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## 1. 実施協議にむけての団長所感（現地事前評価調査終了時作成）

### (1) 地方行政・環境省の調整能力

地方行政・環境大臣は前クナイトラ県知事であり、環境担当の副大臣は環境省内で国連開発計画（UNDP）の砂漠化防止プログラムの責任者を務めていた人である。地方行政・環境省の幹部は地方環境局長を含めて、必ずしも環境行政の経験を有する人材が適正配置されていない状況にある。したがって今後プロジェクトの内容をさらに協働で詰めるにあたっては、全国の14支局長の積極的な参画が不可欠であるため、今後も地方行政・環境省が調整能力を発揮して地方環境局との連絡を密にとり、プロジェクトの実施に向けて本格的な取り組みを促す必要がある。

### (2) 国家企画庁（SPC）の関与

シリア側カウンターパート機関と協働で実施する本件プロジェクトを円滑に進めるためには、SPCの積極的な関与が必要となる。プロジェクトの開始段階からSPC代表が参画し、具体性を有する成果を得られるように、国際協力担当窓口機関の立場からの意見も大事にし、積極的な関与を促すべきである。

### (3) 協働による遂行の重要性

現地関係者との懇談ならびに現場視察を通じて、シリア側カウンターパート機関の代表者である大臣、副大臣からは、これまでの予備調査ならびに事前評価調査の段階において協議してきた項目については、プロジェクトを実現させるためにシリア側が討議議事録（R/D）署名に向けて準備する項目を、確実に準備してゆくとの意見が表明された。

シリア側カウンターパート機関の積極的な参画により、今後プロジェクトの実施に向けての準備態勢を主体的に整えていただき、その協働環境の醸成を基盤にしてJICA専門家チームが技術的な支援を行うという技術協力プロジェクト本来の望ましい形での協力が進められるように今後もフォローする必要がある。

## 2. 事前評価調査時の面談者リスト

### 付属資料2:面談者リスト

#### シリア側:

地方行政・環境省	Eng. Hilal Al-Atrash	Minister
	Eng. Imad Hassoun	Deputy Minister
	Eng. Erfan Ali	Director, System & plans Directorate
地方行政環境省環境総局	Eng. Khalid Al-Shar'a	Director, Land Safety Directorate
	Eng. Reem Abdrabbo	Director, Water Safety Directorate
	Eng. Manal Al-Sakka	Director, Environmental Impact Assessment Directorate/ Planning, Statistics and Follow-up
	Eng. Khalid Klali	Director, Climate Changes Directorate
	Dr. Nader Ghazi	Director, Chemical Safety Directorate
	Dr. Akram Darwish	Director, Biodiversity Directorate
	Abdulrazzak Safarjalani	Director, Pubic Awareness and information Directorate
ダマスカス地方環境局	Eng. Bassam Khair Beik	Director
	Eng. Wadia Joha	Deputy Director
ダマスカス郊外県地方環境局	Eng. Thaer Al-Dayf	Director
アレppo地方環境局	Eng. Mohammed Saeid Naffous	Director
	Eng. Elie Wasel	
ホムス地方環境局	Eng. Soliman Kalo	Director
	Mohammed Ali Al-Housain	Deputy director
ハマ地方環境局	Eng. Ali Al-Joaid	Director
ラタキア地方環境局	Eng. Lama Ahmad	Director
	Eng. Younis Al Raya	
デルゾール地方環境局	Eng. Reem Shahin	Director
イドリブ地方環境局	Eng. Mahmoud Taleb	
ハッサケ地方環境局	Eng. Raefa Esper	Director
スウェイダ地方環境局	Dr. Motasem Al-Abd	Director
ダラ地方環境局	Eng. Quaider Hamad	Director
タルトゥース地方環境局	Eng. Hasan Marjan	Director
クネイトラ地方環境局	Hamzeh Soliman	Director
地方行政環境省環境科学研究センター	Dr. Mahmoud Saleh Soliman	General Director
ダマスカス県庁	Dr. Eng. Bashar Al Mufti	Governor
	Dr. Eng. Meirna Soud	Member of Executive Bureau
ダマスカス郊外県	Eng. Younes Barghouth	Deputy Governor
	Dr. Naeim Shams Eddin	Member of Executive Bureau for Health and Environment
経済貿易省中央ラボラトリー	Dr. Ahmad Al-Khodr	Director
経済貿易省アレppoラボラトリー	Dr. Mohammad Dali	Director
工業省工業テスト研究センター	Dr. Eng. Mamdouh Al-Hariri	Deputy director
シリア標準化機構(SASMO)	Eng. Malek Abdulhamid	
灌漑省中央ラボラトリー	Dr. Mamoun malakani	Director of water pollution Struggle
灌漑省水資源情報センター	Dr. Bachar Faiad	Director
	ITO Kazuhisa	JICA専門家
	SUGIURA Noboru	プロジェクト調整員
ハース大学石油化学部	Dr. Ebrahim Reishah	Dean, Faculty of Chemical and Petrochemical Engineering
	Dr. Adnan J. Ghata	Dean, Director of Training and Development
	Dr. Eng. Taher Kaddar	Professor, Faculty of Textile
ダマスカス大学工学部	Dr. Farouk Adli	Professor (Former Minister of Environment)

