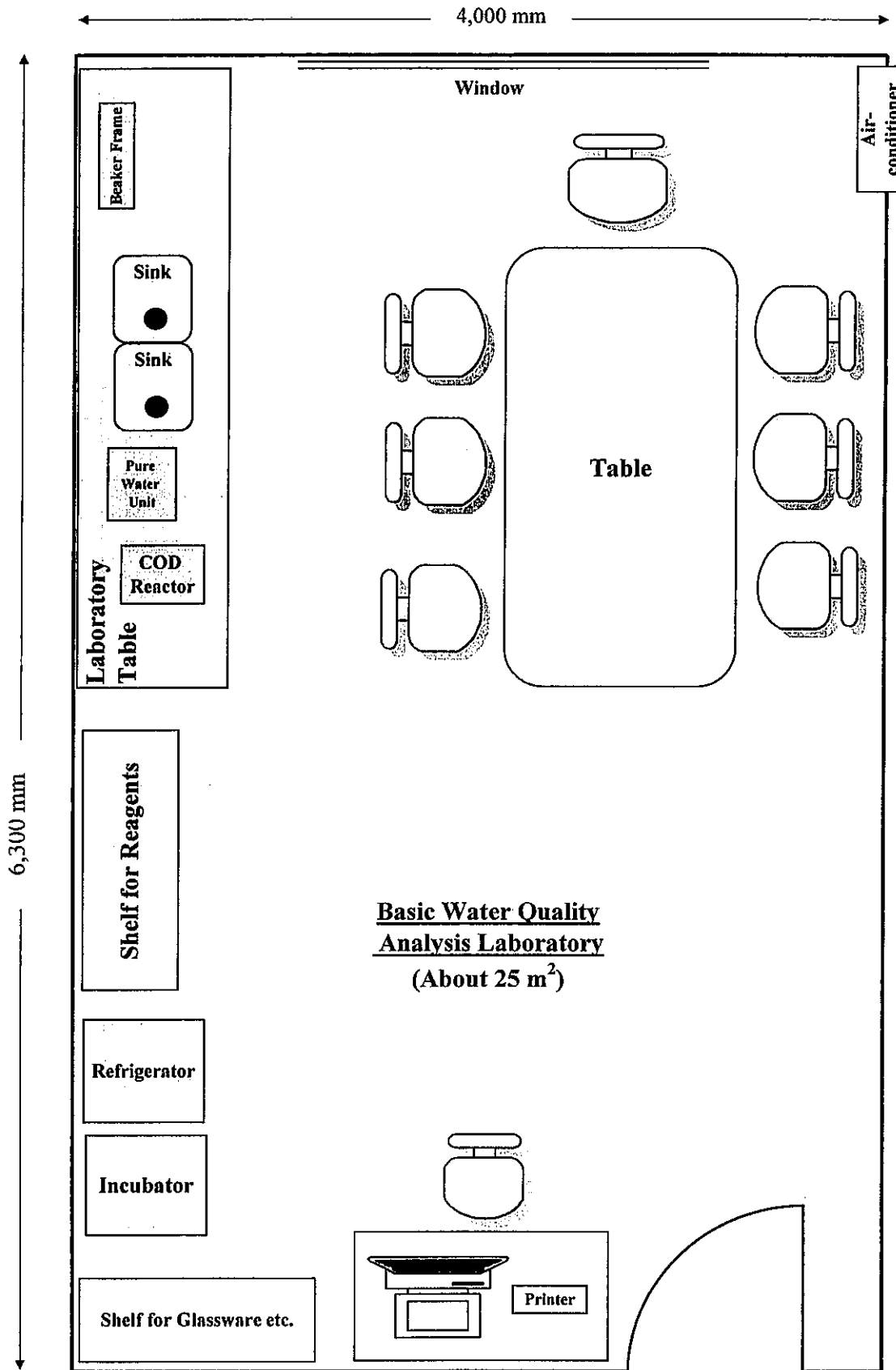


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IV-5 (13) Tartous DFEA



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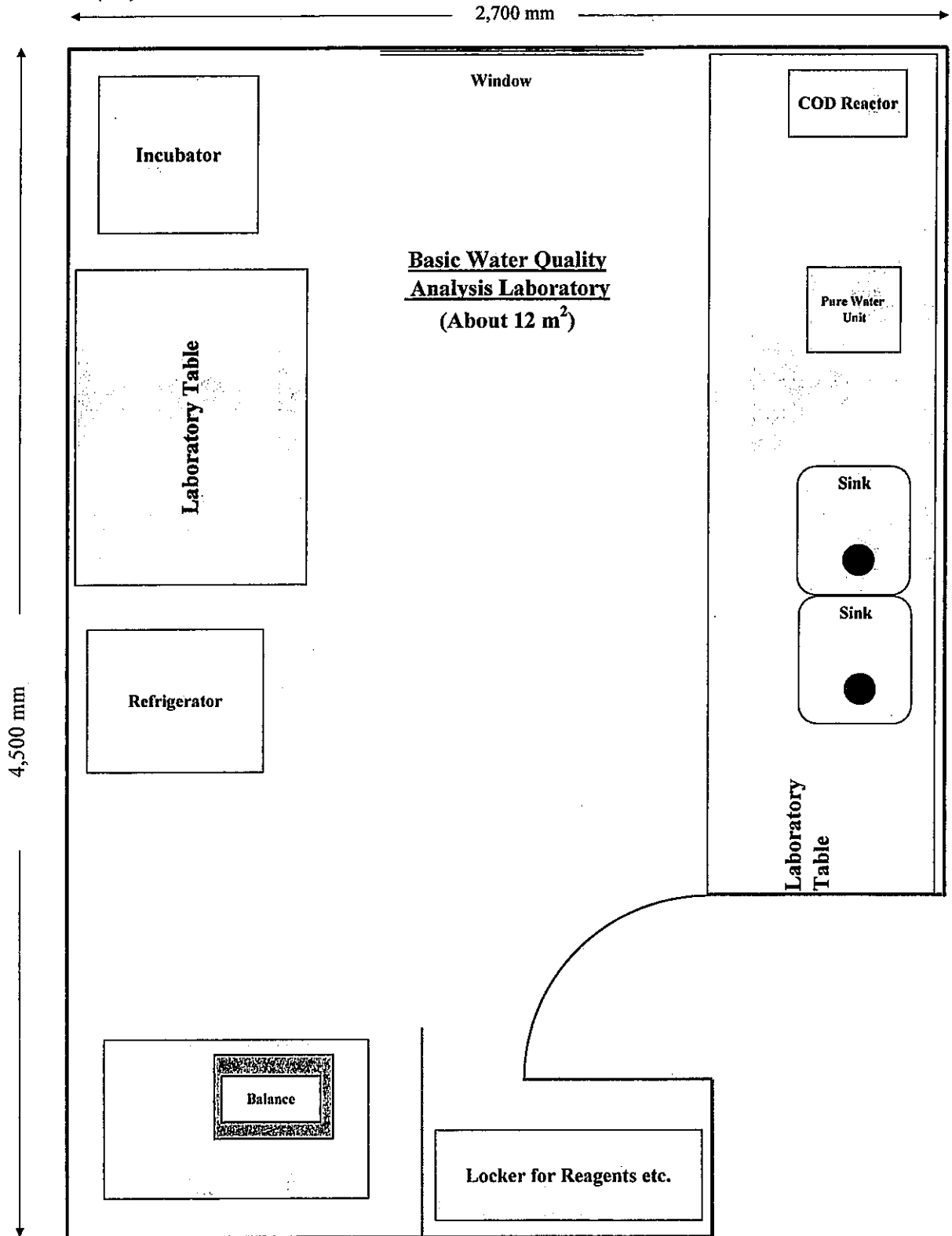


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IV-5 (14)Quneitra DFEA



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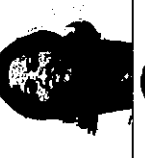


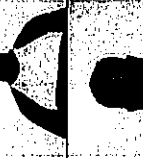




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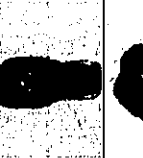





Provided by Syria Side








IV-6 List of Counterparts and Training Records.doc
IV-6(1) GCEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Yasir Mo'alla * PhD Analytical Chemistry Eng. *The manager of the Administrative Dep.		0	X	0				
*Ms. Fathia Mohammad *Natural Science/ Biochemistry Dept. * Dept.GCEA-Labs Directorate		0	X	0				
*Ms. Fayzeh Hoijeh *Natural Science/ Biochemistry Dept. *GCEA-Labs Directorate		X	X	0				
*Ms. Khozama Abo Saab *Petrochemical Eng/ /Nourishment Dept. *GCEA-Labs Directorate		0	X	0				
*Mr. Mouhamed younes *Chemical Industries Institute/Technology *GCEA-Labs Directorate		-	-	0				Moved in Jan. 2006
*Mr. Shaka Soliman *Applicable Science *An Official of Data management team *Mr. Maan Alabli * Agronomist/ Agricultural Economy *Public awareness team *Ms. Gloria Mousa * Agronomist/ Public section *Public awareness team	  	0	X	X				






IV-6(2)-1 Damascus DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
* Ms. Reem Sadr Eddin *Natural Science/ Practical Chemistry Dept. * Basic Water Quality Analysts (Lab chief) *Mr. Samer Mokbel *Environmental engineer assistant *Basic Water Quality Analysts (Sampling) *Ms. Iman Sulayman *Natural Science/ Practical Chemistry Dept. *Basic Water Quality Analysis *Mr. Khaled Kasem *Agronomist *Basic Water Quality Analysts *Ms. Layla Al'Dura* *Agronomist *Basic Water Quality Analysis *Ms. Amra Alhanwy *Medical engineer *Basic Water Quality Analysis *Ms. Inas Webby *Natural Science/ Practical Chemistry Dept. *Chemical & Biological- Water Quality Analysis	      	0	0	0				
		X	0	X				
		0	0	0				
		0	-	-				Moved out in Nov. 2005
		0	0	X				
		-	-	0				Moved in Jul. 2006
		0	0	0				




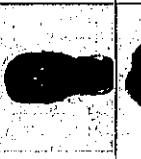



IV-6(2)-1 Damascus DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Raniya Sulayman *Civil engineer/ Environment Dept. *Basic Water Quality Analysis		O	O	X				
Ms. Faten Harmoush* *Petrochemical engineer/ Biology Dept. *Chemical & Biological- Water Quality Analysis		-	-	O				Moved in Jun. 2006
Mr. Moneer Mostafa* *Environmental engineer assistant *Air Quality (Sampling)		-	-	-				
*Ms. Firyal Al usayni *Agronomist *Air Quality		O	-	-				
*Ms. Omama Younes *Civil engineer/ Environment Dept. *Air Quality		O	O	-				
*Ms. Sofiad Sida *Natural Science/ Practical Chemistry Dept. *Air Quality		-	O	O				
Ms. Rafah Zaghmout* *Chemistry Institute/ Technology Dept. *Air Quality		-	-	O				Moved in Jun. 2006








IV-6(2)-1 Damascus DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Alimuthanna Ghannem *Biological Chemistry *Data management chief		-	-	O				Moved in Jun. 2006
*Ms. Hanan Saman *Agronomist assistant. *Data management team		X	X	X				
*Ms. Halah Khouri *Technical Observer Institute /Geometric Drawing.		-	-	-				
*Public awareness team *Ms. Siva Ardahajjan *Mechanical engineer *Public awareness team		-	-	-				
*Ms. Rasha Melrez *Technical Observer Institute/Environment Dept. *Public Awareness Team		-	O	-				






IV-6(2)-2 Damascus DFEA (Chemical and Biological Water Quality)

Name Background Position	Photo	Training Record					Remarks
		July 1 st week	July 2 nd week	July 3 rd week	July 4 th week	Aug 1 st week	
*Ms. Reem Sadr Edgin *Natural Science/ Practical Chemistry Dept. * Basic Water Quality Analysis (Lab chief)		0	0	0	0	0	
*Mr. Samer Mokbel *Environmental engineer assistant *Basic Water Quality Analysis (Sampling)		X	X	X	X	X	In charge of water sampling
*Ms. Iman Sulayman *Natural Science/ Practical Chemistry Dept. *Basic Water Quality Analysis		0	0	0	0	0	
*Mr. Khaled Kasem *Agronomist *Basic Water Quality Analysis		-	-	-	-	-	Moved in out Nov. 2005
Ms. Layla Al Durra *Agronomist *Basic Water Quality Analysis		0	0	0	0	0	
*Ms. Amra Alhamwy *Medical engineer *Basic Water Quality Analysis		-	-	-	0	0	Moved in Jul. 2006
*Ms. Inas Webby *Natural Science/ Practical Chemistry Dept. *Chemical & Biological- Water Quality Analysis		0	0	0	0	0	




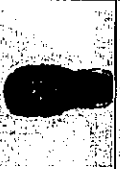



IV-6(2)-2 Damascus DFEA (Chemical and Biological Water Quality)

Name Background Position	Photo	Training Record					Remarks
		July 1 st week	July 2 nd week	July 3 rd week	July 4 th week	Aug 1 st week	
*Ms. Raniya Sulayman *Civil engineer/ Environment Dept. *Basic Water Quality Analysis		X	X	X	X	X	Maternity leave
Ms. Faten Harmoussi* *Petrochemical engineer/ Biology Dept. *Chemical & Biological- Water Quality Analysis		0	0	0	0	0	Moved in Jun. 2006
Mr. Moneer Mostafa* *Environmental engineer assistant *Air Quality (Sampling)		X	X	X	X	X	In charge of air sampling
*Ms. Firyal Al usayni *Agronomist *Air Quality		X	X	X	X	X	
*Ms. Omatina Younes *Civil engineer/ Environment Dept. *Air Quality		X	0	X	0	0	
*Ms. Sohad Sida *Natural Science/ Practical Chemistry Dept. *Air Quality		0	0	0	0	0	
Ms. Rafiah Zaghamout * *Chemistry Institute/ Technology Dept. *Air Quality		0	0	0	0	0	Moved in Jun. 2006




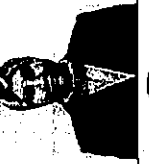



IV-6(2)-2 Damascus DFEA (Chemical and Biological Water Quality)

Name Background Position	Photo	Training Record							Remarks
		July 1 st week	July 2 nd week	July 3 rd week	July 4 th week	Aug 1 st week	Aug 2 nd week		
*Mr. Alimuthanna Ghanem *Biological Chemistry *Data management chief		X	X	X	X	X			Moved in Jun. 2006
*Ms. Hanan Sama'n *Agronomist assistant. *Data management team		X	X	X	X	X			
*Ms. Hala'h Khouri *Technical Observer Institute /Geometric Drawing. *Public awareness team		X	X	X	X	X			
*Ms. Silva Ardahajian *Mechanical engineer *Public awareness team		X	X	X	X	X			
*Ms. Rasha Mohrez *Technical Observer Institute/Environme nt Dept. *Public Awareness Team		X	X	X	X	X			






IV-6(2)-3 Damascus DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Ms. Reem Sadr Eddin *Natural Science/ Practical Chemistry Dept. * Basic Water Quality Analysis (Lab chief)		O	O					
*Mr. Samer Mokbel *Environmental engineer assistant. *Basic Water Quality Analysis (Sampling)		X	O					
*Ms. Iman Sulayman *Natural Science/ Practical Chemistry Dept. *Basic Water Quality Analysis		O	O					
*Mr. Khaled Kasem *Agronomist *Basic Water Quality Analysis		O	-					Moved out in Nov. 2005
Ms. Layla Al Durra *Agronomist *Basic Water Quality Analysis		O	O					
*Ms. Amra Alhamwy *Medical engineer *Basic Water Quality Analysis		-	-					Moved in Jul. 2006
*Ms. Inas Webby *Natural Science/ Practical Chemistry Dept. *Chemical &Biological- Water Quality Analysis		O	O					



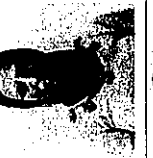

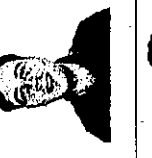


IV-6(2)-3 Damascus DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Ms. Raniya Sulayman *Civil engineer/ Environment Dept. *Basic Water Quality Analysis		○	○					
Ms. Faten Harmoushi* *Petrochemical engineer/ Biology Dept. *Chemical & Biological- Water Quality Analysis		-	-					Moved in Jun. 2006
Mr. Moner Mostafa* *Environmental engineer assistant *Air Quality (Sampling)		-	○					
*Ms. Firyal Al usayni *Agronomist *Air Quality		○	○					
*Ms. Onaima Younes *Civil engineer/ Environment Dept. *Air Quality		○	○					
*Ms. Sohad Sida *Natural Science/ Practical Chemistry Dept. *Air Quality		-	○					
Ms. Rafah Zaghmout * *Chemistry Institute/ Technology Dept. *Air Quality		-	-					Moved in Jun. 2006



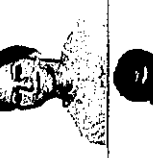
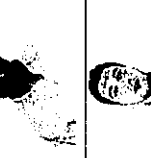


IV-6(2)-3 Damascus DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Mr. Almutahanna Ghanem *Biological Chemistry *Data management chief		-	-					Moved in Jun. 2006
*Ms. Hanan Sama'n *Agronomist assistant. *Data management team		X	X					
*Ms. Halah Khouri *Technical Observer Institute /Geometric Drawing. *Public awareness team		-	-					
*Ms. Silva Ardahajjan *Mechanical engineer *Public awareness team		-	-					
*Ms. Rasha Mehrez *Technical Observer Institute/Environment Dept. *Public Awareness Team		-	-					