ティッシュリオン大学海洋研究所 SSRC、HIAST、ERL 原子力エネルギー委員会 国家企画庁	Prof. Amir Ibrahim Dr. Marwan Demashki Dr. Yousef Meslmani Mr. Abdallah Dardari Mr. M. Bassam Al Sibai Eng. Omar Hamad Eng.Soliman Abbas Eng.Hassan Al Khalef	Dean(出張中) Director Director General Director (大臣) Deputy General Director(副大臣) Deputy General Director Director, Jbeseh Oil fields Directorate Head of Occupational Safety, Jbeseh Oil fields Directorate Director, Rmilan Oil Fields Directorate Deputy Minister
シリア石油公社	Eng.Nasr Allah Elias Dr.Eng.Nabil Al-Achraf Dr. Taher Kaddar Eng. Mohammed Dali	
住宅建設省 繊維研究所 商業省製品検査試験所(アレップ)		
マリーナ・リサーチ・センター 住宅建設省中央ラボ	Ms. Samar Ketiaar Dr. Abd Al naser Sa'ad Al Dein	PhD Student

援助機関:

EU ドイツ大使館	Vassilis Petrides Roland Seeger Heike M. Jope Dr.Manfred Hobler Harald Heidetmann	Institutional Reform Deputy Head of Mission Second Secretary BGR GTZ
UNDP	Fumiko Fukuoka Shaza Al-Jondi Mohammed Chakaki	Deputy Resident Representative Senior Programme Assistant Staff
ESCWA	Dr.Ahamed Gamal Attalla	Regional Environment Advisor

日本政府関係:

日本大使館	Kazusuke NAKAMICHI Takeshi OKUDA Koki OTSUKA	領事 二等書記官 二等書記官
JICAシリア事務所	Kazuhide NAGASAWA Shigeru OTAKE Naoki TAKECHI Dr.Bachar Ibrahim	所長 次長 Project Formulation Advisor Environment Sector Consultant


MINUTES OF MEETING  
BETWEEN  
JAPANESE PREPARATORY STUDY TEAM  
AND  
THE AUTHORITIES CONCERNED OF THE SYRIAN ARAB REPUBLIC  
ON  
JAPANESE TECHNICAL COOPERATION  
FOR  
THE "CAPACITY DEVELOPMENT ON ENVIRONMENTAL INSPECTION  
OF DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES"  
IN THE SYRIAN ARAB REPUBLIC

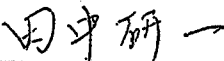
The Japanese Preparatory Study Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. TANAKA Kenichi, visited the Syrian Arab Republic (hereinafter referred to as "Syria") from 7th to 15th of February, 2004, and other members have been staying in Syria from 19th of January until 2nd of April, for the purpose of clarifying the framework of the technical cooperation program concerning the "Project for Capacity Development on Environmental Inspection of Directorates for Environmental Affairs in Governorates" (hereinafter referred to as "the Project") in Syria.

During its stay in Syria, the Team exchanged views and had a series of discussions including Project Cycle Management (PCM) workshop held on 11th and 12th of February with the Syrian authorities concerned with respect to desirable measures to be taken by both Governments for the effective implementation of the Project.


As a result of the discussions, the Syrian authorities concerned and the Team agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

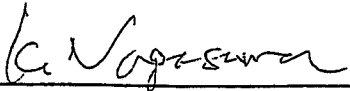
Damascus, February 15, 2004

  
Eng. Imad HASSOUN  
Deputy Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

  
Mr. TANAKA Kenichi  
Leader  
Japanese Preparatory Study Team  
Japan International Cooperation Agency  
Japan

Witnessed by

  
Eng. Hilal AL-ATRASH  
Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

  
Mr. NAGASAWA Kazuhide  
Resident Representative  
JICA Syria Office  
Japan International Cooperation Agency  
Japan

## THE ATTACHED DOCUMENT

### 1. The Title of the Project

The title of the Project shall be referred to as "Capacity Development on Environmental Inspection of Directorates for Environmental Affairs in Governorates".

### 2. The Overall Goal

The overall goal for the Project would be "Environmental monitoring system is efficiently implemented by all of the Directorates for Environmental Affairs in Governorates and thus to contribute to the government's environmental administration".

### 3. The Project Purpose

The Project Purpose would be "Regular monitoring of required parameters for water and air quality is introduced and conducted at target Directorates for Environmental Affairs in Governorates."

### 4. The Expected Output

The expected Output would be as follows:

- 1) "Technical level of laboratory staff concerning environmental sampling and analysis is improved."
- 2) "Laboratories are properly managed by laboratory staff themselves."
- 3) "Environmental analysis data is accumulated and suitably managed.", and
- 4) "Laboratory staff is able to formulate an environmental monitoring plan specifying required parameters."

### 5. The Implementing Agency

The Project shall be implemented at the Ministry of Local Administration and Environment and target Governorates.

### 6. Duration of the Project

The duration of the Japanese Technical Cooperation for the Project and the date of the commencement of the Project will be discussed between the Syrian and the Japanese sides in the end of March 2004, in consideration of the timing of input of the equipment, assignment of counterpart personnel, and

dispatch of experts.

#### 7. The scope and the field of technical cooperation

The scope of technical cooperation would be environmental monitoring, analysis and information management. The field covered by the Project would be water quality, or water and air quality.

#### 8. Measures to be taken by the Syrian side

##### (1) Assignment of counterpart personnel

The Syrian side shall assign the counterpart personnel necessary for activities of the Project. The number of necessary counterpart personnel and their background will be discussed between the Syrian and the Japanese sides in the end of March 2004.

##### (2) Assignment of administrative personnel

The Syrian side shall assign the administrative personnel necessary for the smooth implementation of the Project.

##### (3) Project space and facilities

The Syrian side shall provide space and facilities necessary for the implementation of the Project, including electricity, water supply, air conditioning facilities, telecommunications, appropriate wastewater treatment plant, etc..

##### (4) Expenses necessary for the implementation of the Project

The Syrian side shall provide running expenses necessary for the implementation of the Project.

#### 9. Measures to be taken by the Japanese side

##### (1) Dispatch of the Team for the Project

The number and the fields of the experts will be discussed between the Syrian and the Japanese sides in the end of March 2004.

##### (2) Training of counterpart personnel

The contents of the training will be discussed between the Syrian and the Japanese sides in the end of March 2004.

##### (3) Provision of machinery and equipment related to the Project

The machinery and equipment necessary for the implementation of the Project will be provided within the budget allocated for the technical cooperation.

10. Project Management

Establishment of an entity which will steer the Project such as a steering committee for the Project will be discussed between the Syrian side and the Japanese side in the end of March 2004.

11. Project Design Matrix (PDM)

Based on the discussion in the PCM workshop for the Project which was held on 11th and 12th of February 2004, both sides confirmed the Draft of PDM shown in ANNEX 1 as a tentative implementation guideline for the scope of the Project. The draft of PDM will be revised through the discussions between the Syrian side and the Japanese side in the end of March 2004. (The attendants' list is shown in ANNEX-2.)

12. Plan of Operation for the Project Period

The Plan of Operation for the Project Period will be discussed between the Syrian and the Japanese sides in the end of March 2004.

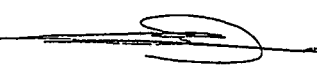

13. Record of Discussions (R/D)

When the Project is found viable and officially accepted by the Japanese Government, based on the outcome of the Preparatory Study Team, the implementation and detailed contents of the Japanese Technical Cooperation for the Project will be determined in the "Record of Discussions" (R/D) which will be signed between the Syrian authorities concerned and JICA Syria Office.

ANNEX-1 Tentative Project Design Matrix

ANNEX-2 List of Attendants for the PCM Workshop

(Cm)



**Project Design Matrix (PDM)**

Project Name: Capacity Development on Environmental Inspection of Directorates for Environmental Affairs in Governorates in Syrian Arab Republic Date of Issue: 12 February 2004  
 Target Area: Target Governorates (to be specified) Version No.: 1<sup>st</sup> Preparatory Study Version  
 Target Group: Inhabitants of the Target Governorates Duration: 3 years

Narrative Summary		Objectively Verifiable Indicators		Means of Verification		Important Assumptions	
<p><b>Overall Goal</b>                      In all the Directorates for Environmental Affairs in Governorates:                      Environmental monitoring system is efficiently implemented and thus to contribute to the enhancement of the government's environmental administration.</p>	<p>1. All the Directorates for Environmental Affairs in Governorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves by five years after the completion of the project.                      2. Results of the monitoring is issued and opened to the public as an annual report by five years after the completion of the project.</p>	<p>1. Monitoring records kept by the Decision Supporting Unit of MOLAE.                      2. Annual report issued by the Decision Supporting Unit of MOLAE.</p>	<p>The Syrian government keeps its policy support for environmental protection.</p>				
<p><b>Project Purpose</b>                      In the target Directorates for Environmental Affairs in Governorates:                      Regular monitoring of required parameters for water and air quality is introduced and conducted in the target Directorates for Environmental Affairs in Governorates.</p>	<p>1. The target Directorates for Environmental Affairs in Governorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves by three years after the commencement of the project.                      2. Results of the monitoring is issued and opened to the public as an annual report by three years after the commencement of the project.</p>	<p>1. Monitoring records kept by the target Directorates for Environmental Affairs in Governorates.                      2. Annual report issued by the target Directorates for Environmental Affairs in Governorates</p>	<p>The Syrian government keeps its policy support to provide staff, equipment and budget to the rest of the Directorates for Environmental Affairs in Governorates.</p>				
<p><b>Outputs</b>                      In the target Directorates for Environmental Affairs in Governorates:                      1. Technical level of laboratory staff concerning environmental sampling and analysis is improved.                      2. Laboratories are properly managed by laboratory staff themselves.</p>	<p>1-1 All laboratory staff reach the grade B* level on monitoring items in charge by three years after the commencement of the project.                      1-2 xx %* of laboratory staff reach the grade A* level on monitoring items in charge by three years after the commencement of the project.                      2-1 Equipment in laboratories are properly operated and maintained according to the o/m manual compiled by the laboratory staff by three years after the commencement of the project.                      2-2 Spare parts and consumable materials management system is established by three years after the commencement of the project.                      2-3 Chemical reagents are properly stored and cared according to the o/m manual by three years after the commencement of the project.                      2-4 Liquid and solid wastes from laboratory are properly treated according to the o/m manual by three years after the commencement of the project.                      2-5 Each Directorate prepares its budget plan for regular monitoring.                      3.1 Monitoring data collected and analyzed are accumulated in the monitoring records by three years after the commencement of the project.                      4.1 Laboratory operation and maintenance manual (o/m manual) is formulated as a standard for all laboratories at Directorate level by one year after the commencement of the project.                      4.2 Environmental monitoring plan specifying parameters and monitoring sites is formulated in respective laboratory by one year after the commencement of the project.                      4.3 Existing environmental monitoring guideline is integrated into a standard for all laboratories by three years after the commencement of the project.</p>	<p>1-1 Training record                      1-2 Training record                      2-1 O/m record                      2-2 Spare parts &amp; suppliers list                      2-3 O/m record                      2-4 O/m record                      2-5 Annual budget of Directorates                      3-1 Data file management record                      4-1 Environmental monitoring plan                      4-2 Monitoring guideline                      4-3 Laboratory operation and maintenance manual (o/m manual)</p>	<p>Execution instructions are promulgated.</p>				
<p>3. Environmental analysis data is accumulated and properly managed.                      4. Laboratory staff is able to formulate an environmental monitoring plan specifying parameters required.</p>							