IV-6(3) Damascus Countryside DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Muna Al Joma'a		○	○	○				
*Petrochemical Eng/ Chemistry Dept.								
*Basic Water Quality Analysis (Labs chief)								
*Mr. Muneer Sarhan		○	○	○				
*Natural sciences / Biological Chemistry								
*Basic Water Quality Analysis								
*Ms. Aida Halaweek		○	○	○				
*Institute of Applied Industries / laboratory Dept.								
*Basic Water Quality Analysis- Data management team								
*Mr. Malek Soliman		-	○	○				Moved in Dec. 2005
*Applied Industries Institute/ laboratory Dept.								
*Basic Water Quality Analysis- Data management team								
*Mr. Moustafa Khazma		-	-	○				Moved in Dec. 2005
*Agronomist								
*Basic Water Quality Analysis								
*Mr. Hosam Eddin Al- Barodi		○	-	-				Moved out in Nov. 2005
*Chemist								
*Basic water quality analysis								
Ms. Shireen Awad*		△	-	-				Moved in Jul. 2005 and out in Sep. 2005
*Applied Chemistry/ Chemist								
*Basic Water Quality Analysis								








IV-6(3) Damascus Countryside DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Nisreen Dawoud		○	-	-				Moved out in Sep. 2005
*Environmental engineer assistant								
*Basic Water Quality Analysis								
*Ms. Lina Youssef		-	-	○				Moved in Jun. 2006
*Agronomist								
*Basic Water Quality Analysis								
*Ms. Dana Karawi		-	-	○				Moved in Jun. 2006
*Institute of Applied Industries / laboratory Dept.								
*Basic Water Quality Analysis								
*Mr. Eyad Hmayeer..		-	-	○				Moved in Jun. 2006
*Petrochemical Eng. / Nourishment Dept.								
*Basic Water Quality Analysis								
*Mr. Mohammed Hassan Diab		○	-	-				Moved out in Aug. 2005
*High school.								
*Data management								
*Ms. Rania Karawi		-	-	○				Moved in Mar. 2006
*Institute of Nourishment Industries								
*Basic Water Quality Analysis								







IV-6(4)-1 Aleppo DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Ahmad Mo'ala Ahmad *Petrochemical engineering/ Chemical engineer *Basic Water Quality Analysis (Lab Chief)		0	0	0				
*Mr. Mohammad Hamnadeh *Economic/Accounting Dept. *Basic Water Quality Analysis		-	0	0			Moved in Dec. 2005	
*Mr. Mohammad Rusheed *Mechanical power engineer *Basic Water Quality Analysis		-	0	0			Moved in Dec. 2005	
*Ms. Khlood Awayed *Civil engineer/ Environment Dept. *Basic Water Quality Analysis		Δ	-	-			Moved in Jul. 2005 and out in Sep. 2005	
*Ms. Wafaa Kraim *Electrical engineer *Basic Water Quality Analysis		Δ	-	-			Moved in Jul. 2005 and out in Sep. 2005	
*Mr. Ilija Waseel *Civil Engineer /Environmental Dept. * Air Quality- Data management		0	0	0				
*Ms. Donia Gharieb *Civil Engineer/ Environment Dept. * Air Quality		0	-	-				






IV-6(4)-2 Aleppo DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Mr. Ahmad Mo'ala Ahmad *Petrochemical engineering/ Chemical engineer *Basic Water Quality Analysis (Lab Chief)		-	-					
*Mr. Mohammad Hamnadeh *Economic/Accounting Dept. *Basic Water Quality Analysis		-	-				Moved in Dec. 2005	
*Mr. Mohammad Rusheed *Mechanical power engineer *Basic Water Quality Analysis		-	-				Moved in Dec. 2005	
*Ms. Khlood Awayed *Civil engineer/ Environment Dept. *Basic Water Quality Analysis		Δ	0				Moved in Jul. 2005 and out in Sep. 2005	
*Ms. Wafaa Kraim *Electrical engineer *Basic Water Quality Analysis		Δ	-				Moved in Jul. 2005 and out in Sep. 2005	
*Mr. Ilija Waseel *Civil Engineer /Environment Dept. * Air Quality- Data management		0	0					
*Ms. Donia Gharieb *Civil Engineer/ Environment Dept. * Air Quality		0	0					







IV-6(5)-1 Homs DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Mohamed Ali Al Husien		○	○	○				
*Chemical engineer								
*Basic Water Quality Analysis- Air Quality (Lab Chief)								
Ms. Heba Kassab*		-	○	○				
*Technical industries engineer assistant								
* Basic Water Quality Analysis- Air Quality								
*Ms. Imdal Awad		○	○	○				
*Petrochemical engineer/ Petroleum dept.								
* Basic Water Quality Analysis- Air Quality (Mobile lab chief)								
*Ms. Hann Naffouj		○	-	-			Moved out in Aug. 2005	
*Chemical engineer								
*Basic Water Quality Analysis								
*Mr. Mahmoud Al yousef		-	-	○			Moved in Jun. 2006	
*Chemical engineer								
* Basic Water Quality Analysis- Air Quality								
*Ms. Rash Romia								
*Chemical engineer								
* Basic Water Quality Analysis- Air Quality								
*Ms. Nida'a Toghaji		-	○	X			Moved in Jun. 2006	
*Chemical engineer assistant.								
* Basic Water Quality Analysis- Air Quality								






IV-6(5)-1 Homs DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Lubna Al- Ahmad		-	○					
*Chemical engineer								
* Basic water quality analysis & air quality.								
*Ms. Sana Mansour		○	○					
*Chemist								
* Air quality								
*Data management chief								
*Ms. Rasha Jabbour		-	○					
*Chemical engineer assistant.								
* Air quality								
*Data management team								
*Ms. Alisar Kasab		○	-				Moved out in Aug. 2005	
*Chemical engineer.								
*Air quality analysis								
Ms. Leen Norieh*		-	-					
Chemical engineer *								
*Public awareness team								





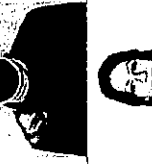


IV-6(S)-2 Homs DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Mr. Muhamed Ali Al-Husien *Chemical engineer *Basic Water Quality Analysis- Air Quality (Lab Chief) Ms. Heba Kassab*		○	○					
*Technical industries engineer assistant * Basic Water Quality Analysis- Air Quality *Ms. Itidal Awad		-	○					
*Petrochemical engineer/ Petroleum dept. * Basic Water Quality Analysis- Air Quality (Mobile lab chief) *Ms. Hann Naffouj		○	○					
*Chemical engineer *Basic Water Quality Analysis		○	-					Moved out in Aug. 2005
*Mr. Mahmoud Al yousef *Chemical engineer * Basic Water Quality Analysis- Air Quality *Ms. Rash Romia		-	-					Moved in Jun. 2006
*Chemical engineer * Basic Water Quality Analysis- Air Quality *Ms. Nida'a Toghaji		-	-					Moved in Jun. 2006
*Chemical engineer assistant * Basic Water Quality Analysis- Air Quality		-	○					




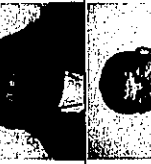


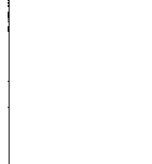
IV-6(S)-2 Homs DFEA (Air Quality Analysis)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-08	4 th 07-01	5 th 07-06	6 th 07-12	
*Ms. Lubna Al- Ahmad *Chemical engineer * Basic water quality analysis & air quality. *Ms. Sana Mansour		-	○					
*Chemist * Air quality *Data management chief *Ms. Rashta Jabbour		○	○					
*Chemical engineer assistant. * Air quality *Data management team *Ms. Alisar Kasab		-	○					
*Chemical engineer. *Air quality analysis Ms. Leen Nortet*		○	-					Moved out in Aug. 2005
Chemical engineer * *Public awareness team		-	-					


IV-6(6) Hama DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Rana Wardah *Petrochemical Engineering / Chemical engineer * Basic Water Quality Analysis (Lab Chief)		-	○	○				
*Ms. Hebah Khouri *Petrochemical Engineering / Chemical engineer *Basic Water Quality Analysis		○	○	○				
*Ms. Reem Kanbar *Petrochemical Engineering / Chemical engineer *Basic Water Quality Analysis		○	○	○				
*Ms. Yesra Tafour *Civil Engineering/ Environment Dept. *Basic Water Quality Analysis		○	○	○				
Ms. Naneer Waira *Civil Engineer/ Environment Dept. *Basic Water Quality Analysis		○	○	○				
*Ms. Yasmin Haider *Civil Engineering/ Environment Dept. *Basic Water Quality Analysis		-	-	○			Moved in Jun. 2006	
*Mr. Wassim A Ali *Agronomist / Environment & Forest *Basic Water Quality Analysis		-	-	○			Moved in Jun. 2006	






IV-6(7) Lattakia DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Amaal Merhej *Petrochemical engineer. *Basic Water Quality Analysis (Lab Chief)		○	○	○				
*Mr. Senan Dweh *Agronomist. *Basic Water Quality Analysis		○	○	○				
*Ms. Hadeel Wannus *Technical industries engineer assistant *Basic Water Quality Analysis		-	○	○				
*Ms. Suzanne Sidod *Technical industries engineer assistant *Basic Water Quality Analysis		-	○	X				
*Mr. Wael Jaded *Agronomist *Basic Water Quality Analysis		○	○	-			Moved out in Mar. 2006	
Mr. Rami Ali *Basic Water Quality Analysis		X	-	-			Moved out in Dec. 2005	
*Dr. Ahmad Karah Ali * Chemical Engineering *Basic Water Quality Analysis		X	-	-			Moved out in Jun. 2005	







IV-6(7) Lattakia DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Maya Yasen		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Mr. Thaer Mohamed Petrol Chemical		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Mr. Yamen Salwan Petrol Chemical		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Ms. Rana Soufi		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Ms. Bana Aumad Civil Engineering		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Mr. Adel Habib *High school *Data management team		○	○	○				






IV-6(8) Deir Zor DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Saïher Abdullah *Agronomist/Poultry branch		○	○	○				
*Basic Water Quality Analysis- Data management team (Lab chief)								
*Ms. Fathia Motieïee *Chemical and Physics Science		○	○	○				
*Basic Water Quality Analysis								
*Mr. Mohammed Amman A I Kafaf *Basic Water Quality Analysis		○	-	-				Moved out in Aug. 2005
*Basic Water Quality Analysis								
*Mrs. Ghazwa Matrouf *Basic Water Quality Analysis		-	○	-				Moved in Jan. 2006 and out in May 2006
*Basic Water Quality Analysis								
*Isra Ibrahim *Agronomist *Basic Water Quality Analysis		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Ms. Rania Kalash *Agronomist/Land reclamation *Basic Water Quality Analysis		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								
*Ms. Rasha Azawi *Agronomist *Basic Water Quality Analysis		-	-	○				Moved in Jun. 2006
*Basic Water Quality Analysis								








IV-6(9) Idleb DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Sameer Da'boal *Petrochemical Engineering/Chemical Dept. *Basic Water Quality Analysis (Lab Chief)		○	○	○				
*Mr. Eiad Al-Husein *Petrochemical Engineering /Alimental Dept. *Basic Water Quality Analysis		-	○	○			Moved in Dec. 2005	
*Mr. Mustafa Al-Dghayem *Petrochemical Engineering /Chemical Dept. *Basic Water Quality Analysis		-	X	○				
*Mr. Suhaib Darwish *Chemical engineer assistant *Basic Water Quality Analysis		○	-	-			Moved out in Nov. 2005	
*Mr. Aiman Kalhwaji *Agronomist/Alimental Dept. *Data management		-	○	○			Moved in Dec. 2005	
*Mr. Khalid Fasitook *Petrochemical Engineering Alimental Dept. *Data management		○	-	-			Moved out in Nov. 2005	








IV-6(10) Hasakeh DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Nawaf Othman *Chemical engineer *Basic Water Quality Analysis (Lab Chief)		○	○	○				
*Mr. George Shabo *Agronomist /General section *Basic Water Quality Analysis		○	○	○				
*Mr. Aysar Beniamen *Agronomist/Environment & Woods section *Basic Water Quality Analysis		○	○	○				
Mr. Saddam Esmad		-	-	-			Moved in Jun. 2006	
*Mr. Enad Meslet *Agronomist/Environment & Woods section *Data management team		○	○	○				
*Ms. Janet Kivergies *Agronomist/Environment & Woods section *Public awareness team		-	-	-				


IV-6(11) Rakka DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Shamsa Aljaseem *Agronomist/Soil & Reclamation land Dept. *Basic Water Quality Analysis (Manager of Rakka DFEA) (Lab Chief)		O	O	X				
*Mr. Mustafa Al-Abu *Agronomist/Environment & Woods section *Basic Water Quality Analysis		O	O	O				
*Mr. Thani Al-Abed *Veterinary Institute/ General Protection Dept. *Basic Water Quality Analysis		O	O	O				
*Mr. Nizam Al Ahmad *Petrochemical engineering/ /Petroleum engineer. *Basic Water Quality Analysis		-	O	-			Moved in Jul. 2005 and out in Apr. 2006	
*Mr. Mohammed Al- Fusein *Petrochemical engineer. *Basic Water Quality Analysis		O	O	-			Moved out in Mar. 2006	
Mr. Adeeab Amnouri* *Chemical engineer *Basic Water Quality Analysis		-	-	O			Moved in Jun. 2006	
*Mr. Inaad Al ouwayyed *Chemical engineer *Data management.		-	-	O			Moved in Jun. 2006	
Mr. Abdalateef Ja'look* *High-school. *Secretary		-	-	O				








IV-6(12) Sweida DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Omay'nah Al-Shaar *Agronomist *Basic Water Quality Analysis		O	O	O				
*Mr. Samer Al Masri *Chemical engineer assistant *Basic Water Quality Analysis		-	O	O			Moved in Aug. 2005	
*Ms. Amal Swaidan *Chemical engineer assistant *Basic Water Quality Analysis		-	O	O				
*Mr. Thaeer Hamzeh *Agronomist/Animal production *Basic Water Quality Analysis		O	O	X				
*Ms. Raghad Abu Hasson *Chemist *Basic Water Quality Analysis		-	O	O				
*Ms. Hana Abu Zaidan *Chemical engineer assistant *Basic Water Quality Analysis		-	O	O				
*Mr. Humam Abo Raid *Nourishment engineer *Basic Water Quality Analysis		-	-	O			Moved in Jun. 2006	








IV-6(12) Sweida DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Mervat Al Safadi *Chemical engineer assistant *Data management team		○	○	○				


IV-6(13) Dara'a DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Mohammad Al-hariri *Diploma in Chemical engineering *Basic Water Quality Analysis. (Lab Chief) *Mr. Drees Shabat		○	○	○				
*Agronomist *Basic Water Quality Analysis		○	○	○				
*Mr. Ahmad Kablawi *Petrochemical engineer *Basic Water Quality Analysis		○	○	○				
*Mr. Yousef Shadaidat *Civil engineer /Environmental Dept. *Basic Water Quality Analysis			○	X				
*Mr. Mahmoud Alba Zeed *Petrochemical engineer. *Basic Water Quality Analysis		-	-	X				Moved in Jun. 2006
*Mr. Ateea Zwayda *Electrical engineer *Data management team		○	○	○				
*Ms. Fathiya Ahmad *Chemical engineer assistant *Data management team		-	-	○				





IV-6(14) Tartous DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Ms. Rowdama Al-Ali *Petrochemical engineer. *Basic Water Quality Analysis (Lab Chief)		0	0	0				
* Ms. Dalal Ibrahim * Biologist * Basic Water Quality Analysis		0	0	0				
*Ms. Lama Harfoush *Petrochemical engineer/Chemistry Dept. *Basic Water Quality Analysis		-	0	0				
* Ms Smater Abdul Rahman * Applied industries engineer assistant * Basic Water Quality Analysis		Δ	X	0				
Ms. Ameera Omran* *Biologist *Basic Water Quality Analysis- Data management.		Δ	0	0				
*Mr. Kazem Ahmad *Agronomist *Public awareness team		-	-	-				
*Ms. Rania Kaddour *Agronomist *Public awareness team		-	-	-				

IV-6(14) Tartous DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Allam Ebrahim *Agronomist * Public awareness team		-	-	-				

IV-6(14) Quneitra DFEA (Basic Water Quality)

Name Background Position	Photo	Training Record						Remarks
		1 st 05-06	2 nd 06-01	3 rd 06-06	4 th 06-11	5 th 07-05	6 th 07-12	
*Mr. Hamzeh Soliman *Geography expert *Basic Water Quality Analysis (Manager of Quneitra DFEA)		○	X	X				
*Mr. Majed Zaitoun *Chemical engineer assistant *Basic Water Quality Analysis- Data management team (Lab Chief)		○	○	○				
*Mr. Ali Ibrahim *Agronomist *Basic Water Quality Analysis		○	○	○				
*Mr. Bassam Orabi *High school *Data management		-	-	-				

**V-1 Number of Sample Collected and Analyzed in 14DFEAs
(January to July 2006)**

NO.	DFEA	Number of Sample					
		Industrial Wastewater	Domestic Wastewater	River Water	Lake/ Reservoir	Ground-water	Others
1	Damascus	29	1	16	—	2	3
2	Damascus Countryside	63	8	1	—	—	—
3	Aleppo	27	—	—	—	—	—
4	Homs	38	5	12	4	19	—
5	Hama	30	5	4	—	1	1
6	Lattakia	15	16	8	5	—	3
7	Deir ez Zor	6	4	4	—	—	1
8	Idleb	11	5	4	1	2	2
9	Hasakeh	5	6	9	6	—	3
10	Rakka	6	7	6	4	—	1
11	Sweida	3	3	—	21	20	2
12	Dara'a	15	—	—	7	7	1
13	Tartous	1	—	19	1	4	1
14	Quneitra	2	2	—	3	6	2

Note: Others means such as the sampling for complains, emergency etc.