*Handwritten signature/initials*

Activities	Narrative Summary	Inputs	Important Assumptions
1.1	Training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.	<u>Syrian Side Inputs</u> (1) Land, building, laboratories, office space and other necessary facilities for the project. (2) Assignment of counterparts and administrative personnel. (3) Running expenses for the implementation of the project.	Laboratory staffs trained by the project stay in laboratories and keep working on the environmental monitoring.
1.2	Hands-on trainings at sampling, pretreatment, analysis, interpretation, evaluation, data filing and reporting.	<u>Japanese Side Inputs</u> (1) Dispatch of experts team (2) Provision of equipment (3) Counterparts training in Japan and/or in other country	Agents/manufactures timely provide spare parts for the equipment.
1.3	On-site on-the-job (OJT) training in sampling, analysis, interpretation, evaluation, data filing and reporting.		
2.1	<u>Compilation of the laboratory operation and maintenance (o/m) manual for equipment operation and maintenance, spare parts preparation, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</u>		
2.2	Hands-on trainings at equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.		
2.3	Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.		
3.1	Design the monitoring record formats for laboratories and for the Decision Supporting Unit in the MOLAE.		
3.2	Compile monitoring records in each Directorate.		
3.3	Send the monitoring records from Directorates to the Decision Supporting Unit in the MOLAE.		
4.1	Conduct preliminary pollution source inventory surveys.		
4.2	Specify monitoring sites and their parameters.		
4.3	Formulate the <u>laboratory operation and maintenance manual (o/m manual).</u>		
4.4	Formulate the <u>environmental monitoring plan</u> specifying parameters and monitoring sites in respective laboratory.		
4.5	Provide necessary assistance and guidance to integrate the existing <u>environmental monitoring guideline</u> into a standard for all laboratories.		

Note: 1. \*Grade A (To be specified by the time of R/D signing.)  
2. \*xx % (To be specified by the time of R/D signing.)  
3. \*Grade B (To be specified by the time of R/D signing.)

Abbreviations: MOLAE: the Ministry of Local Administration and Environment  
o/m: operation and maintenance

## ANNEX-2

List of Attendants to the PCM workshop of  
the Preparatory study on Capacity Building in Environmental Inspection for  
Directorates of Environment in the Governorates 11-12 Feb. 2004

Total Attendants: 67

No.	Name	Position	Organization	Remarks
1	Ahmad Samer Alamer	Member of executive Bearue	Dara Governorate	
2	Mahmoud Taleb	Director of Environment	Edlib Governorate	
3	Adel Habib	staff	Directorate of Environment in Lattakia	
4	Wael Jdid	staff	Directorate of Environments in Lattakia	
5	Raefa Esper	Director of Environment	Al Hasakeh Governorate	
6	Dawood Korkis	staff	Directorate of Environment in Alhaskeh	
7	Nizar Dandi	staff	Directorate of Environment in Tartous	Chemist
8	Mohammed Amin Khalaf	staff	Directorate of Environment in Deir Ezzor	
9	Dr. Motasem Alabed	Director of Environment	Al-sewida Governorate	
10	Hamed Mekdad	Director of Laboratory	Ministry of Housing and construction	
11	Quider Ali Hamad	Director of Environment	Dara Governorate	
12	Loai Kawas	Deputy director of communicable diseases	Ministry of Health	
13	Ali Aljoaied	Director of Environment	Hama Governorate	
14	Ahmad Jarkhabazi	Member of executive Bearue	Hama Governorate	
15	Mohammed taki Alyousef	Member of executive Bearue	Edlib Governorate	
16	Bassam Khir biek	Director of Environment	Damascus Governorate	
17	Mohammed Eiad Malohi	Member of executive Bearue	Homs Governorate	
18	Dr. Marwan Demashki	Director of Environmental Laboratory	SSRC, HIAST, ERL.	
19	Adnan Salim	Member of executive Bearue	Tartous Governorate	
20	Ahmad Ahmad	staff	Directorate of Environment in Aleppo	
21	Mahmoud Esmail	staff	Directorate of Environment in Aleppo	
22	Hassan Morgan	Director of Environment	Tartous Governorate	
23	Basema Madoar	Member	Syria for Environment	NGO
24	Thaer Aldayef	Director of Environment	Damascus Countryside Governorate	
25	Moneer Moammar	Journalist	Syrian Arab News Agency SANA	
26	Hamzeh Soliman	Director of Environment	Al-Qunaitera	

No.	Name	Position	Organization	Remarks
			Governorate	
27	Ali Al-Ziab	Member of executive Bearue	Al-Qunaitera Governorate	
28	Abdull Razzak Safarjalani	Director of training, awareness and media	Ministry of local administration and Environment	
29	Nader Ghazi	staff	Ministry of local administration and Environment	
30	Khalid Al-Shar'	Director of land safety	Ministry of local administration and Environment	
31	Hasan Yousef	staff	Directorate of Environment in Hama	
32	Reem Qunbor	staff	Directorate of Environment in Hama	
33	Manal Al-sakka	Director of EIA	Ministry of local administration and Environment	
34	Rola Jabbor	staff	Ministry of local administration and Environment	EIA Directorate
35	Samah Reslan	staff	Ministry of local administration and Environment	EIA Directorate
36	Jamal Ayyash	staff	Technical Bearue in Dara Governorate	
37	Reem Abed Rabbo	Director of Water Safety	Ministry of local administration and Environment	
38	Lamis Sofani	staff	Ministry of local administration and Environment	Water Safety Directorate
39	Ahmad Khesara	staff	Ministry of local administration and Environment	Directorate of Climate Changes
40	Adib Al- Masri	staff	Ministry of local administration and Environment	Directorate of Chemical Safety
41	Farouk Aletr	staff	Ministry of local administration and Environment	Directorate of Chemical Safety
42	Mamoun Malakani	Director of water pollution struggle	Ministry of Irrigation	
43	Reham Agha	staff	Deir Ezzor Governorate	
44	Mahmoud Karim	Director of Communicable diseases	Ministry of Health	
45	Entesar Mardini	Director of Environment	Ministry of Housing and construction	
46	Wadeia Joha	Deputy Director of Environment	Damascus Governorate	
47	Malek Abdul Hamid	staff	SASMO, Ministry of Industry	
48	Fadia Zeino	staff	Ministry of Industry	
49	Ali Salameh	staff	ESRC	
50	Ali Eisa	staff	ESRC	
51	Nada Moalla	staff	Ministry of Transport	Directorates of Studies