V-2 Environmental Monitoring Plans of 14DFEAs

V-2(1) Damascus DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Damascus DFEA (28 / 2 / 2006)

Prepared by Ms. Reem Sadr Eddin

Sign: Director of Damascus DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Damascus DFEA in accordance with the Law No. 50. The Damascus DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Damascus Governorate.

2. Objectives of the Environmental Monitoring

- (1) Analyzing industrial waste water of different polluting factories.
- (2) Monitoring and analyzing the water of Barada River and its tributaries within Jobar area and the surrounding area.

3. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	10 stations	1) Tanneries 2) Ihda Asharyeh area 3) Textile company 4) Wella factory for shampoo 5) Fa factory for soap 6) Zamzam factory 7) Tillo factory 8) Javali factory 9) Metal coating factory 10) Halawani factory for halva	
B. River Water	3 stations	Tora tribute Dayani tribute Akrahani tribute	To cover Jobar area reaching to Bab Salam and Damascus citadel
C. Domestic Wastewater			
D. Others			

4. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Tanneries area 2) Ihda Asharyeh area 3) Textile company 4) Wella factory for shampoo 5) Fa factory for soap 6) Zamzam factory 7) Tillo factory	-once/ 2 months - once/ 2 months - once/ 2 months -once/ month -once/ month -once/ month -once/ month	- 6times - 6 times - 6 times - 12 times - 12 times - 12 times - 12 times

	8) Javali factory 9) Metal coating factory 10) Halawani factory for halva	-once/ month -once/ month -once/ month	- 12 times - 12 times - 12 times - 12 times
B. Municipal Wastewater	Tora tribute Dayani tribute Akrahani tribute	- once/ month - once/ month - once/ month	- 12 times - 12 times - 12 times

Number of samples per year is /138/

5. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Rivers & Lakes
Field Measurements			
(1)	pH	○	○
(2)	Water temp	○	○
(3)	TDS	○	○
(4)	EC	○	○
(5)	SS	○	○
(6)	DO	○	○
Lab Measurements			
(7)	COD	○	○
(8)	BOD5	○	○
(9)	NO3-	○	○
(10)	PO4 ⁻	○	○
(11)	Cl-	○	○
(12)	NH3-N	○	○
(13)	Turbidity	○	○
(14)	Color	○	○

6. Analysis Method

Parameters	Analysis Method	Note
1) pH, temp.	Electrode method	
2) EC, TDS	Electrode method	
3) DO	Electrode method	
4) SS	Photometric method	
5) COD	Reactor digesting method	
6) BOD	Pressure sensor method	
7) NO3-N	Cadmium reduction method	
8) PO4	Amino acid method	
9) Cl	Silver nitrate method	
10) NH3-N	Salicylate method	
11) Turbidity	Nephelometric method	
12) Color	Platinum-cobalt method	

V-2(2) Damascus Countryside DFEA

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

- 8.1 Staff in charge:

Name	In charge	Period	Note
1) Reem Sadr Eddin	Lab chief	Since the beginning of the project	
2) Inas Wippy	Water quality	Since the beginning of the project	
3) Iman Sulayman	Water quality	Since the beginning of the project	
4) Ranya Sulayman	Water quality	Since the beginning of the project	
5) Layla al Durra	Water quality	Since the beginning of the project	

Environmental Monitoring (EMO) Plan

Re. No. 001 Damascus Countryside DFEA (5/ 2/ 2006)

Prepared by: Ms. Mouna Juma'a

Sign: Director of DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Damascus Countryside DFEA in accordance with the Law No. 50. The Damascus Countryside DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Damascus Countryside Governorate.

2. Objectives of the Environmental Monitoring

- (1) Industrial waste water
- (2) Domestic waste water used for irrigation
- (3) Underground water

3. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	Under ground water
1. Field Measurement						
(1)	EC	○	○			○
(2)	TDS	○	○			○
(3)	pH	○	○			○
(4)	DO	x	x			x
(5)	Temp.	○	○			○
(6)	Flow rate	○	○			○
2. Laboratory Analysis						
(1)	Color	x	x			○
(2)	SS	○	○			x
(3)	COD	○	○			○
(4)	BOD	○	○			○
(5)	NO ₃ -N	○	○			○
(6)	PO ₄	○	○			○
(7)	Cl	○	○			x
(8)	NH ₃ -N	○	○			○
(9)	Turbidity	x	x			○
(10)	Biological	○	○			○
(11)	Heavy metals	○	x			x

4 - Sampling Stations

Water Body	No. of Stations	Location	Note
A. Industrial Wastewater	46 stations in addition to emergency cases and	1- Ashrafiet Sahnaya 2- Sahnaya 3- Farasta	

complaints	4- Adra 5- Melatha 6- Dat Salman 7- Drousha 8- Riham 9- Hitaitat Turkuman 10- Mesraba 11- Khayarat Danoun 12- Shifoumyeh 13- Hala 14- Adlyeh	
B. Municipal Wastewater	Sebaina	
C. Rivers and Lakes	Maiha	
D. Seas and Coastal Areas		
E. Under ground water	Shifoumyeh Riham	The well of Shifoumyeh is used for dirking and the low wells of Riham are used for irrigation.

Location map is attached to the Arabic version

5- Monitoring Period and Frequency
The period of environmental monitoring is from Jan 1st to Dec. 31, 2006 and the frequency is shown below.

Water Body	Stations	Frequency	Times (Jan- Dec)
A. Industrial Wastewater	1) Bitar chemicals	4 months	3 times
	2) Al Bizzeh for paints	4 months	3 times
	3) Bergif for paints	6 months	2 times
	4) Marini for cosmetics Sibal for biscuits	6 months	2 times
	5) Shaik Saed detergents Al Sharq dairy	4 months	3 times
	6) Kafeek Munla paints	6 months	2 times
	7) Sar for detergents Hajer for Glycerin	4 months	3 times
	8) Faez Kasas paints	4 months	3 times
	9) Ghassan Sukar detergents	4 months	3 times
	10) Amin Shehada paints	6 months	2 times
	11) Baba paints	6 months	2 times
	12) Ahmad Fallaha shampoo	6 months	2 times
	13) SSairawan detergents	6 months	2 times
	14) Mawlawi detergents	4 months	3 times
	15) Halabi shampoo		
	16) Halal detergents	6 months	2 times
	17) Haboub detergents' raw materials	6 months	2 times
	18) Khan Shakour paints	4 months	3 times

19) Atriba for oxide compounds	6 months	2 times	
20) Shark for medicines	6 months	3 times	
21) Inaya for fertilizers	6 months	3 times	
22) Oil processing	6 months	2 times	
23) Reema for cosmetics	6 months	2 times	
24) Aabdin for medicines	6 months	2 times	
25) Skatf for medicines	6 months	2 times	
26) Oil packing	4 months	3 times	
27) Adamco for medicines	6 months	2 times	
28) Zubi for dyes	6 months	2 times	
29) Harfar for chemicals	6 months	2 times	
30) Chemical dyes	6 months	2 times	
31) Halak oil	6 months	2 times	
32) Wahbi dyes	6 months	2 times	
33) Khalil for medicines	4 months	3 times	
34) Nader Hallak for soap	6 months	2 times	
35) Aboud for tapes	6 months	2 times	
36) Nama for detergents	6 months	2 times	
37) Karim for metal oil	6 months	2 times	
38) Sankar for metal oil	6 months	2 times	
39) Hamoud for silicon	4 months	3 times	
40) Chemical dyes	6 months	2 times	
41) Jumaa for paste materials	6 months	2 times	
42) AzmeH for paints	6 months	2 times	
43) Solutan factory	6 months	2 times	
44) Madar detergents	6 months	2 times	
45) Bico paints	6 months	2 times	
46) Aif for metal oil	4 months	3 times	
B. Municipal Wastewater	1- Sebaina channel	4 months	3 times
C. Rivers and Lakes	Barada river tribute	4 months	3 times
D. Seas and Coastal Areas			
E. Wells	1- Shafoumyeh well of irrigation 2- Shafoumyeh well of drinking 2- Riham well for irrigation	6 months 6 months 6 months	2 times 2 times 2 times

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	Water temp. by pH meter
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	In addition to the incubator

V-2(3) Aleppo DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Aleppo DFEA (14/ 2/ 2006)

Prepared by Ahmad Ahmad, Mouhammad Rashid, Mouhammad Hamadeh (Lab staff)
Sign: Director of Aleppo DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Aleppo DFEA in accordance with the Law No. 50. The Aleppo DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Aleppo Governorate.

2. Objectives of the Environmental Monitoring

- (1) Monitoring industrial waste water resulted from industrial establishments to check conformity to Syrian Standards.
- (2) Monitoring industrial waste water to know if it conforms to the Syrian Standards
- (3) Monitoring underground water used for drinking in two areas, one of which there are many industrial establishments and the other is with few industrial establishments.

3. Monitoring Stations

Water Body	No. of Stations	Location	Note
Industrial waste water	25 stations	Al Anis- Jandoul intersection	Dying factory
		Muhammad Ali Mallah- airport road	Dying factory
		Makki&Partners- Mansoura	Dying factory
		Obari- Zerba	Medicines
		Asia- Hraitan	Medicines
		Tadfi- Zerba	Sterilizers
		Astikano- Lairmon	Ice-cream factory
		Al Wais- Zerba	Starch factory
		Ka'aka- Mansoura	Dairy factory
		Abdullatif- Atareb	Olive mill
		Bisher Al Naser- Lairmon	Soft drink
		Sabouni- Ebed	Vegetable oil factory
		Abaji- Nakkarin	Detergents factory
		Boushra- Zahraa	Detergents factory
		Yousiko- Zerba	Artificial leather factory
		Omar Kattash- Ramousa	Artificial leather factory
		Khalid Hababa- Kafer Naha	Natural leather factory
		Dlaiwani- Ramousa	Tannery
		Riad Hraitani- Tayara	Tannery
		Ayman Tarakji- Zerba	Metallic oil factory
Sarkis Kiwanyan-Shakif	Shoe polish factory		
Badinji- Asal Khan	Composite factory		
Al Tahhan- Andan	Ethyl alcohol factory		
Kallab& Kzaibra- Shamer	Paper factory		
A well in south of Aleppo	Pesticide factory		
Underground water	2 stations	A well in north of Aleppo	Assan village
		A well in north of Aleppo	Kafer Hamzeh village

4. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Frequency	Times	Location	Note
Once / 4 months	3 times	Al Anis- Jandoul intersection	Dying factory
Once / 4 months	3 times	Muhammad Ali Mallah- airport road	Dying factory
Once / 4 months	3 times	Makki&Partners- Mansoura	Dying factory
Once / 4 months	3 times	Obari- Zerba	Medicines
Once / 4 months	3 times	Asia- Hraitan	Medicines
Once / 4 months	3 times	Tadfi- Zerba	Sterilizers
Once / 6 months	2 times	Astikano- Lairmon	Ice-cream factory
Once / 4 months	3 times	Al Wais- Zerba	Starch factory
Once / 4 months	3 times	Ka'aka- Mansoura	Dairy factory
Once / year	1 times	Abdullatif- Atareb	Olive mill
Once / 4 months	3 times	Bisher Al Naser- Lairmon	Soft drink
Once / 4 months	3 times	Sabouni- Ebed	Vegetable oil factory
Once / 4 months	3 times	Abaji- Nakkarin	Detergents factory
Once / 4 months	3 times	Boushra- Zahraa	Detergents factory
Once / 4 months	3 times	Yousiko- Zerba	Artificial leather factory
Once / 4 months	3 times	Khalid Hababa- Kafer Naha	Natural leather factory
Once / 4 months	3 times	Omar Kattash- Ramousa	Tannery
Once / 4 months	3 times	Dlaiwani- Ramousa	Tannery
Once / 4 months	3 times	Riad Hraitani- Tayara	Metallic oil factory
Once / 4 months	3 times	Ayman Tarakji- Zerba	Shoe polish factory
Once / 4 months	3 times	Solid waste composite-Bab road	Composite factory
Once / 4 months	3 times	Sarkis Kiwanyan-Shakif	Ethyl alcohol factory
Once / 4 months	3 times	Badinji- Asal Khan	Paper factory
Once / 4 months	3 times	Al Tahhan- Andan	Pesticide factory
Once / 4 months	3 times	Kallab& Kzaibra- Shamer	Pesticide factory
Once / year	1 times	A well in south of Aleppo	Assan village
Once / year	1 times	A well in north of Aleppo	Kafer Hamzeh village

5. Parameters to be Analyzed and Monitored

Lab analysis	Field analysis	Location	Note
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Al Anis- intersection	Jandoul Dying factory
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Muhammad Ali Mallah- airport road	Dying factory
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Makki&Partners- Mansoura	Dying factory
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Obari- Zerba	Medicines
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Asia- Hraitan	Medicines
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Tadfi- Zerba	Sterilizers
SS- COD- BOD- PO4- Cl-NH3	pH-temp-TDS	Astikano- Lairmon	Ice-cream factory

Lab analysis	Field analysis	Location	Note
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Al Wais- Zerba	Starch factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Ka aka- Mansoura	Dairy factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Abdullatif- Atareb	Olive mill
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Bisher- Al Naser- Laimon	Soft drink
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Sabouni- Ebed	Vegetable oil factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Abaji- Nakkarin	Detergents factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Boushra- Zahraa	Detergents factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Yousiko-Zerba	Artificial leather factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Khalid Hababa- Kafer Nahra	Natural leather factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Omar Kattash- Ramousa	Tannery
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Dlaiwani- Ramousa	Tannery
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Riad Hraitani- Tayara	Metallic oil factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Ayman Tarakji- Zerba	Shoe polish factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Solid waste composite- Bab road	Composite factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Sarkis Kiwanyan-Shakif	Ethyl alcohol factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Badjinkir- Asal Khan	Paper factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Al Tahhan- Andan	Pesticide factory
SS-COD-BOD-PO4-CI-NH3	pH-temp-TDS	Kallab& Shamer	Pesticide factory
SS-COD-BOD-PO4-CI-NH3-NO3- turbidity-color	pH-temp-TDS-EC-DO	underground well in south of Aleppo	Assan village
SS-COD-BOD-PO4-CI-NH3-NO3- turbidity-color	pH-temp-TDS-EC-DO	underground well in north of Aleppo	Kafer Hamzeh village

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	
10) NO3-N	Cadmium reduction method	
11) PO4	Amino acid method	
12) CI-	Silver nitrate method	
13) NH3-N	Salicylate method	
14) Turbidity	Nephelometric method	

7. Record of Data and Publication

- (1) Record in DFEA
(2) Record in the Directorate of Laboratories in GCEA

- (3) Record in Governorate
(4) Data Book preparation
(5) Annual Report to be prepared and published

8. Other Remarks

8.1 Staff in charge:

Name	Position	In charge & equipment tools	Period	Note
1) Ahmad Ahmad	Eng. Lab chief	Equipment tools	Jan 2006-Dec 2006	
2) Muhammad Rashid	Eng	Reagents & glassware	Jan 2006-Dec 2006	
3) Muhammad Hamadeh	Economist	Lab safety	Jan 2006-Dec 2006	

Monitoring Schedule

Dec	Nov	Oct	Sep	Aug	Jul	Jun	May	Apr	Mar	Feb	Jan	Station
4	3	2	1	4	3	2	1	4	3	2	1	Jandou Ayum
3	2	1	4	3	2	1	4	3	2	1	4	1
2	1	4	3	2	1	4	3	2	1	4	3	2
1	4	3	2	1	4	3	2	1	4	3	2	1
												Mele
												Alper
												mad
												manah
												Mano
												Maki
												Zerba
												Hreila
												Ash
												Zerba
												Taifi
												Laim
												on
												Zerba
												Wais
												Mauso
												Koka
												Abdel
												stif
												Laim
												on
												Abel
												Naqari
												Abaji
												Zerba
												Yofio
												Kfara
												Kha
												id
												Hbab
												O.

V -2(4) Homs DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Homs DFEA (8/ 2/ 2006)

Prepared by Chief of Central Lab

Sign: Director of Homs DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Homs DFEA in accordance with the Law No. 50. The Homs DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Homs Governorate.

2. Objectives of the Environmental Monitoring

- (1) Evaluating pollution resulted from industrial establishments and discharged into water bodies.
- (2) Evaluating the efficiency of treatment facilities of the industrial establishments.
- (3) Estimating the need for industrial establishments to construct treatment facility.
- (4) Evaluating pollution load to water bodies, rivers and underground water.
- (5) Evaluating the relation between the measured pollutants and the resulted health damages.

3. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1.	Field Measurement					
	(1) pH, temp.	○	○	○		○
	(2) TDS, EC	○	○	○		○
	(3) DO	○	○	○		○
2.	Laboratory Analysis					
	Color, turbidity, SS, PO4, NO3, NO2, Cl, NH3, BOD, COD, SO4	Ions, BOD, COD, BOD, NH3, NO3, PO4	Ions, BOD, COD, color, turbidity	Ions, Cl2		

4. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	8 stations	1) fertilizers company, consists 3 factories: - Cilantro fertilizer factory - Ammonia fertilizer factory - TSP factory	
	6 stations	2) Refinery consists several oil products sections and a treatment facility 3) military workshop 4) olive oil mill	
	3 stations	5) oil factory (Anbouba)	
	1 station	6) oil factory (Iubran)	
	2 stations	7) oil factory (Farzat)	
	2 stations	8) dairy factory	
	2 stations	9) Tayba dairy	

Water Body	No. of Stations	Locations	Note
	2 stations	10) Beverage factory	
	2 stations	11) Ice-cream factory (Sanba)	
	2 stations	12) medicine factory (Midico)	
	2 stations	13) dying factory (Ajeh)	
	2 stations	14) textile factory	
	5 stations	15) textile and dyes factory (Alamia)	
	5 stations	16) Sugar company and its factories.	
B. Wastewater	2 stations	1) sewage water treatment station	
	4 stations	2) industrial area	
C. Rivers and Lakes	4-6 stations	1) Katinch lake	
	6-8 stations	2) Oronitis river	
D. Seas and Coastal Areas			
E. Underground water	4-6 stations	Wells that supply drinking net of the city	

4. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	45 stations	- once/ 3 months	- 4 times
B. Wastewater	6 stations	- once/ 3 months	- 4 times
C. Rivers and Lakes	10-14 stations	- once/ 3 months	- 4 times
D. Underground Water	4-6 stations	- once/ 6 months	- 2 times
E. Others			

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	
10) NO3-N	Cadmium reduction method	
11) PO4	Amino acid method	
12) Cl-	Silver nitrate method	
13) NH3-N	Salicylate method	
14) Turbidity	Nephelometric method	

V-2(5) Hama DFEA

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Muhammad Ali Husein	Lab chief	Analysis, measurements, result evaluation, solutions suggestion and work development		
2) Mansour	Chief of water analysis section	Water quality		
3) Etidal Awad	Mobile lab	Mobile lab		
4) Rasha Jabour	Material storage	Water quality Data management		
5) Hibba Kassab	Air analyzer	Air quality		
6) Lubna Ahmad	Water analyzer	Water analyzer		
7) Nidaa Toghaji	Water analyzer	Water analyzer		

Environmental Monitoring (EMO) Plan

Re. No. 001 Hama DFEA (15/ 2/ 2006)

Prepared by the staff of Hama DFEA. Sign: Director of Hama DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Hama DFEA in accordance with the Law No. 50. The Hama DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Hama Governorate.

2. Objectives of the Environmental Monitoring

- (1) Monitoring the industrial waste water.
- (2) Monitoring the water quality of Orontis River.
- (3) Monitoring underground water
- (4) Following up complaints

3. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1. Field Measurement						
(1)	pH	○	○	○		○
(2)	EC / TDS	○	○	-		○
(3)	DO	-	-	○		-
(4)	Water temp.	○	○	○		○
2. Laboratory Analysis						
(1)	Color	-	-	○		○
(2)	Turbidity	-	-	○		○
(3)	Cl-	○	○	○		○
(4)	NO3-N	○	○	○		○
(5)	NH3-N	○	○	○		○
(6)	PO4	○	○	○		○
(7)	SS	○	○	○		-
(8)	COD	○	○	○		○

4. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	26 stations	1) Sami factory 2) Al Ras dairy factory 3) Salora factory 4) Zarabana factory 5) Hani dairy factory 6) Dairy factories within Hama city 7) Karnazi oil factory 8) Khodor Razzaq oil factory	

Water Body	No. of Stations	Locations	Note
		9) Zuhour oil factory 10) Nawaeer oil factory 11) Al Safa oil factory 12) Al Nour oil factory 13) Umara oil factory 14) Ahliyeh company for oil 15) Fadel oil factory 16) Hama company for oil 17) Galvanizing factory 18) Wool factory 19) Cotton thread factory 20) Porcelain factory 21) Iron factory 22) Onion factory 23) Maja'd company for soft drinks 24) Cement factory 25) Al Zara station for power generating 26) Mhardeh station for power generating	
B. Municipal Wastewater	1 station	Swage water treatment station in Hama	
C. Rivers and Lakes	1 station	Orontis River	
D. Underground Water			As needed, such as complaints
E. Others			In case of complaints

Location map is attached to the Arabic version

5. Monitoring Period and Frequency
The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Sami factory 2) Al Ras dairy factory 3) Salora factory 4) Zarabana factory 5) Hani dairy factory 6) Dairy factories within Hama city 7) Karnazi oil factory 8) Khodor Razzaq oil factory 9) Zuhour oil factory 10) Nawaeer oil factory 11) Al Safa oil factory	once/ month once/ month once/ month once/ month once/ month once/ month once/ 2 months once/ 2 months once/ 2 months once/ 2 months once/ 2 months	10 times 10 times 10 times 10 times 10 times 5 times 5 times 5 times 5 times 5 times 5 times

	12) Al Nour oil factory 13) Umara oil factory 14) Ahliyeh company for oil 15) Fadel oil factory 16) Hama company for oil 17) Galvanizing factory 18) Wool factory 19) Cotton thread factory 20) Porcelain factory 21) Iron factory 22) Onion factory 23) Maja'd company for soft drinks 24) Cement factory 25) Al Zara station for power generating 26) Mhardeh station for power generating	once/ 2 months once/ 2 months once/ 2 months once/ 2 months once/ month once/ 2 months once/ 2 months once/ 2 months once/ month once/ 2 months once/ 2 months once/ 2 months once/ 2 months	5 times 5 times 5 times 10 times 5 times 5 times 10 times 5 times 5 times 5 times 5 times 5 times 5 times
B. Municipal Wastewater	Swage water treatment station in Hama	Once/ month	10 times
C. Rivers and Lakes	Orontis River	Once/ month	10 times
D. Wells			
E. Complaints			

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	
10) NO ₃ -N	Cadmium reduction method	
11) PO ₄	Amino acid method	
12) Cl ⁻	Silver nitrate method	
13) NH ₃ -N	Salicylate method	
14) Turbidity	Nephelometric method	

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record In Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

V-2(6) Lattakia DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Lattakia DFEA (8/ 2/ 2006)

Prepared by Ms. Amal Merhej
Sign: Director of Lattakia DFEA

I. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Lattakia DFEA in accordance with the Law No. 50. The Lattakia DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Lattakia Governorate.

2. Objectives of the Environmental Monitoring

- (1) Identifying and surveying pollution sources
- (2) Analyzing industrial and municipality waste water
- (3) Identifying the water quality of rivers and lakes
- (4) Identifying pollution indicators in the samples
- (5) Evaluating and inputting data

3. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1. Field Measurement						
(1)	pH	○	○	○	○	○
(2)	Temperature	○	○	○	○	○
(3)	DO	○	-	○	○	○
(4)	TDS/EC	○	○	○	○	○
2. Laboratory Analysis						
(1)	Color	○	-	○	○	○
(2)	COD	○	○	○	○	○
(3)	BOD	○	○	○	○	○
(4)	NO3-N	○	○	○	○	○
(5)	PO4	○	○	○	○	○
(6)	Cl-	○	○	○	○	○
(7)	NH3-N	○	○	○	○	○
(8)	SS	○	○	○	○	○
(9)	Turbidity	○	-	○	○	○
(10)	Flow rate	○	○	○	○	○

4. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	7 stations	1) Joud for soft drink 2) Aluminum & engines factory 3) paper tissues factory	- Lattakia- Bassa - Aleppo road - Jableh- Sarhan

8. Other Remarks
8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Rana Wardeh	Chem. Eng.	Lab chief	Jan 2006-Dec 2006	
2) Reem Qambar	Chem. Eng.	Water quality		
3) Hibba Khouri	Chem. Eng.	Water quality		
4) Nantser Warar	Civil. Eng.	Water quality/ Data management		
5) Yusra Tayfour	Civil. Eng.	Water quality		

Monitoring Schedule

Type	Station	Month												Total				
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec							
Industrial Waste Water	Semi factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Al Ras dairy	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Saba dairy	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Roban dairy	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Hani dairy	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Cherches within Hama	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
	Gabhanding factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Asabi Rasza for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Zabus for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Naawer for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
Municipal Waste Water	Safa for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Umara for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Ablych for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Fadel for oil	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Hama company (oil)	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Chaban factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Pensaha factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Wood factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Cotton thread factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Iron factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
Sewage	Cement factory	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Zava power station	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Shabada power station	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Majid for soft drink	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	5
	Hama treatment station	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10
River	Orontis river	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	10

5. Monitoring Period and Frequency
The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Joud for soft drink factory	-once/ month	-12 times
	2) Aluminium & engines	-once/ month	-12 times
	3) paper tissues factory	-once/ month	-12 times
	4) Ugarit for food processing	-once/ month	-12 times
	5) iron molding factory	-once/ month	-12 times
	6) Lattakia slaughterhouses	-once/ month	-12 times
	7) Jableh slaughterhouse	-once/ month	-12 times
B. Municipal Wastewater	1) Azhari	-once/ month	-12 times
	2) the harbor	-once/ month	-12 times
	3) southern coast road	-once/ month	-12 times
	4) Al Fayd	-once/ month	-12 times
C. Rivers and Lakes	1) Kabeer Shamali	-once/ month	-12 times
	2) Al Sin ?	-once/ month	-12 times
	3) Sharashir	-once/ 2 months	- 6 times
	4) Snobar	-once/ 2 months	- 6 times
	5) Baloran lake	-once/ 2 months	- 6 times
	6) Tishreen	-once/ 2 months	- 6 times
	7) Safarkiyeh	-once/ 2 months	- 6 times
E. Others	Complaints	-once/ month	-12 times

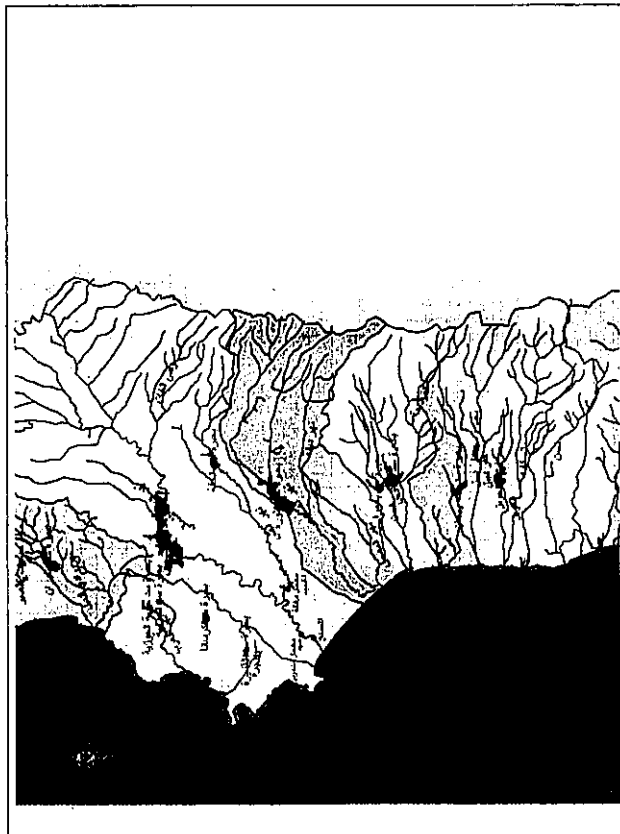
6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	Portable pH meter mg/l
2) Temp	Thermometer	Portable pH/ TDS meter mg/l
3) EC	Electrode method	Portable EC/TDS meter mg/l
4) TDS	Electrode method	Portable EC/TDS meter mg/l
5) DO	Electrode method	Portable DO meter mg/l
6) Color	Platinum-cobalt APHA	Portable colorimeter mg/l
7) SS	Photometric method	Portable colorimeter mg/l
8) COD	Reactor digesting method	Portable colorimeter mg/l
9) BOD	Pressure sensor method	OXI Top meter
10) NO3-N	Cadmium reduction method	Portable colorimeter mg/l
11) PO4	Amino acid method	Portable colorimeter mg/l
12) Cl-	Silver nitrate method	Digital titrator mg/l
13) NH3-N	Salicylate method	Portable colorimeter mg/l
14) Turbidity	Nephelometric method	Portable Turbidity meter

7. Record of Data and Publication
(1) Record in DFEA

Water Body	No. of Stations	Locations	Note
B. Municipal Wastewater	4 stations	4) Ugarit for food processing	- Jableh- Kadabiyeh
		5) iron molding factory	- Tartous high way
		6) Lattakia slaughterhouses	- Yaroubiyeh
		7) Jableh slaughterhouse	- Jableh- Bsaissin
		1) Azhari	- Lattakia- Azhari
		2) the harbor	- the harbor
		3) southern coast road	- Southern coast road
C. Rivers and Lakes	7 stations	4) Al Fayd	- Jableh- Al Fayd
		1) Kabeer Shamali	- Lattakia
		2) Al Kash	- Duba
		3) Sharashir	- Sharashir
E. Others	Complaints	4) Snobar	- Snobar
		5) Baloran lake	- north of Lattakia
		6) 16 Tishreen	- east of Lattakia
		7) Safarkiyeh	- Kardaha

Location Map



V-2(7) Dier Zor DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Deir ez Zor DFEA (7/ 2/ 2006)

Prepared by Mr. Saher Abdullah Sign. Director of DFEA

- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks
8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Amal Merfaj	Eng.-Lab chief	Water quality	Jan 2006-Dec 2006	
2) Sinan Deeb	Eng.	Water quality	Jan 2006-Dec 2006	
3) Rami Ali	Eng.	Water quality	Jan 2006-Dec 2006	
4) Hadeel Wanous	Chemist assistant	Water quality	Jan 2006-Dec 2006	
5) Suzan Shadoud	Chemist assistant	Water quality	Jan 2006-Dec 2006	
6) Adel Habib	Data management	Data management	Jan 2006-Dec 2006	

Monitoring Schedule

Stations	Site	Feb		March		April		May		June		July		Aug		Sept		Oct		Nov		Dec		Jan					
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Iwraq	Al-Kesh	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Al-Sheikh	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Shaykha	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Snober	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Ishaa	Dibouan	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Tahawit B	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Edafish	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Jad	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Ictahia	Al-mem	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Issas	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Charr	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Draish	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Ictahia sub-stations	Sub-station 1	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Sub-station 2	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Sub-station 3	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Sub-station 4	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
Average	at Field	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	Total of samples	174																											

- 1. Rationale**
This Environmental Monitoring (EMO) Plan is prepared by the Deir ez Zor DFEA in accordance with the Law No. 50. The Deir ez Zor DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Deir ez Zor Governorate.
- 2. Objectives of the Environmental Monitoring**
 (1) Monitoring industrial waste water to check if it conforms to Syrian Standards
 (2) Monitoring municipal waste water to check if it conforms to Syrian Standards
 (3) Monitoring agricultural waste water channels to check if it conforms to Syrian Standards
 (4) Checking water quality of the river in certain points to measure the pollution
 (5) Emergencies (complaints)
- 3. Monitoring Stations**

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	3 stations	1) Sugar factory 2) Paper factory 3) Conserves factory	
B. Municipal Wastewater	1 station	Sewage water outlet	
C. Agricultural Wastewater	2 stations	Agricultural waste water channels	
D. Rivers	3 stations	Raw water of the river	- before entering the city - city center - after exiting the city
E. Others			

Location Map (attached with Arabic version)

- 4. Monitoring Period and Frequency**
The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Sugar factory 2) Paper factory 3) Conserves factory	- 3 times during (June, July, Aug, Sept) - once/ month (starting from March) - once/ 6 months	4 times 10 times 2 times 10 times
B. Municipal Wastewater	The main outlet	- once/ month (starting from March)	10 times

V-2(8) Idleb DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Idleb DFEA (8/ 1/ 2006)

Prepared by the staff of the lab Sign. Director of Idleb DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Idleb DFEA in accordance with the Law No. 50. The Idleb DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Idleb Governorate.

2. Objectives of the Environmental Monitoring

- (1) Monitoring the industrial waste water resulted from industrial establishments, to support the environmental inspection activities when the lab is officially approved.
- (2) Monitoring Domestic waste water for the main cities in the governorate to see any change on it
- (3) Monitoring the quality of underground water (wells) near the potential pollution sources, and to respond complains.
- (4) Monitoring the quality of some important natural resources (rivers, dams) .

3. Parameters to be Analyzed and Monitored

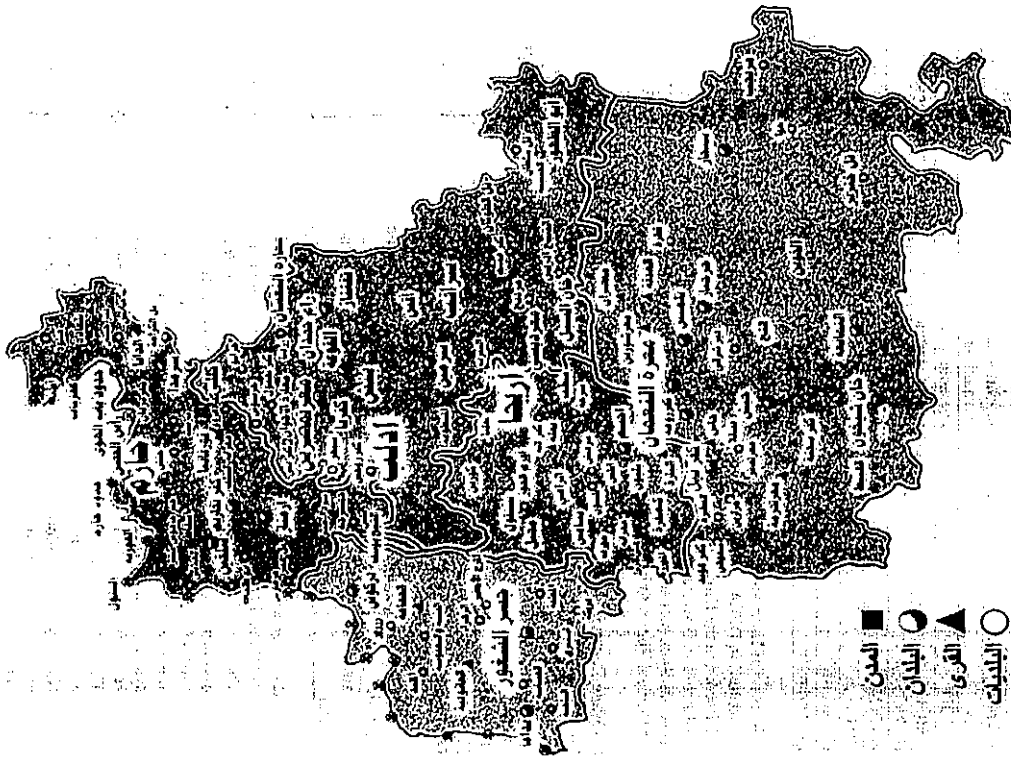
No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Wells
1. Field Measurement						
(1)	pH	+	+	+		+
(2)	Temp.	+	+	+		+
(3)	EC	-	+	+		+
(4)	TDS	+	+	+		+
(5)	DO	-	-	+		-
2. Laboratory Analysis						
(2)	Color	-	-	+		+
(2)	SS	+	+	+		-
(3)	COD	+	+	+		+
(4)	BOD	+	+	+		+
(5)	NO3-N	-	+	+		+
(6)	PO4	+	+	+		+
(7)	Cl-	+	+	+		+
(8)	NH3-N	+	+	+		+
(9)	Turbidity	-	-	+		+

4. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	27 stations	1) 3 vegetable oil factories (Idleb, Saraqeb, Martamisrin) 2) 4 olive residue oil factories (Idleb,	Total of samples is 28 sample / year (one sample

Water Body	No. of Stations	Locations	Note
		Martamisrin, Amanaz, Selqin) 3) Sugar factory (Jiser Shogour) 4) 2 paint factoris (Idleb, Telmens) 5) 3 dairy factories (Balsh, Qmiyeh, Hass) 6) soft drink factory (Jiser Shogour) 7) 2 detergent factories (Idleb) 8) 2 conserves factories (Idleb) 9) 3 pickle factories (martamisrin, Idleb) 10) power generating station (Jiaer Shogour 11) 2 tanneries (Muater Numan) 12) 3 olive oil mills (Idleb)	/ year from each station except sugar factory 2 samples / year
B. Municipal Wastewater	5 station (2 potential)	1) Idleb municipal waste water (Near Al Fahad gas station) 2) waste water in Ariha (Ariha – Idleb road) 3) Maarra waste water 4) Jiser Shogour waste water 5) Salqin waste water 6) others to be determined later	Total samples is 10 samples (2 samples / year from each station)
C. Rivers and Lakes	7 stations	1) Orantes river: 2' locations, before and after Jiser city 2) Orantes river: before Turkish boarder 3) Orantes river: (one) after Darkoush town. 4) Balaa dam (Balaa) 5) Zamiyeh river (Zamiyeh) 6) Abyad river (before connecting with Orantes river at Janoudiyeh.	Total samples is 12 samples / year
D. Seas and Coastal Areas			
E. Others	4 stations (2 potential like dump site in Jiser Shogour)	1) 2 wells near central dump site of Idleb (Hammoud well -- Haboush well) 2) 2 wells in the discharge point of municipal waste water of Idleb and Aleppo citted (near Sabha swamp) 3) Other wells and surface water according to complains (Magara village wells..)	Total is 4 samples / year + 2 potential

Location Map



5. Monitoring Period and Frequency
 The EMC period is from 1st January 2006 to 31st December 2006. The EMC frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)	
A. Industrial Wastewater	1) vegetable oil factories (3 stations)	- once/ year for each	- 1 times	
	2) olive residue oil factories (4 stations)	- once/ year	- 1 times	
	3) sugar factory (1 station)	- twice/ year	- 2 times	
	4) paint factories (2 stations)	- once/ year	- 1 times	
	5) dairy factories (3 stations)	- once/ year	- 1 times	
	6) soft drink factory (1 station)	- once/ year	- 1 times	
	7) detergent factories (2 stations)	- once/ year	- 1 times	
	8) conserves factories (2 stations)	- once/ year	- 1 times	
	9) pickle factories (3 stations)	- once/ year	- 1 times	
	10) power generation station (1 station)	- once/ year	- 1 times	
	11) tanneries (2 stations)	- once/ year	- 1 times	
	12) olive oil mills (3 stations)	- once/ year	- 1 times	
B. Municipal Wastewater	1) Idleb waste water	- once/ 6 m	- 2 times	
	2) Aritha waste water	- once/ 6 m	- 2 times	
	3) Maara waste water	- once/ 6 m	- 2 times	
	4) Jiser Shogour waste water	- once/ 6 m	- 2 times	
	5) Salqin waste water	- once/ 6 m	- 2 times	
	6) other potentials	- once/ 6 m	- 2 times	
C. Rivers and Lakes	1) Orantes river: 2 stations, before & after Jiser city boarder	- once/ 6m/station	- 2 times	
	2) Orantes river: before Turkish boarder	- once/ year	- 2 times	
	3) Orantes river: 1 station after Darkoush town	- once/ 6m/station	- 2 times	
	4) Zainiyeh river	- once/ year	- 1 times	
	5) Balaa dam (Balaa)	- once/ year	- 1 times	
	6) Abyad river (Janoudiyeh)	- once/ year	- 1 times	
D. Seas and Coastal Areas				
	E. Others: wells near potential pollution sources or complains	1) 2 wells near central dump site of Idleb (Hammoud well - Haboush well)	- once/ year	- 1 times
		2) 2 wells in the discharge point of municipal waste water of Idleb and Aleppo cities (near Sabha swamp)	- once/ year	- 1 times
3) Other wells and sites according to complains (Magara village wells..)		- not determined	- 1 times	

5. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) IDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	
10) NO3-N	Cadmium reduction method	
11) PO4	Amino acid method	
12) Cl-	Silver nitrate method	
13) NH3-N	Salicylate method	
14) Turbidity	Nephelometric method	

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Samir Da'aboul	Lab chief Chemical eng.	Water quality + lab management	From the beginning of the project	
2) Mustafa Dughaim	Staff Chemical eng.	Water quality	From the beginning of the project	
3) Ayman Qahwaji	Staff Agronomist	Water quality + Data management	Beginning of 2006	
4) Iyad Al Hussien	Staff Nutrition Eng.	Water quality + Env. awareness	Beginning of 2006	

8.2 Others: Comments on the Plan:

- 1- Total number samples in the plan is 53 sample + potential samples (2 - 4 samples)
- 2- The staff is not completely devoted for the lab work, so the plan was established according to the time for the available for the lab staff.
- 3- Most of industrial establishments in Idlib governorate are small ones, so the discharged waste water is not much and it is directly connected to the municipality waste water system, so some times there is no outlet available for sampling and since this plan will be the first plan, it will be flexibly implemented according to actual situation.
- 4- The frequency of sampling for some natural sources (rivers, dams...) will be few, because there are other organizations that monitor them.
- 5- New sampling stations could be included in the plan or in the next plan, especially industrial waste water stations, because the industrial investments are gradually growing in the governorate.

End

Monitoring Schedule

Type	Station	Feb		Mar		Apr		May		Jun		Jul		Aug		Sep		Oct		Nov		Dec		Total		
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2		3	4
Industrial Waste Water	Veget oil																									
	Olive oil																									
	Grease factory																									
	Pharm																									
	Dairy																									
	Soft drink																									
	Detergent																									
	Chemicals																									
	Paints																									
	Beer, Studies																									
	Training																									
	Oil-gases																									
	Idle-day																									
	Sewage	At marina city																								
Aljeer city																										
Salkis city																										
Onshore river before and after Aljeer city																										
Onshore river before and after Salkis city																										
Onshore river before and after Aljeer city																										
Onshore river before and after Salkis city																										
Dafnash, Idlib																										
Zawneh river																										
Al-hata dam																										
Wahran																										
Wadi Isdr																										
Wadi Isdr Al Inha swamp																										

V-2(9) Hassakeh DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Hassakeh DFEA (day/ month/ 2006)

Prepared by Nawaf Uthman

Sign: Director of Hassakeh DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Hassakeh DFEA in accordance with the Law No. 50. The Hassakeh DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Hassakeh Governorate.

2. Objectives of the Environmental Monitoring

- (1) Monitoring rivers (Jakjak river in Hassakeh city, Jakjak river in Kamishihi city, Khabour river)
- (2) Monitoring lakes (Basel Assad lake)
- (3) Monitoring domestic wastewater near Beirut bridge.
- (4) Emergencies (complaints, studying discharging system of establishments, etc)

3. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater			
B. Municipal Wastewater	1 station	near Beirut bridge	
C. Rivers and Lakes	4 stations	1) Khabour river 2) Jakjak river in Hassakeh 3) Jakjak river in Kamishihi 4) Basel Assad lake	
D. Seas and Coastal Areas			
E. Others			

Location Map is attached

4. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater			
B. Municipal Wastewater	Beirut bridge	- twice/ month	- 22 times
C. Rivers and Lakes	1) Khabour river 2) Jakjak river in Hassakeh 3) Jakjak river in Kamishihi (Sefan) 4) Jakjak river in Kamishihi (Harte Tay) 5) Basel Assad lake	- twice/ month - twice/ month - once/ month - once/ month - twice/ month	- 22 times - 22 times - 2 times - 2 times - 22 times

Water Body	Stations	Frequency	Times (Jan-Dec)
D. Seas and Coastal Areas			
E. Emergencies			- 30 times

5. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1. Field Measurement						
(1)	pH	○	○	○		
(2)	EC, TDS	○	○	○		
(3)	DO			○		
(4)	Water temp.	○	○	○		
(5)	Air temp.	○	○	○		
2. Laboratory Analysis						
(1)	Color		-	○		
(2)	SS		○	○		
(3)	COD		○	○		
(4)	BOD		○	○		
(5)	NO3-N		○	○		
(6)	NH3-N		○	○		
(7)	PO4		○	○		
(8)	Cl-		○	○		
(9)	Turbidity		-	○		

6. Analysis Method

Parameters	Analysis Method	Note
1) pH, temp.		
2) EC, TDS	Portable EC/ TDS meter mg/l	
3) DO	Portable DO meter mg/l	
4) SS	Portable colorimeter mg/l	
5) COD	COD enacoe mg/l	
6) BOD		
7) NO3-N	Portable colorimeter mg/l	
8) PO4	Portable colorimeter mg/l	
9) Cl-	Digital titrator mg/l	
10) NH3-N	Portable colorimeter mg/l	
11) Turbidity	Portable turbidity	
12) Color	Portable colorimeter mg/l	

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation

V-2(10) Rakka DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Rakka DFEA (13/ 2/ 2006.)

Prepared by Mr. Abdullatif Ja' alouk Sign: Director of Rakka DFEA

(5)Annual Report to be prepared and published

8. Other Remarks
8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Nawaf Uthman	Lab chief	Lab management	12 July, 2005	
2) Georg Shaabo	Staff	Water quality	12 July, 2005	
3) Aysar Binyamin	Staff	Water quality	12 July, 2005	
4) Imad Meslet	Staff	Data management	12 July, 2005	

Monitoring Schedule

Station	Location	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
Khabour river	Mujza	1	2	3	4	1	2	3	4	1	2	3	4
		+	+	+	+	+	+	+	+	+	+	+	+
Jajlak river	Al Hebi	1	2	3	4	1	2	3	4	1	2	3	4
		+	+	+	+	+	+	+	+	+	+	+	+
Jajlak river	Sidon	1	2	3	4	1	2	3	4	1	2	3	4
		+	+	+	+	+	+	+	+	+	+	+	+
Bani Araf Idce	Al Syf	1	2	3	4	1	2	3	4	1	2	3	4
		+	+	+	+	+	+	+	+	+	+	+	+
Sewage	Beitni bridge	1	2	3	4	1	2	3	4	1	2	3	4
		+	+	+	+	+	+	+	+	+	+	+	+
Total													
Energy													
Grand Total													

1. Rationale
This Environmental Monitoring (EMO) Plan is prepared by the Rakka DFEA in accordance with the Law No. 50. The Rakka DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Rakka Governorate.

2. Objectives of the Environmental Monitoring
(1) Monitoring industrial waste water.
(2) Monitoring municipal waste water to know if it conforms to the Syrian standards and pollution conditions.
(3) Monitoring rivers to know the effect ion of pollutants.
(4) Monitoring underground water.
(5) Complaints and emergencies.

3. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	5 stations	1) Sugar factory 2) Olive mills 3) Ojaili establishment 4) Small factories in the city 5) Soft drink factory	
B. Municipal Wastewater		1) Outlet of the sewage water 2) Sewage water treatment station in Sabkha 3) The rest of treatment stations when they start to operate.	
C. Rivers and Lakes		1) Al Assad lack 2) Al Ba ath dam lack 3) Ekairshi lack 4) Euphrates river 5) Jallab river	
E. Others		1) Agricultural waste water 2) Wells 3) Complaints	

4. Monitoring Period and Frequency
The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Sugar factory	- Seasonal	- 3 times
	2) Olive mills	- Seasonal	- 2 times
	3) Ojaili establishment	- Semi-seasonal	- 2 times
	4) Small factories in the city	- Semi-seasonal (according to	- 2 times

complaints	complaints	- 2 times
5) Soft drink factory	- Semi-seasonal	- 2 times
B. Municipal Wastewater		- 2 times
C. Rivers and Lakes		- 2 times
1) Al Assad lack	- Semi-seasonal	- 2 times
2) Al Ba'ath dam lack	- Semi-seasonal	- 2 times
3) Ekairshi lack	- Semi-seasonal	- 2 times
4) Euphrates river	- once/ month and half	- 8 times (2 at the bridge, 4 after Jallab, 2 at Madan)
5) Jallab river	- once/ 4 month	- 3 times
D. Seas and Coastal Areas		
E. Others		
1) Agricultural waste water	- Semi-seasonal	- 2 times
2) Wells	- Semi-seasonal	- 2 times
3) Complaints	- according to complaints	

5. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1.	Field Measurement					
	(1) EC, TDS	-	-	-	-	-
	(2) Temp.	-	-	-	-	-
	(3) DO	-	-	-	-	-
	(4) pH	-	-	-	-	-
2.	Laboratory Analysis					
	All parameters and analysis available in the lab.					

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	
10) NO3-N	Cadmium reduction method	
11) PO4	Amino acid method	

12) Cl-	Silver nitrate method
13) NH4-N	Salicylate method
14) Turbidity	Nephelometric method

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

- 8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Shamsa Al Jasem	Eng.			
2) Nizam Ahmad	Eng.			
3) Mustafa A'abo	Eng.			
4) Thani Al Abid	staff			
5) Abdullatif Ja aloutk	Staff			

Sampling Plan in Rakka DFEA

Month	1 st Week	2 nd Week	3 rd Week	4 th Week
January	*****	*****	*****	*****
February	Al Assad lack	Al Ba'ath lack	Euphrate river, at the bridge	Euphrate river, after sewage outlet
March	Ojail establishment	Shuayb Zikar	Jallab river	Drinking water
April	Sabbia treatment station	Euphrate river, at Madan	Sewage water	Euphrate river, after slaughterhouse
May	Euphrate river, after Jallab	Small factories within the city	Soft drink factory	Underground water
June	Al Assad lack	Sugar factory	Euphrate river, after sewage outlet	Jallab river
July	Euphrate river, after Jallab	Sewage water	Soft drink factory	Sugar factory
August	Underground water	Euphrate river, at the bridge	Sugar factory	Shuayb Zikar
October	Drinking water	Small factories within the city	Ojail establishment	Jallab river
November	Olive extracting mills	Euphrate river, after Jallab	Euphrate river, after slaughterhouse	Euphrate river, at Madan
December	Sewage water	Olive extracting mills	Al Ba'ath lack	Underground water

V-2(11) Sweida DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Sweida DFEA (day/ month/ 2006)

Prepared by Mrs. Umayma Al Shairat Sign: Director of Sweida DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Sweida DFEA in accordance with the Law No. 50. The Sweida DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Sweida Governorate.

2. Objectives of the Environmental Monitoring

- (1) Protecting human health by limiting pollution.
- (2) Determining water quality in the governorate
- (3) Responding any kind of emergency cases or complaints.
- (4) Increasing experience in EIA
- (5) Obtaining accurate measurements for the pollutants and to be able to evaluate them.

3. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Rivers and Lakes	D. Seas and Coastal Areas	E. Others
1. Field Measurement						
(1)	pH	○	○	○	-	○
(2)	EC, TDS	○	○	○	-	○
(3)	DO	-	-	○	-	○
(4)	Temp.	○	○	○	-	○
2. Laboratory Analysis						
(1)	Color	-	-	○	-	○
(2)	SS	-	-	○	-	○
(3)	COD	○	○	○	-	○
(4)	BOD	○	○	○	-	○
(5)	NO3-N	○	○	○	-	○
(6)	NH3-N	○	○	○	-	○
(7)	PO4	○	○	○	-	○
(8)	Cl-	○	○	○	-	○
(9)	Turbidity	-	-	○	-	○

4. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	5 stations	1) Grape extraction factory 2) Jabal factory for juice 3) Shahba dairy factory 4) Detergents factory 5) olive extracting mills (Thala, Shahba, Niser, Rasas, new Thula)	No treatment facility No treatment facility No treatment facility No treatment facility

Sampling Station	Station Cod	Sampling Frequency
Al Assad lack	001	2
Al Ba'ath lack	002	2
Euphrate river, at the bridge	003	2
Euphrate river, after slaughterhouse	004	2
Sewage water	005	4
Euphrate river, after sewage outlet	006	2
Jallab river	007	3
Euphrate river, after Jallab	008	4
Euphrate river, at Madan	009	2
Drinking water	010	2
Sugar factory	020	3
Soft drink factory	021	2
Ojaili establishment	022	2
Olive extracting mills	023	2
Small factories within the city	030	2
Underground water	050	2
Al Sabkha treatment station	060 - 061	1
Complaints	080	-

Water Body	No. of Stations	Locations	Note
B. Municipal Wastewater	4 stations	Sewage water of Sweida city-random sewage (1), random sewage (2).	
C. Rivers and Lakes	10 Dams	Roum, Sahwat Khudur, Jabal Arab, Tayba, Ghayda, Hunran, Mushannaf shamali, Mushannaf Janoubi, Jwaylin, Sahwat Balata	
D. Seas and Coastal Areas			
E. Others	Springs + wells	20 springs, 5 wells	

Location Map
Location map is prepared but could not be attached because the size is too big.

5. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Grape extraction factory 2) Jabal factory for juice 3) Shahba dairy factory 4) Detergents factory 5) olive extracting mills (Thala, Shabba, Niser, Rasas, new Thala)	- 5 times/ month, 5 sequence days - 5 times/ month, 5 sequence days - 5 times/ month, 5 sequence days - 5 times/ month, 5 sequence days - 5 times/ month, 5 sequence days	- 5 times - 5 times - 5 times - 5 times - 5 times
B. Municipal Wastewater	Sewage water of Sweida city- Sewage water of Salkhad- random sewage (1), random sewage (2).	- once/ year	- 1 time for each station
C. Rivers and Lakes	Al Roum, Sahwa, Jabal Arab, Tayba, Ghayda, Hubran, Mushannaf Shamali, Mushannaf Janoubi, Jwaylin, Sahwat Balata	- once/ 3 months	- 4 times for each dam.
D. Seas and Coastal Areas			
E. Others	Springs (Bader, Khawabi, Mousa, Rasfa, Mekabiyeh, Mwalakat Sala, Keram&Zaroura, Dair Ajoz, Ras Al Ein, Shakara, Homa, A'ara, Tanouiyeh, Mazra a, Um Kasab, Ein Sekhneh, Ein Bardesh, Gharbiyeh, Raifajiyat, Habki)	- once/ year	- 1 time for each spring or well.

Note: 3 samples will be collected each time.

6. Analysis Method

Parameters	Analysis Method	Note
1) pH, temp.		Electrode method
2) EC, TDS	Portable EC/ TDS meter mg/l	Electrode method
3) DO	Portable DO meter mg/l	Electrode method
4) SS	Portable colorimeter mg/l	Photometric method
5) COD	COD enzyme mg/l	Reactor digesting method
6) BOD		Pressure sensor method
7) NO3-N	Portable colorimeter mg/l	Cadmium reduction method
8) PO4	Portable colorimeter mg/l	Amino acid method
9) Cl	Digital titrator mg/l	Silver nitrate method
10) NH3-N	Portable colorimeter mg/l	Salicylate method
11) Turbidity	Portable turbidity	Nephelometric method
12) Color	Portable colorimeter mg/l	Platinum-cobalt method

7. Record of Data and Publication

- (1) Record in DFEA
 - Check list
 - Field record (width, depth, velocity)
 - Field measurement record
 - Lab analysis record
 - Problems of equipment record
 - Lab safety record
 - Reagents and glassware record
 - Solid and liquid wastes treatment record
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

8.1 Staff in charge:

Name	Position	in charge	Period	Note
1) Umayma Al Sha'ar	Lab chief	Lab + staff		
2) Thayer Hanzeh	Staff	Sampling		
3) Raghad Abu Hasson	Staff	Reagents and glassware		
4) Samer Masri	Staff	Lab safety		
5) Anan Sweidan	Staff	Equipment & spare parts		
6) Hana Abu Zaidan	Staff	Solid waste management (in future)		
7) Mirvat Al Safadi	Staff	Data management		

V-2(12) Dara DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Dara a DFEA (dav/ month/ 2006)

Prepared by Eng. Muhammad Al Hariri

Sign: Director of Dara a DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Dara a DFEA in accordance with the Law No. 50. The Dara a DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Dara a Governorate.

2. Objectives of the Environmental Monitoring

- (1) Monitoring industrial waste water resulted from factories (if they conform to Syrian standards)
- (2) Monitoring lakes and dams, and dam water used for irrigation
- (3) Monitoring springs used for drinking to check the effects of pollutants on them
- (4) Evaluation of results

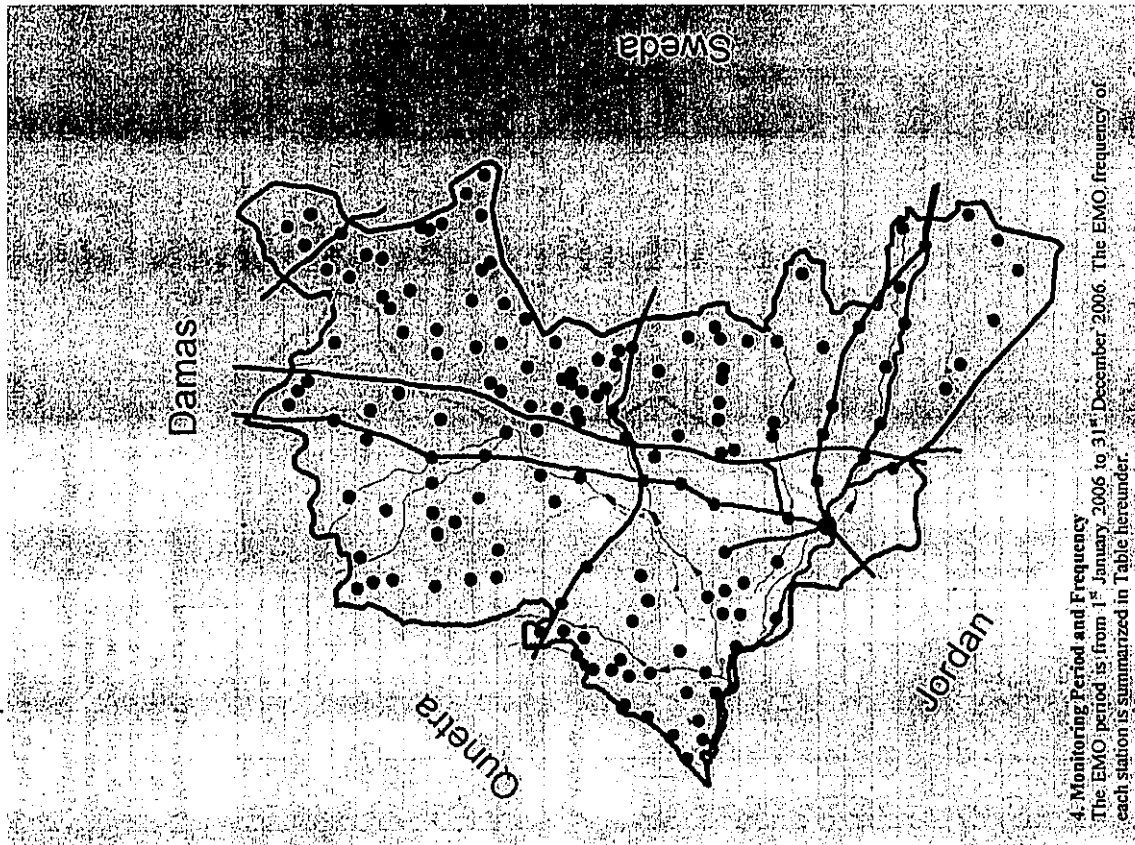
3. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	19 stations	1- Tishreen olive mill	
		2- Jahmani olive mill	
		3- Syrian-German olive mill	
		4- Kasabra olive mill	
		5- Innan olive mill	
		6- Veterinarian medicines factory (2 factories)	
		7- Nameh for cartoon	
		8- Ankhel for conserves	
		9- Dael for conserves	
		10- Starch factory	
		11- Naema for sesame sauce	
		12- Glin dairy	
		13- Dara a cow farm	
		14- Libyan company cow Farm	
		15- Hirak for pickles	
		16- Dara a slaughterhouse	
		17- Dara a dump site (nearest well)	
		18- organic fertilizers factory(nearest well)	
B. Municipal Wastewater	4 station	1-Ebteh Dam	
		2- Edwan Dam	
		3- Tafas Dam	
		4- Dara a Dam	
C. Rivers and Lakes	1 stations	1- Mezaireeb lake	
D. Others	6 stations	1- Asha ari spring	
		2- Sanamain well	
		3- Maraba well	
		4- Gharya Gharbi well	
		5- Shaik Misin well	
		6- Qaniyeh well	

Monitoring Schedule

Station	Location	Month																
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec					
Dams	Asham	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	
	Aban Alkadez																	
	Jahed Arab																	
	Alhira																	
	Innan																	
	Innan Faisal																	
	Marab Faisal																	
	Marab Faisal																	
	Marab Faisal																	
	Marab Faisal																	
Springs	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
Sewerage	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
Industrial waste-water	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	
	Asham																	

Location Map



4. Monitoring Period and Frequency
The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1- Tishreen olive mill	1	
	2- Jahmani olive mill	1	
	3- Syrian-German olive mill	1	
	4- Kasabra olive mill	1	
	5- Iman olive mill	2	
	6- Veterinarian medicines Factory (2 factories)	2	
	7- Nameh for cartoon	1	
	8- Ankhel for conserves	3	
	9- Dael for conserves	3	
	10- Starch factory	2	
	11- Naema for sesame sauce	3	
	12- Glin dairy	2	
	13- Dara'a cow farm	2	
	14- Libyan company cow Farm	2	
	15- Hirak for pickles	2	
	16- Dara'a slaughterhouse	2	
	17- Dara'a dump site (nearest well)	3	
	18- organic fertilizers factory (nearest well)	2	
B. Municipal Wastewater	1- Ebtiah Dam	2	
	2- Edwan Dam	2	
	3- Tafas Dam	2	
	4- Dara'a Dam	2	
C. Rivers and Lakes	1- Mezaireeb lake	3	
E. Emergencies	1- Asha'ri spring	2	
	2- Sanamain well	1	
	3- Maraba well	1	
	4- Gharya Gharbi well	1	
	5- Shaik Misin well	1	
	6- Qaniyeh well	1	

V-2(13) Tartous DFEA

Environmental Monitoring (EMO) Plan

Re. No. 001 Tartous DFEA (15/ 2/ 2006)

Prepared by Mrs. Rodayna Al-Ali, Signt. Director of Tartous DFEA

1. Rationale

This Environmental Monitoring (EMO) Plan is prepared by the Tartous DFEA in accordance with the Law No. 50. The Tartous DFEA has the right to execute this EMO Plan under the authorization by the Minister of MOLAE and the Governor of Tartous Governorate.

2. Objectives of the Environmental Monitoring

- (1) Identifying the water quality in the selected water resources.
- (2) Monitoring water bodies existing in the governorate regularly.
- (3) Monitoring industrial waste water resulted from factories and determining the resulted pollution.

3. Monitoring Stations

Water Body	No. of Stations	Locations	Note
A. Industrial Wastewater	2 stations	1) Oil refining factory 2) Fat factory	Considering discharging time.
B. Municipal Wastewater			
C. Rivers and Lakes	10 stations	1) Al Husain River (3 stations) 2) Marqiyeh River (3 stations) 3) Al Abrash River (4 stations)	Considering the accessibility to sampling stations
D. Springs	4 stations	1) Dairoun spring 2) Krafis spring 3) Abu Awad spring 4) Jakra spring	Serves / 17 / villages Serves / 9 / villages Serves / 11 / villages Serves / 9 / villages
E. Dams	1 station	1) Khalifa dam	

Location Map

Location map is attached.

4. Monitoring Period and Frequency

The EMO period is from 1st January 2006 to 31st December 2006. The EMO frequency of each station is summarized in Table hereunder.

Water Body	Stations	Frequency	Times (Jan-Dec)
A. Industrial Wastewater	1) Oil refining factory 2) Fat factory	once/ 6 month once/ 6 month	4 times
B. Rivers	1) Husain river: a. Uwainiyeh b. Braikiyeh c. Zara 2) Marqiyeh river: a. near Kadmous	once/ 3 month once/ 3 month once/ 3 month once/ 3 month	9 times 6 times

Water Body	Stations	Frequency	Times (Jan-Dec)
	restaurant b: Kurkafti	once/ 3 month	12 times
	3) Al Abrash river: a: Al Saisniyeh b: Zok Barakat- Ain Mury c: Tawanin d: Heder Zahiyeh	once/ 3 month once/ 3 month once/ 3 month once/ 3 month	
C. Springs	1) Dairoun spring 2) Ain Krafis 3) Abu Awad spring 4) Jakra spring	once/ 2 month once/ 2 month once/ 2 month once/ 2 month	8 times
D. Dams	1) Khalifa dam	once/ 6 month	2 times
E. Others	Complaints		According to received complaints

5. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Spring Water	C. Rivers and Lakes	D. Dams	E. Others
1. Field Measurement						
1	pH	○	○	○	○	○
2	DO	○	x	○	○	○
3	EC / TDS	○	○	○	○	○
4	Water temp.	○	○	○	○	○
2. Laboratory Analysis						
1	Color	○	○	○	○	○
2	SS	○	x	○	○	○
3	COD	○	○	○	○	○
4	BOD	○	○	○	○	○
5	NO3-N	○	○	○	○	○
6	PO4	○	○	○	○	○
7	Cl-	○	○	○	○	○
8	NH3-N	○	○	○	○	○
9	Turbidity	○	○	○	○	○

6. Analysis Method

Parameters	Analysis Method	Note
1) pH	Electrode method	
2) Temp	Thermometer	
3) EC	Electrode method	
4) TDS	Electrode method	
5) DO	Electrode method	
6) Color	Platinum-cobalt APHA	
7) SS	Photometric method	
8) COD	Reactor digesting method	
9) BOD	Pressure sensor method	

Water Body	Stations	Frequency	Times (Jan-Dec)
C. Lakes and Dams	Rwaishina, Braika, Ghadir Bustan	-once/ 4 months	- 9 times
D. Underground Water	Farmer Union, Ein Al Bayda, Fawar spring	- once/ 3 months	-12 times
No. of Samples			36 times

5. Parameters to be Analyzed and Monitored

No.	Parameters	A. Industrial Wastewater	B. Municipal Wastewater	C. Lakes and Dams	D. Underground Water	E. Others
1. Field Measurement						
(1)	pH	○	○	○	○	○
(2)	Water temp	○	○	○	○	○
(3)	TDS	○	○	○	○	○
(4)	EC	○	○	○	○	○
(5)	SS	○	○	○	△	○
(6)	DO	△	△	○	△	○
2. Laboratory Analysis						
(7)	COD	○	○	○	○	○
(8)	BOD5	○	○	○	○	○
(9)	NO3-	○	○	○	○	○
(10)	PO4 ⁻	○	○	○	○	○
(11)	Cl-	○	○	○	○	○
(12)	NH3-N	○	○	○	○	○
(13)	Turbidity	△	△	○	○	○
(14)	Color	△	△	○	○	○
(15)	Flow rate	○	○	*	*	*

6. Analysis Method

Parameters	Analysis Method	Note
1) pH, temp.	Electrode method	Portable pH meter mg/l
2) EC, TDS	Electrode method	Portable EC/TDS meter mg/l
3) DO	Electrode method	Portable DO meter mg/l
4) SS	Photometric method	Portable colorimeter mg/l
5) COD	Reactor digesting method	Portable colorimeter mg/l
6) BOD	Pressure sensor method	Pressure sensor method
7) NO3-N	Cadmium reduction method	Portable colorimeter mg/l
8) PO4	Amino acid method	Portable colorimeter mg/l
9) Cl	Silver nitrate method	Digital Titrator. mg/l
10) NH3-N	Salicylate method	Portable colorimeter mg/l
11) Turbidity	Nephelometric method	Portable Turbidity meter
12) Color	Platinum-cobalt method	Portable colorimeter mg/l

7. Record of Data and Publication

- (1) Record in DFEA
- (2) Record in the Directorate of Laboratories in GCEA
- (3) Record in Governorate
- (4) Data Book preparation
- (5) Annual Report to be prepared and published

8. Other Remarks

- 8.1 Staff in charge:

Name	in charge	Period	Note
1) Hamzeh Sulayman	Director	Jan 2006-Dec 2006	
2) Ali Ibrahim	Water quality + data management	Jan 2006-Dec 2006	
3) Majed Zaitoun	Water quality + data management	Jan 2006-Dec 2006	

8.2 Others

- 1- Lack of gas for the car.
- 2- Budget is not enough.
- 3- Bad weather conditions.
- 4- Sudden car break-downs.