No.	Name	Position	Organization	Remarks
52	Mohammed Alhariri	staff	Directorate of Environment in Dara	
53	Faez Al-Matar	Member of executive Bearue	Al-Rakka Governorate	
54	Bayan Al-Abrach	NGO	Environment Protection and Sustainable Development	
55	Soliman Kalo	Director of Environment	Homs Governorate	
56	Hanan Naffoukh	staff	Directorate of Environment in Homs	
57	Sana'a Al-Mansour	staff	Directorate of Environment in Homs	
58	Nazira Asad	Journalist	Teshreen Newspaper	
59	Abdullah Abo Zakhm	Professor	Faculty of agriculture-Damascus University	
60	Rihan Khattab	staff	Ministry of Transport	
61	Dr.Misbah Al-Ghali	Director of public Hygiene	Ministry of Health	
62	Sohila Botrous	staff	Directorate of Environment in Tartous	
63	Ayman Al-Sha'ar	staff	Directorate of Environment in Al-sewida	
64	Mofeed Amer	Member of executive Bearue	Al-Sewida Governorate	
65	Abdull Ghani Maolana	staff	SSRC, HIAST, ERL.	
66	Emad Hassoun	Deputy Minister	Ministry of local administration and Environment	
67	Mohammed Saeid Naffous	Director of Environment	Aleppo Governorate	

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MINUTES OF MEETING  
BETWEEN JAPANESE PREPARATORY STUDY TEAM  
AND  
THE AUTHORITIES CONCERNED OF THE SYRIAN ARAB REPUBLIC  
ON  
JAPANESE TECHNICAL COOPERATION  
FOR THE PROJECT FOR  
"CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING  
AT DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES"  
IN THE SYRIAN ARAB REPUBLIC

The Japanese Preparatory Study Team (hereinafter referred to as "the Team") organized by the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. TANAKA Kenichi, visited the Syrian Arab Republic (hereinafter referred to as "Syria") from 15th to 26th of March, 2004, and other members have been staying in Syria from 19th of January until 2nd of April, for the purpose of clarifying the framework of the technical cooperation program concerning the "Project for Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates" (hereinafter referred to as "the Project") in Syria.

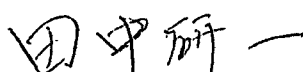
During its stay in Syria, the Team exchanged views and had a series of discussions with respect to desirable measures to be taken by both Governments for the effective implementation of the Project.

As a result of the discussions, the Syrian authorities concerned and the Team agreed to recommend to their respective Governments the matters referred to in the document attached hereto.

Damascus, March 24, 2004




Eng. Imad HASSOUN  
Deputy Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

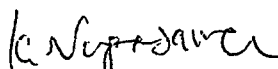


Mr. TANAKA Kenichi  
Leader  
Japanese Preparatory Study Team  
Japan International Cooperation Agency  
Japan

Witnessed by



Eng. Hilal Al-ATRASH  
Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic



Mr. NAGASAWA Kazuhide  
Resident Representative  
JICA Syria Office  
Japan International Cooperation Agency  
Japan

## THE ATTACHED DOCUMENT

### Abbreviation:

MOLAE: Ministry of Local Administration and Environment

GCEA: General Council for Environmental Affairs, MOLAE

DFEA: Directorate for Environmental Affairs in Governorate(s), GCEA

HIAST: Higher Institute for Applied Science and Technology

AEC: Atomic Energy Commission

### 1. Project Title:

The Project title shall be referred to as the Project for "Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates".

### 2. The scope and the field of technical cooperation

The scope of technical cooperation would be on capacity building of environmental monitoring, environmental education, and data management in the field of water and air quality.

### 3. Implementing organization

Implementing organization shall be GCEA and DFEAs. The details are as follows:

#### (1) water quality

-basic analysis level (14 parameters) : 14 DFEAs

-chemical and biological analysis level (including heavy metal analysis) (30 parameters) :  
1 DFEA (Damascus)

#### (2) air quality

-manual sampling level (5 parameters) :3 DFEAs (Damascus, Aleppo, and Homs)

-ANNEX-1 shows details about parameters.

### 4. Tentative Plan of Operation

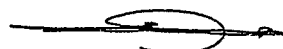
Tentative Plan of Operation of the Project would be as follows:

(1) water quality the first year: basic analysis level

the second year: chemical and biological analysis level

the third year: heavy metal analysis level

(2) air quality the second year: manual sampling level



the third year: Pb analysis

-Depending on performance of the Project, the activities after second year shall be reconsidered.

-Necessary equipment for the activities after the second year shall be decided through discussion between the Syrian Side and Japanese experts.

-In case that the Syrian side prepare the budget to purchase the necessary equipment for chemical and biological analysis for water quality and air quality analysis, number of DFEAs which implement these analysis would be increased.

#### 5. Duration of the Project:

The duration of the Japanese Technical Cooperation for the Project shall be 3 years. Initiation date would be decided in consideration of the timing of input of the equipment, assignment of counterpart personnel, and dispatch of experts.

#### 6. Measures to be taken by the Syrian side

##### (1) Assignment of Counterpart personnel

Both sides agreed the number of necessary counterpart personnel and their background as shown in ANNEX-2.

##### 1) For DFEAs which implement basic analysis for water quality

: 3 chemists per DFEA

##### 2) For the DFEA which implements chemical and biological analysis for water quality

: 3 chemical engineers

(in addition to the 3 chemists mentioned in 1))

##### 3) For the DFEAs which implement air quality analysis


: 2 chemists per DFEA

(in addition to the 3 chemists mentioned in 1))

-The term "Chemist" includes chemical engineer, environmental engineer, and agricultural engineer.

##### 4) Persons in charge of Data management : 1 personnel per DFEA

2 personnel from GCEA





Requirement: at least to have knowledge to handle basic applications such as word processor and spread sheet.

5) Persons in charge of Environmental Education

: 6 personnel or more (including 2 personnel from GCEA)

(2) Project space and facilities

The Syrian side shall provide space and facilities necessary for the implementation of the Project, including followings;

<for 14 DFEAs>

- 1) refurbishment for stable supply of electricity and water, including automatic voltage regulator and water softener
- 2) electricity supply for laboratories
- 3) water supply for laboratories
- 4) air conditioning facilities for laboratories
- 5) adequate ventilation for laboratories
- 6) telecommunication
- 7) laboratory waste (liquid and solid) treatment measures
- 8) consumable supply for laboratories and equipment such as chemical reagents and gases.
- 9) sufficient space as an office for the Project team at GCEA, MOLAE
- 10) travel allowance for attendants of training, committee, workshops and seminars

<for DFEA for chemical and biological analysis for water quality>

- 11) adequate laboratory room which meets design standard in consideration of chemical and biological analysis
- 12) generator for laboratory

\*Note: The Japanese side requested that Syrian side shall provide vehicles for sampling at 14 DFEAs, although the Syrian side explained difficulty to purchase necessary vehicles due to governmental procurement mechanism. This matter remains to be discussed further.



## 7. Measures to be taken by the Japanese side

Measures to be taken by the Japanese side shall be decided at JICA headquarter, based on the survey by the Team, within the budget allocated for the technical cooperation.

### (1) Dispatch of the JICA Experts Team for the Project

Fields to be covered by the Japanese experts are as follows:

- 1) water quality analysis;
- 2) air quality analysis;
- 3) environmental management;
- 4) environmental education; and
- 5) data management.

### (2) Training of counterpart personnel

Training is basically held as in-country. The details are shown in ANNEX-3.

Training held in Japan or third countries shall be discussed when necessity arises.

### (3) Provision of equipment related to the Project

Tentative list of equipment for sampling and analysis is shown in ANNEX-4. Both sides confirmed that the equipment should be utilized to achieve the Project purpose.

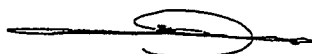
## 8. Project Management

The Syrian side is basically responsible for progress of the Project. Important issue shall be decided by agreement between the Syrian and Japanese sides. ANNEX-5 shows tentative chart for project management.

(1) Project Manager: Deputy Minister for environmental affairs of MOLAE, who is in charge of overall activities of the Project.

(2) Project Directors for sectors in charge: to be engaged in the technical and managerial matters in the implementation of the Project

- 1) for basic analysis for water quality: Director of Directorate for Water Safety
- 2) for chemical and biological analysis for water quality: Director of Directorate for Water Safety and Chemical Safety
- 3) for air quality analysis: Director of Directorate for Climate Change
- 4) for environmental education: Director of Directorate for Training and Environmental



Awareness

- 5) for data management: Director of Information and Systems
- (3) Project Sub-site Directors: Directors of DFEAs
- (4) The Japanese experts are to give necessary advice to Project Manager, Project Directors and Project Sub-site Directors.
- (5) Steering Committee and Technical Committee are to be established to ensure smooth and effective implementation of the Project.

9. Steering Committee

(1) Functions

The Steering Committee shall be held at least once a year and whenever necessity arises in order to fulfill the following functions:

- 1) To formulate the annual operational work plan of the Project based on the Tentative Schedule of Implementation within the framework of the "Record of Discussions" (R/D).
- 2) To review the result of the annual operational work plan and the progress of the Project,
- 3) To review and exchange opinions on major issues that arises during the implementation of the Project.

(2) Chairperson and Members of Committee

Minister of Ministry of Local Administration and Environment would be chairperson.

1) Syrian side:

- a) Minister of MOLAE
- b) Deputy Minister for environmental affairs, MOLAE
- c) General Director of GCEA, MOLAE
- d) Governor of Damascus
- e) Person in charge, Department for Environment, Ministry of Irrigation
- f) Person in charge, Department for Environment, Ministry of Housing and Construction
- g) Person in charge, Department for Environment, Ministry of Industry
- h) Person in charge, Department for Environment, Ministry of Transport
- i) Person in charge, Department for Environment, Ministry of Health

2) Japanese side

A handwritten signature consisting of a long horizontal line with a loop at the end, followed by the initials 'DP' written in a stylized, cursive font.