Monitoring Schedule

Type	Station	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Industrial Waste Water	Side site of mill													3
	Sawah factory													4
Sewage	Organic fertilizer factory													4
	Treatment facility in Well Pongad													4
Dams	Rwaishina													3
	Bayda													3
Groundwater	Farmer Union													4
	Ein Al Bayda													4
Farms/Spots														4
														4

Grand Total of Sample Number

36

V-3 Summary of Publication and Manuals prepared in the Project

	Title	Date	Contents	No of Copy	Note
1	Humat Beia News Letter(No.1)	Jul-2005	<ol style="list-style-type: none"> 1. Events of the Project 2. Introduction of GCEA and DFEAs 3. Lessons Learnt 4. Letters from Counterpart 5. Members of the JICA Expert Team 	2,000	English Arabic
2	Humat Beia News Letter(No.2)	Feb- 2006	<ol style="list-style-type: none"> 1. Events of the Project 2. Introduction of GCEA and DFEAs 3. Lessons Learnt 4. Letters from Counterpart 	3,000	English Arabic
3	Standard Operation Procedures (SOP)For Environmental Monitoring (Basic Water Quality)	Feb- 2006 (Drafted in Sep-2005)	<ol style="list-style-type: none"> 1. SOP for pH and Water Temperature Measurement 2. SOP for Color (Apparent) Measurement 3. SOP for Electrical Conductivity (EC) and Total Dissolved Solids (TDS) Measurement 4. SOP for Dissolved Oxygen (DO) Measurement (Revision 2) 5. SOP for Suspended Solid (SS) Measurement 6. SOP for Chemical Oxygen Demand (COD) Measurement 7. SOP for Biological Oxygen Demand (BOD) Measurement 8. SOP for Nitrate (NO₃-N) Measurement 9. SOP for Phosphorous (PO₄) Measurement 10. SOP for Chloride (Cl⁻) Measurement 11. SOP for Ammonia (NH₃-N) Measurement 12. SOP for Turbidity Measurement 13. SOP for Sampling 14. SOP for Sampling Checklist 15. SOP for Field Measurement and Observation Record 16. SOP for Water Quality Results Record 17. SOP for Preservation and Storage of Samples 18. SOP for Water Stills 	-	English Arabic
4	Operation and Maintenance (O/M) Manual for Laboratory(Draft)	Feb- 2006	<ol style="list-style-type: none"> 1. Laboratory Safety 2. Management and Handling of Reagent 3. Maintenance and Managemet of Equipment 4. Laboratory Waste Treatment 5. Proper Attitude to Accurate Analysis 6. Others 	-	English Arabic
5	Japan's experience on environmental pollution	Feb- 2006	Multimedia	2000	Arabic
6	Eco Plant Game	Feb- 2006		300	Arabic

V-4 Summary of Training Activities of the Project

Training Course	Objectives	Period	Venue	Target C/P
1. Basic Lecture Training of Environmental Management and Monitoring	-12 lectures for understanding fundamental items prerequisite for implementation of environmental management and monitoring -General concept on pollution, laws and regulations, planning, sampling and analysis, data management, QA/QC, public awareness -5-days training program	-1st round (June 5- June 8) -2nd round (June 12- June 15)	Administration Center of MOLAE, Damascus	-C/P of GCEA and DFEA in charge for lab analysis and data management -29 staff in the 1st round -35 staff in the 2nd round
2. Supplementary Training	-Same as above training -Only for supplemental lecture to C/P who missed a part of lectures -1-day supplementary training program	-June 21	GCEA, Damascus	-C/P of DFEA -5 staff
3. Field Training	-Actual practice training on sampling, field measurement, lab analysis, calibration, usage of SOP, QA/QC, data management, O/M of lab -3-day training program	-June 23- July 17	Each DFEA	-C/P in charge for lab analysis and data management
4. Follow-up Training	-Follow-up of the field training -Presentation of actual practice and monitoring results for sharing -Demonstration of a composite sampling -Preparation of monitoring plan for training -2-days training course	-1st round (July 31- Aug 1) -2nd round (Aug 2- Aug 3)	GCEA, Damascus	-C/P of GCEA and DFEA in charge for lab analysis and data management -29 staff in the 1st round -35 staff in the 2nd round
5. Follow-up Field Training	-Check and evaluation of analysis data -Trouble shooting on monitoring practice -Check and calibration of equipment	-Aug 13- Sep 1	Each DFEA	-C/P in charge for lab analysis
6. Study Tour to Egypt	-Visit Cairo Central Center (CCC), Greater Cairo, Suez and Mansoura Regional Branch Offices (RBOs) -Learning lessons and actual practices of environmental management and monitoring activities including inspection, -Sharing and exchanging views and experiences	-Aug 28- Sep 1	CCC, Greater Cairo RBO, Suez RBO, and Mansoura RBO	-8 C/P in charge for lab analysis
7. Lecture, hand-on training, and OJT for the basic water quality analysis, monitoring plan	- Lecture for BOD measuring principle, major problems and countermeasures - Lecture for principle of colorimeter, measuring principles of COD, NO ₃ -N, NH ₃ -N, PO ₄ and Cl ⁻ , interference and solution - Lecture for preparation of annual monitoring plan in each DFEA - OJT on sampling, field measurement, laboratory analysis and countermeasures of interferences, QA/QC, calibration, usage of SOP, interpretation of the results and O/M of laboratory.	Jan. 15 - Feb.23	Each DFEA	Staff in DFEAs in charge for laboratory analysis and data management
8. Lecture Training for Data Management	- Lecture for QA/QC principle, data management, standard deviation, and statistical arrangement of data - OJT on data recording and input in the computer	Jan. 15 - Feb.6	Each DFEA	Staff in DFEAs in charge for data management
9. Introductory Training for Heavy Metal Analysis	- Basic lecture for heavy metal analysis - Lecture for introduction of AAS equipment - Introductory explanation of specifications of AAS	Jan. 19, & Jan. 30- Feb. 1	Damascus DFEA	Staff in Damascus DFEA in charge for laboratory analysis
10. Lecture Training for Air Quality	- Lecture for air quality, air pollution, meteorological analysis, and countermeasures - Lecture for sampling, calibration curve, and data treatment - Hands on training and OJT on preparation of simple samplers, filter preparation, calibration curve - OJT on field sampling using simple sampler - Follow-up field training	Jan. 22 - Feb.21	Damascus, Homs, and Aleppo DFEAs	Staff in Damascus, Homs, and Aleppo DFEAs in charge for laboratory analysis
11. Practical Training for Environmental Education (E&E)	- Demonstration of public awareness and environmental education in Damascus DFEA - Lecture training for public awareness and environmental consciousness survey - Introductory training of environmental education to the members of Chamber of Industry in Homs and Lattakia	Jan. 19, Jan. 29, Feb. 2, Feb.15, & Feb. 27	Damascus DFEA, GCEA, & Chamber of Industry	Staffs in charge for public awareness

V-5 Summary of Steering Committee and Technical Committee

Steering Committee (St/C)		
Date	No.	Key Discussion Points
Jan. 12, 2005 (Wed)	1st St/C	-Comments on the Draft Inception Report of the Project -Implication with MOLAE and other ministries on environmental monitoring -Involvement of Ministry of Education as a St/C member
Feb. 23, 2005 (Wed)	2nd St/C	-Finalization the Inception Report of the Project -Confirmation of principal roles of MOLAE and other ministries related to environmental monitoring -Agreement of a role of St/C and T/C -Participation in a training course of the Project from other ministries -Importance of public awareness and environmental education
Sept. 21, 2005 (Wed)	3rd St/C	-Progress and difficulties of the Project -Presentation and Explanation of the Progress Report-1 -Key substantial issues related to environmental monitoring -Plan of operation of the activities in the next stage
Mar. 5, 2006 (Sun)	4th St/C	-Progress and difficulties of the Project -Presentation of monitoring activities and monitoring plan by DFEAs -Presentation and Explanation of the Progress Report-2 -Key substantial issues related to environmental monitoring -Plan of operation of the activities in the next stage
Technical Committee (T/C)		
Date	No.	Key Discussion Points
Feb. 23, 2005 (Wed)	1st T/C	-Comments and finalization the Inception Report of the Project -Confirmation of concrete activities of the Project including training, equipment, counterpart personnel, and lab layout plan -Discussion of suitability of the Project considering different environmental background by each Governorate -Confirmation of a role of T/C
May. 26, 2005 (Thr)	2nd T/C	-Confirmation of a counterpart personnel list -Discussion on a program of the basic environmental monitoring course -Progress of preparation of lab in each DFEA -Introduction of a career evaluation of counterpart personnel -Editing direction of a news letter "Humat Beia"
Aug. 4, 2005 (Thr)	3rd T/C	-Review of implementation of the basic environmental monitoring course -Discussion on the next training program including a study tour to Egypt -Budget required for the Project in next year -Preparation and distribution of a news letter "Humat Beia" -Discussion related to the central lab
Aug. 22, 2005 (Mon)	4th T/C	-Agreement on the draft technical specifications for air and water quality analysis to be procured in 2005 -Further comments and requirements on the equipment provided by JICA
Sept. 18, 2005 (Sun)	5th T/C	-Review of the Project activities up to September 2005 -Presentation and Explanation of the Progress Report-1 -Technical proposal of networking system between GCEA and DFEAs -Plan of operation of the activities in the next stage
Dec. 13, 2005 (Tue)	6th T/C	-Plan and schedule of water and air quality training -Discussion on QA/QC as a part of data management -Progress of equipment procurement -Confirmation of monitoring activities in DFEAs -Implementation of achievement evaluation of C/Ps
Mar. 1, 2006 (Wed)	7th T/C	-Review of the Project activities up to February 2006 -Presentation and Explanation of the Progress Report-2 -Results of achievement evaluation -Distribution of the report of pollution source survey -Networking system between GCEA and DFEAs -Presentation of monitoring activities and monitoring plan by DFEAs -Progress of equipment procurement
May. 18, 2006 (Thr)	8th T/C	-Summary of Environmental Activities of DFEAs -Networking between GCEA and DFEAs -Plan of Operation of the Project up to September 2006 -Mid-term Evaluation -Confirmation Issues on the Operation of the Project
June. 22, 2006 (Thr)	9th T/C	-Specification of AAS -Maintenance, Accessory, and Installation Activities -Training Plan

V-6 Sample of Recording Format

شكل السجل للتحليل الأمامي للمياه

Recording Format for Basic Water Analysis (for all 14 DFEAs)

الرمز Code: I-001	دمشق Governorate	المحافظة DAM	دمشق Damascus	المدينة City	البلدة Town	منطقة الدباغات Village	التربة Village
صرف صناعي Industrial Water		صرف صناعي لمعمل الهواش					
السنة 2006 Year		وصف موقع الإختبار: Sampling site description					
تاريخ الإختبار اليوم / الشهر sampling date (day/month)		24-May	/	/	/	/	/
وقت الإختبار: (ساعة/دقائق) sampling time (hh:mm)		10:00	:	:	:	:	:
العنصر Item	الطريقة Analysis Method	الوحدة Unit	العمق Depth				
الطقس weather	يدوي manual	مرجع في الأسفل ref. below	مشمس				
Air Temperature	manual	°C	35.0			35.0	35.0
River Width		m				0.0	0.0
عمق المياه في نقطة الإختبار water depth	يدوي manual	m				0.0	0.0
سرعة تنفق المياه عند نقطة الإختبار flow velocity	يدوي manual	m/s				0.0	0.0
الرائحة odor	يدوي manual	-					
pH	pH meter	-	السطح 7.5			7.5	7.5
			m			0.000	0.000
			m			0.000	0.000
درجة الحرارة Temp	pH meter	°C				0.00	0.00
			m			0.00	0.00
اللون Color	portable colorimeter	-	السطح 816			816.0	816.0
			m			0.0	0.0
			m			0.0	0.0
Total dissolved solids (TDS)	portable EC/TDS meter	mg/l	السطح 478			478.0	478.0
			m			0.0	0.0
			m			0.0	0.0
DO	portable DO meter	mg/l	السطح 30.60			30.60	30.60
			m			0.00	0.00
			m			0.00	0.00
Total suspended solids (SS)	portable colorimeter	mg/l	السطح 115			115.3	115.3
			m			0.0	0.0
			m			0.0	0.0
COD	colorimeter	mg/l	السطح 117			116.7	116.7
			m			0.0	0.0
			m			0.0	0.0
BOD ₅	culture	mg/l	السطح			0.0	0.0
			m			0.0	0.0
			m			0.0	0.0
NO ₃ ⁻	portable colorimeter	mg/l	السطح 2.8			2.8	2.8
			m			0.000	0.000
			m			0.000	0.000
PO ₄ ³⁻	portable colorimeter	mg/l	السطح 1.60			1.60	1.60
			m			0.00	0.00
			m			0.00	0.00
Cl ⁻	Digital Titrator	mg/l	السطح 64			63.5	63.5
			m			0.0	0.0
			m			0.0	0.0
NH ₃ -N	portable colorimeter	mg/l	السطح <1			0.0	0.0
			m			0.0	0.0
			m			0.0	0.0
التأليّة الكهربيّة Electrical Conductivity	portable EC/TDS meter	µS/cm	السطح 974			974.0	974.0
			m			0.0	0.0
			m			0.0	0.0
العتامة Turbidity	portable turbidity meter	NTU	السطح 245.50			245.50	245.50
			m			0.00	0.00
			m			0.00	0.00

المرجع: صف حالة الجو خلال فترة الإختبار وعند نقطة الإختبار مشيراً إلى التالي:

صحو/شمس: ☉، غائم: ☁، مطر (خفيف): △، مطر (ثقيل): ▲

☉ sampling time at a sampling point referring to the following marks;

overcast: ○, rain (gentle): △, rain (heavy): ▲

اسم الشخص المسؤول عن إدارة البيانات

Name of Person in charge of Data Management

د. المعنى غانم

APPENDIX VI Evaluation Grid

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
1. Verification of performance	1.1 Achievements of the project in line with initial plan	1.1.1 Current situation of the achievements of Overall Goal	Are the achievements of the project purpose led to Overall Goal in line with the plan? (Achievements of the objectively verifiable indicators of PDM)	<ul style="list-style-type: none"> Evaluation by JET Records of the project monitoring Opinion of Director General of GCEA and Director of Lab. 	<ul style="list-style-type: none"> R/D¹, Annual Completion Report (Activities, Achievements) Evaluation Sheet by JET² Inception Report, Progress Report 1, 2 GCEA³, Japanese Expert Team (JET)
		1.1.2 Current situation of the achievements of Project Purpose	Are the achievements of the Outputs led to Project Purpose in line with the plan? (Achievements of the objectively verifiable indicators of PDM)	<ul style="list-style-type: none"> Evaluation by JET Records of the project monitoring Opinion of Director General of GCEA and Director of Lab. 	ditto
		1.1.3 Current situation of the achievements of Outputs	Are the achievements of the Activities produced to Outputs in line with the plan? (Achievements of the objectively verifiable indicators of PDM)	<ul style="list-style-type: none"> Records of training, environmental monitoring, education, etc. Evaluation by JET Records of the project monitoring Opinion of Director General of GCEA and Director of Lab. 	ditto
	1.2 Is the inputs in line with the plan?	1.2.1 Inputs by Japanese side	Discrepancy between activity plans and actual results	<ul style="list-style-type: none"> Project Master Plan Input progress Equipments provided and further schedule Survey reports 	<ul style="list-style-type: none"> R/D, Annual Completion Report (Activities, Achievements) Evaluation Sheet by JET Inception Report, Progress Report 1, 2, GCEA, Japanese Expert Team (JET)
		1.2.2 Inputs by Syrian side	Discrepancy between activity plans and actual results	<ul style="list-style-type: none"> Evaluation by JET Key person's comment 	ditto
	1.3 Are there prospects that the project purpose will be achieved comparing with targets?		Extent to which Project Purpose indicators have been achieved	<ul style="list-style-type: none"> Evaluation by JET Opinion of Director General of GCEA and Director of Lab. 	ditto
2. Verification of	2.1 Were the activities implemented according		Discrepancy between activity plans and actual results	<ul style="list-style-type: none"> Annual activities and the achievements 	<ul style="list-style-type: none"> R/D Annual Completion Report (Activities, Achievements)

¹ Record of Discussion signed in 9th of September 2004

² Achievement possibility of PDM Indices and Data for Mid term evaluation, 8th of May 2006 prepared by Japanese Expert Team

³ General Directorate of Environmental Affairs, Ministry of Local Administration and Environment