- a) JICA Experts team
- b) Resident representative, JICA Syria Office
- c) Personnel(s) dispatched from JICA (if necessary)

Note: Official(s) of the Embassy of Japan may attend the Committee sessions as observer(s).

## 10. Technical Committee

### (1) Functions

The Technical Committee shall be held at least quarterly and whenever necessity arises in order to fulfill the following functions:

- 1) To formulate the monthly operational work plan and contents of activities of the Project in line with the annual operational work plan of the Project;
- 2) To review the progress of the Project as well as the operational work plan;
- 3) To evaluate the achievement of the objectives; and
- 4) To exchange views on issues arising from or in connection with the Project.

### (2) Chairperson and Members

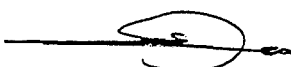
Project Manager would be the Chairperson. Chairman would invite appropriate members from the following members in accordance with the topics to be discussed at the regarding committee.

#### 1) Syrian side

- a) Deputy Minister for environmental affairs, MOLAE
- b) General Director of GCEA, MOLAE
- c) Directors of 6 Directorates, GCEA, MOLAE; Water Safety; Climate Change; Chemical Safety; Training and Environmental Awareness; Information and Systems; and Planning and Follow-up
- d) Directors of 14 DFEAs
- e) Director of Environmental Research Laboratory, HIAST
- f) Person in charge, Atomic Energy Commission
- g) Person in charge, Central Laboratory, Ministry of Irrigation
- h) Person in charge, Central Laboratory, Ministry of Economy and Trade

#### 2) Japanese side

- a) JICA Experts Team
- b) Person in charge, from JICA Syria Office



## 11. Disclosure of achievement of the Project

Both sides agreed that the data and results of environmental analysis acquired through the Project activities shall be utilized by the Syrian authorities concerned and be reflected into annual report of GCEA. DFEAs are recommended to publish its own annual report to public.

Both sides agreed that public awareness is one of the most important aspects to promote environmental protection, and promotion of the public awareness is included in the Project input, for example, the persons in charge of Public Awareness at all the DFEAs who are already assigned would cooperate with experts dispatched by the Japanese side.

## 12. Record of Discussions (R/D)

When the Project is found viable and officially accepted by the Japanese Government, based on the outcome of the Team, the implementation and detailed contents of the Japanese Technical Cooperation for the Project shall be determined in the "Record of Discussions" (R/D) which would be signed between the Syrian authorities concerned and JICA Syria Office.

The Syrian side shall have sufficient explanation to and discussion with the authorities concerned, such as governors of each Governorates, and Ministries, institutes and universities concerned. As preparation for the Project, the Syrian side shall provide the following information before R/D agreement:

- 1) List of Tentative Counterpart Personnel with name of all the counterparts, which satisfies the necessary number and experience indicated by the Japanese side.
- 2) List of Tentative members of Steering Committee and Technical Committee
- 3) Plan of Budget Allocation for the Project.

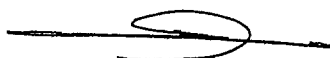
ANNEX-1: Parameters to be dealt within the Project

ANNEX-2: Table of number of necessary counterpart personnel

ANNEX-3: Tentative draft of contents training

ANNEX-4: Tentative list of equipment (for sampling and analysis)

ANNEX-5: Organization chart for project management





## ANNEX-1 List of parameters to be dealt within the Project : (2) AIR QUALITY

Parameters for ambient air quality listed on Law no.50 (12 parameters)

Category	Parameters for Basic Air Analysis		parameters not to be dealt
Parameters	Item	Method	Item
	Sox	Manual Sampling*	Benzene
	Nox	Manual Sampling*	PAH
	Pb	HV, LV Sampler	Trichloroethylene
	TSP	HV Sampler	Tetrachloroethylene
	PM10	LV Sampler	Dichloromethane
			Carbon mono oxide (CO)
			automatic continuous measurement
			O <sub>3</sub>
			automatic continuous measurement
Total Number	TOTAL: 5 parameters		TOTAL: 7 parameters

\*:"Manual sampling" means sampling method using air pump, gas meter, impinger, and tubes.




## ANNEX-3 Tentative draft of contents of training

### Training Programme

1. Basic Items of Environment
  - 1) What is environment?
  - 2) Water quality degradation and its indicators (Water quality standards)
  - 3) Air quality degradation and its indicators (Air quality standard)
  - 4) Environmental health
  - 5) Chemical substances and environment
  - 6) Wastes and environment
  - 7) Environmental Administration and environmental Standards
  
2. Environmental Monitoring
  - 1) Selection of sampling points and sampling
  - 2) Frequency of environmental monitoring
  - 3) Methods of basic water quality test
  - 4) Basic chemical Analysis
  - 5) Chemical Analysis (Heavy metals)
  - 6) Safety measures and laboratory waste disposal at laboratory
  
3. Data management
  - 1) The result of environmental monitoring and evaluation
  - 2) Monitoring data and application for GIS and etc.
  - 3) How to compile the environmental monitoring report?
  
4. Environmental Education
  - 1) Public awareness methods and materials

### Training method

In-country training shall be carried out in consideration of Syrian resources at other related agencies.