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
implementation process	to plan?		<ul style="list-style-type: none"> Do implemented activities match below mentioned aspects? <ul style="list-style-type: none"> Characteristics of the C/Ps Capacity of resources of the counterpart organization Culture of the counterpart organization 	<ul style="list-style-type: none"> Actual results of activities Status of counterparts' work Evaluation by JET Methods of the technical transfer Suitability of the methods 	<ul style="list-style-type: none"> Evaluation Sheet by JET Inception Report, Progress Report 1, 2 Review of the technical transfer plan Evaluation by a technical member of the mission
	2.2 Are there any problems with the technical transfer?		<ul style="list-style-type: none"> Does the monitoring system put in place to achieve the Project Purpose? Is CD Sheet appropriate system? 	<ul style="list-style-type: none"> Existence of system to monitor project's progress Monitoring methodology Feedback methodology 	<ul style="list-style-type: none"> Review of related materials Records of activities of supporting committees in Japan Interviews with those in charge at JICA Syria office and headquarters
	2.3 Are there any problems with the project management system?	2.3.1 Is the monitoring system appropriate?	Type of the communication tools and its effects, effectiveness and issues	<ul style="list-style-type: none"> Information sharing method CD Sheet Number of the news letter issued Minutes of Meetings 	<ul style="list-style-type: none"> Interview to Director General of GCEA, and Chief Advisor of JICA Expert Team
		2.3.2 What kind of communications tools are introduced in the project?		<ul style="list-style-type: none"> Problems and guidelines for addressing Person in charge of addressing problems Results of addressing problem Schedule for addressing problem 	<ul style="list-style-type: none"> Review of related materials Interviews with those in charge at JICA's Syria office Interviews with the Project Coordinator and the Project Director
		2.3.3 Do supporting organizations work properly for their roles?	Do the Steering and Technical Committees support the project implementation process?	<ul style="list-style-type: none"> Deep understanding about the contents of the PDM 	<ul style="list-style-type: none"> Interview to Director General of GCEA, Director of DFEAs⁴ and Chief Advisor of JICA Expert Team
	2.4 Do the implementing organizations, CPs, the target group and the related authorities highly recognize the Project?	Do they understand well about the contents of the PDM? e.g. Governors and Governorates	<ul style="list-style-type: none"> Suitability of counterparts position and basic capacity (technical and English 	<ul style="list-style-type: none"> Basic technical and language capacity of CPs 	<ul style="list-style-type: none"> Interview to JET and Director of Lab. CD Sheet
	2.5 Have appropriate number of counterparts and background of				

⁴ Directorates for Environmental Affairs

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information, Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
	counterparts assigned?		knowledge) of CPs		
	2.6 Are there any other problems caused on the implementation of the Project?		Obstacles on the activities and production of the outputs on the Project		<ul style="list-style-type: none"> • Interview to Director General of GCEA and Chief Advisor of JICA Expert Team
Five Evaluation Criteria					
3. Relevance	3.1 Is the project consistent with Syria's needs?	3.1.1 Is the effect that the project is aiming for in line with the national policy of Syria?	Consistency of priority, needs, feasibility of the national policy	<ul style="list-style-type: none"> • 10th Five-year Development Plan (2006-10) in English • National Environmental Action Plan • National Environmental Monitoring Plan • EIA system, etc 	<ul style="list-style-type: none"> • Interview to Embassy of Japan, JICA Syria • Legal department of MOLAE and GCEA • Review of information
		3.1.2 Is the project consistent with the needs of targeted Governorates?	Conformity to the environmental conditions and measures required	<ul style="list-style-type: none"> • Environmental profile in each Governorate • Report of pollution source survey 	<ul style="list-style-type: none"> • Interview to GCEA and DFEAs • Review of Annual Completion Reports, Plan on Operations and other related information
		3.1.3 Is the project consistent with the needs of the related organizations implementing the project?	Is the project consistent with Syria's development policies and the policies of related sectors? (framework of environmental legal system)	<ul style="list-style-type: none"> • Annual plan of GCEA • Demarcation in environmental administration • Necessity of capacity improvement of environmental monitoring 	<ul style="list-style-type: none"> • Interview to Director General of GCEA
	3.2 Is the project consistent with Japan's aid policies		In line with the Japan's policy or not	<ul style="list-style-type: none"> • "JICA Country Assistance Implementation Plan" • Japan's ODA Policy 	<ul style="list-style-type: none"> • Interview to JICA Syria
	3.3 Relevance of the Japan's Aid in technical cooperation	3.3.1 Does Japanese technology in the field have any advantage? 3.3.2 Do project Purpose and Outputs coincide to the scale of Inputs and institutional capacity of Japanese side?	Direct impacts to policy level by the project Coincidence between Project Purpose and Outputs, and capacity of the supporting committee in Japan.	<ul style="list-style-type: none"> • JICA Implementation Programme by Countries 	<ul style="list-style-type: none"> • Review of information
	3.4 Appropriateness as a means	3.4.1 Is the project's approach appropriate? 3.4.2 Is the target group	Does the project have a clear role within the superior program? Does the project meet GCEA's policy? Needs of all DFEAs in terms	<ul style="list-style-type: none"> • Japan's advantage in technology related to the Outputs 	<ul style="list-style-type: none"> • Interview to JICA Syria • Review of information
			Does the project have a clear role within the superior program? Does the project meet GCEA's policy?	<ul style="list-style-type: none"> • Project's role within development issues 	<ul style="list-style-type: none"> • Interview to JICA HQ
			Needs of all DFEAs in terms	<ul style="list-style-type: none"> • Importance of conducting 	<ul style="list-style-type: none"> • Interview to JICA HQ, JICA Syria

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
		appropriate?	of environmental administration for selected all 14 DFEAs and different target for each DFEA (simple water quality, simple air, chemical and heavy metal analysis, environmental education)	environmental monitoring in 14 DFEAs <ul style="list-style-type: none"> Background of training tour introduced and burden on Expert Team 	<ul style="list-style-type: none"> Review of information
	3.5 Commitments of the implementation of the project by Syrian actors	3.5.1 Is commitment of Syrian side actors high?	Performance of official commitment in the aspects of budget, human resources and Important Assumptions in the PDM	<ul style="list-style-type: none"> Achievement of under mentioned articles 	<ul style="list-style-type: none"> Interview to Director General and Chief Advisor of JET
4. Effectiveness (prospect)	4.1 Is the Project Purpose clear?	4.1.1 Are the Project Purpose and Objectively Verifiable Indicators appropriate?	Consultant's assessment from a technical perspective	<ul style="list-style-type: none"> Project's PDM 	<ul style="list-style-type: none"> Review of information
	4.2 Are the Project Purpose expected to be achieved?	4.2.1 Are indicators of the Project Purpose expected to be achieved?	Prediction as to whether purposes will be achieved based on the extent to which Outputs has currently been achieved (Objectively Verifiable Indicators 1-4)	<ul style="list-style-type: none"> Implementation plan by field and extent of progress made Procedural plan to the achievement 	<ul style="list-style-type: none"> Review of Evaluation Sheet by JET Interview to Director General and Chief Advisor of JET
		4.2.2 Was the achievement of Purpose generated by the achievement of Outputs?	ditto With and without case of having monitoring experience before the project starts	<ul style="list-style-type: none"> JET's evaluation 	<ul style="list-style-type: none"> Interview to Homs and Lattakia DFEAs
		4.2.3 Will the Project purpose be realized by achievements of only Outputs and Important Assumptions in the current PDM?	Appropriateness of causality embedded in the PDM	<ul style="list-style-type: none"> PDM JET's evaluation in terms of technical viewpoint 	ditto
	4.3 Are there any factors impeding or encouraging the achievement of the Project Purpose?		factors that inhibit the achievement of project purpose Important assumption will correct	<ul style="list-style-type: none"> Impeding and encouragement factors Contribution degree by National Public Awareness Committee Contribution degree to the project by environmental monitoring experiences in Homs and Lattakia DFEAs 	<ul style="list-style-type: none"> Interview to Director of Homs and Lattakia, and JET

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
5. Efficiency	5.1 Is the output achievement level adequate? (amount of input)	5.1.1 Has the Outputs been achieved to an appropriate extent?	Extent to which objectives have been achieved in qualitative and quantitative terms Output5 Content of environmental education's achievement	carried out before the project commencement • Extent to which PDM indicators by Outputs have been achieved	• Aforementioned verification of performance
		5.1.2 Are there any factors impeding or encouraging the achievement of the Outputs?	Contents of factors impeding or encouraging	• Factors impeding or encouraging the achievement of the Outputs and future outlook	•
	5.2 Cause-and-effect relationship	5.2.1 Were sufficient activities carried out to achieve the Outputs?	Discrepancy between activity plan and actual results	• Status of implementation of project activities	
	5.3 Cost performance	5.3.1 Is the cost performance of the input appropriate?	Existence of more efficient alternative input	• Alternative proposal for equipment procurement • Possibility of utilizing third-nation experts as alternative	• Review of related materials • Interviews at JICA HQ and Syria
	5.4 Were the quantity, quality and timing of the input appropriate?	5.4.1 Did the Expert Team have the expertise and qualifications that the project requires, and were the duration, timing met the project activities? 5.4.2 Was the equipments supply in a timely manner, and was quality and quantity of the equipments met the project contents? 5.4.3 Is there any equipment unused?	Qualitative evaluation based on information and results of interviews	• Contrast between input and actual results of plan • Impact of input on achieving outcome	• Review of related materials • Record of the use of equipments and machineries • Inspection at the Lab • Interview and discussion with CPs and JET
			ditto	ditto	ditto
		5.5.1 Was the training duration and content appropriate?	Qualitative evaluation based on information and results of interviews	• Schedule and contents of the tour • Reports on training • CD sheet	• Interview to Director of Lab and chief advisor of JET

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
	outputs?	5.5.2 Was the knowledge and technology acquired during training utilized after that?	ditto Positive influences of the knowledge acquired by the training in Egypt	<ul style="list-style-type: none"> Relevant person's opinion Reports on training Evaluation by long-term experts Evaluation by trainees 	ditto
	5.6 Selection of 14 DFEAs		Appropriateness of training tour to DFEAs, effects of the tour in terms of generation of outputs, appropriateness of approach	<ul style="list-style-type: none"> Burden of training tour for DFEAs on JET Background of the introduction of training tours 	ditto
	5.7 Was there any impact caused by change of Important Assumptions and Preconditions?	5.7.1 Were both countries' budgets disbursed with appropriate schedule and amount? 5.7.2 Have CPs stayed at GCEA and DFEAs? 5.7.3 Were the equipments procured smoothly?	Qualitative evaluation based on information and interviews	<ul style="list-style-type: none"> Evaluation by chief advisor 	<ul style="list-style-type: none"> Interview to Director of Lab and chief advisor of JET
			ditto Detail of the reasons	<ul style="list-style-type: none"> Counterpart list Reason of instability 	ditto
			ditto	<ul style="list-style-type: none"> Issues on procurement of equipments 	<ul style="list-style-type: none"> Interview to Director of Lab and chief advisor of JET Interview to JICA Syria
	5.8 Were there any factors that impeded or promoted the achievement of the various Outputs? 6.1 Will Overall Goal achieved?		ditto	<ul style="list-style-type: none"> Major factors impeding each Outputs LAN/WAN plan and current situation 	<ul style="list-style-type: none"> Interview to Director of Lab and chief advisor of JET
6. Impact (protects)		6.1.1 Can Indicator 1 be achieved? (Air monitoring at all DFEAs) 6.1.2 Can Indicator 2 be achieved? (Reference System shared by 14 DFEAs)	Qualitative evaluation by checking project's logic (Prospects of Indicator 1 of Overall Goal) ditto Prospects of Indicator 1 of Overall Goal	<ul style="list-style-type: none"> Evaluation by JET Policy of Mobile Lab introduction Utilization policy of air quality monitoring equipment Future plan of reference laboratory GCEA's administrative capacity Possibility of re-organization of SERC and GCEA 	<ul style="list-style-type: none"> Review of information and Evaluation Sheet by JET Interview to Director General and Chief Advisor of JET
	6.2 Can the Overall Goal be achieved as an effect of the accomplishment of the	6.2.1 Was the Overall Goal appropriate? Is it necessary to set Super Goal?	Qualitative evaluation by checking project's logic Necessity of setting Super	<ul style="list-style-type: none"> Can the Overall Goal be achieved by fulfilling the Project Purpose and Important Assumptions? 	<ul style="list-style-type: none"> Review of information and Evaluation Sheet by JET Interview to Director General and Chief Advisor of JET

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
	Project Purpose?		Goal	<ul style="list-style-type: none"> • Possibility of fulfilling Project Purpose and Important Assumptions • Is the policy framework needed to achieve the Overall Goal feasible? • Is there any estrangement between the Project Purpose and the Overall Goal? 	
		6.2.2 Is appropriate mutual complementary system with the other donors or projects?	Is there any objective mutual cooperation?	<ul style="list-style-type: none"> • Achievement of collaboration and/or partnership with relevant agencies • Opinions of MAN Project⁵, WRIC⁶ 	Interviews to WRIC, MAN Project, if necessary
	6.3 Are there any factors contributing to or impeding the achievement of the Overall Goal?		Stability of human resources Conditions for archiving Overall Goal	<ul style="list-style-type: none"> • Factors contributing to and impeding the achievement of the Overall Goal • Degree of appropriateness of Important Assumptions • Reference (Central Laboratory Plan • Possibility of merging SERC by GCEA • Operation policy of Mobile Lab 	ditto <ul style="list-style-type: none"> • Interview to Director General and Chief Advisor of JET • Interview to EoJ, JICA Syria
	6.4 Are there any ripple effects beneficial or detrimental to project?	6.4.1 Impact on economic and environmental policies	Is there the ripple effect?	<ul style="list-style-type: none"> • Impact and effect of environmental monitoring on policy and administration levels • JOCV's activities at FIRDOS⁷ • Negative Impact and effect on economy 	<ul style="list-style-type: none"> • Interview to JICA Syria • Interview to WRIC, JOCV, if necessary
		6.4.2 Is there any influence on Syria's economic development? 6.4.3 Are there any other influences?	Did the project incite any market failures?	<ul style="list-style-type: none"> • Impact and effect on women, ethnic groups and social classes 	ditto

⁵ Municipal Administration Modernization Project at Ministry of Local Administration and Environment financed by EC

⁶ Water Resource Information Centre, Ministry of Irrigation supported by Japanese Government (Grant Aid Project)

⁷ NGO, Fund for Integrated Rural Development of Syria

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
7 - Sustainability (prospects)	7.1 Are institutional framework and organizational capacity for environmental administration sufficient to sustain the project's effect?	7.1.1 Has the institutional framework for the implementation of environmental monitoring system been established at GCEA?	Is there a feasible, specific plan for the future?	<ul style="list-style-type: none"> Instructions for Law No.50 Implementation situation of National Environmental Action Plan 	<ul style="list-style-type: none"> Interview to JET Advisor of JET
		7.1.2 Is there prospect that organizational capacity of GCEA and DFEAs is strengthened in order to continue Environmental Monitoring?	Proposed environmental legal system and its perspectives	<ul style="list-style-type: none"> GCEA Annual Implementation Plan in accordance with Fiver Year Plan DFEAs Annual Implementation Plan 	ditto
		7.1.3 Is human resources who have appropriate background assigned kept stability at their positions?	Prospects of organizational capability	<ul style="list-style-type: none"> Prospect of CPs stability Mechanism of sustaining of environmental monitoring Prospect of mastering environmental monitoring techniques 	ditto
		7.1.4 Is budget for environmental monitoring disbursed continuously?	Evidence of the budget	<ul style="list-style-type: none"> Draft annual budget of GCEA Draft budget for laboratories 	ditto
		7.1.5 Can current affiliations with related organizations be maintained?	Outlook for sustainability of affiliations after the project	<ul style="list-style-type: none"> Mutual cooperation with relevant organizations (JOCV, WRIC, Chamber of Industry, etc.) Evaluation by JET 	ditto
	7.2 Is there sufficient technology to sustain the project's effects?	7.2.1 Can the counterparts acquire technology for environmental monitoring by the end of the project?	Can technology levels reach the level intended in the Outputs?	<ul style="list-style-type: none"> Testimony by JET Extent to which counterparts have currently acquired technology Outlook for final technology acquisition 	<ul style="list-style-type: none"> Interview to Director General and Chief Advisor of JET
		7.2.2 Can the counterparts publish the environmental monitoring result in each DFEA by the end of the project?	ditto		ditto

Items	Evaluation Question		Criteria and Method for Judgement	Required Data and Information	Information Source and Collection Methods (Interviews are conducted with JICA Expert Team and Counterparts in regards to all items)
	Question	Sub-question			
		7.2.3 Can the target DFEAs (4) carry out environmental public awareness and education by the end of the project?	ditto	ditto	ditto
	7.3 Can financial support to sustain the project's effect be assured?	7.3.1 Can a budget sufficient to sustain Lab be secured?	Feasibility of securing overall budget for future plan	• Budget of GCEA	• Interview to Director General and Chief Advisor of JET
		7.3.2 Is it possible to secure a budget to maintain the donated equipment?	ditto	• Estimated cost of maintaining equipment • Current status of maintenance costs	ditto
	7.4 Are there any other factors that would influence the project's sustainability?			• Evaluation by JET	• Interview to Director General and Chief Advisor of JET
<u>8. Necessity of Adjustments</u>	8.1 Is it possible to achieve the Project Purpose in the current conditions?		Changes in the target group		
	8.2 Is it necessary to adjust the input, activities and outputs?				
	8.3 Are there any new important assumptions that influence the project?				
	8.4 What issues must be remembered for the rest of the project period?				
	8.5 Existence of problems and issues	By Syrian Side		• Statements by Syrian side	
		By Japanese Side		• Statements by Syrian side	
		Measures to be taken		• Discussed measures	
	8.6 Necessity of amendment of PDM			•	