### Lecturers for the training

- 1) Environmental Research Laboratory, HIAST
- 2) AEC
- 3) Universities
- 4) JICA Experts Team
- 5) Others





ANNEX-2 :Number of Necessary Counterpart Personnel

Requirement	Basic Water Quality Analysis Chemists	Chemical and Biological Analysis (including heavy metal analysis) Chemical Engineers	Air Quality Analysis Chemists	Data management more than university graduate	Environmental Education more than university graduate	total
GCEA	1	1	1	2	2	7
1. Damascus	3	3	2	1		9
2. Damascus Rural	3			1		4
3. Aleppo	3		2	1		6
4. Homs	3		2	1		6
5. Hama	3			1		4
6. Lattakia	3			1		4
7. Deir-ez-Zor	3			1		4
8. Idleb	3			1		4
9. Al-Hasakeh	3			1		4
10. Al-Rakka	3			1		4
11. Al-Sweida	3			1		4
12. Daraa	3			1		4
13. Tartous	3			1		4
14. Quneitra	3			1		4
Total	43	4	7	16	6	76*

Note:

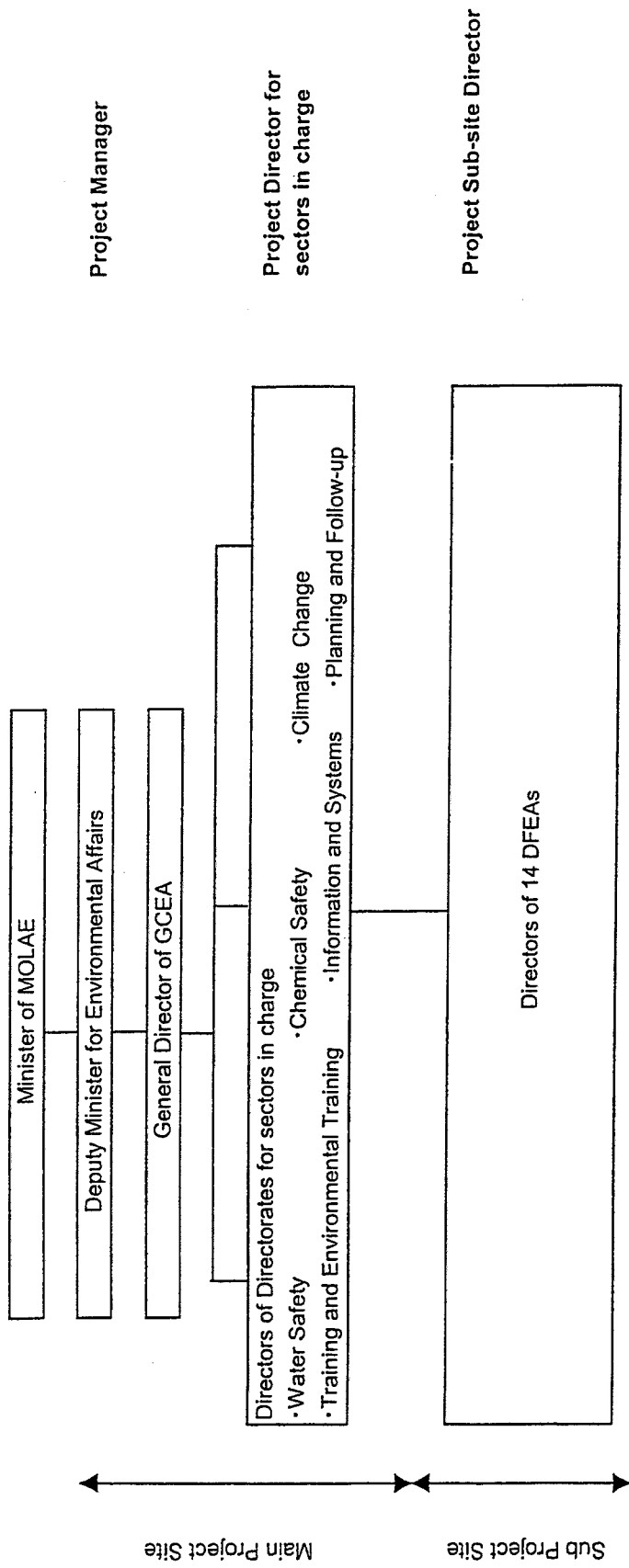
- 1) The term "Chemist" includes chemical engineer, environmental engineer, and agricultural engineer. For the DFEA for chemical and biological analysis, chemical engineers are necessary as counterpart personnel because for advanced analysis more knowledge on chemistry is necessary.
- 2) for personnel in charge of data management, the requirement is to have basic knowledge to handle basic application such as wordprocessor and spread sheet.
- 3) \* for Engineers in charge of Environmental Education, Syrian and Japanese sides agreed that 6 counterpart personnel are necessary in total, although the Directorates to which the counterpart personnel would be assigned are not identified yet.

## ANNEX-4 Tentative List of Equipment ( for Sampling & Analysis)

Equipment for Basic Water Analysis	
No.	Item
1	Portable Colorimeter
2	Portable pH meter
3	Portable EC, TDS meter
4	Portable DO meter
5	COD Reactor
6	Portable Turbidity meter
7	Digital Titrator
8	Semi-micro analysis balance
9	Water distillation unit
10	Incubator
11	Glassware set
Equipment for Chemical & Biological Water Analysis	
1	UV/VIS spectrophotometer
2	Analysis balance
3	Micro analysis balance
4	Balance
5	Ion analyze
6	Laboratory Turbidity meter
7	Draft chamber with gas cleaning device
8	Draft chamber
9	Refrigerator
10	Locker for reagents
11	Water distillation equipment
12	Ultrasonic cleaner
13	Middle temperature oven
14	Muffle furnace
15	Autoclave
16	Tabletop type centrifuge
17	Shaker
18	Hot plate
19	Multi magnetic stirrer
20	Rotary evaporator
21	Constant temperature water bath
22	Vacuum filtration unit
23	Auto-dry desiccators
24	Water sampler
25	Colony counter
26	Laboratory pH Meter
27	Laboratory EC Meter
28	Laboratory DO Meter
29	Glassware set




### Organization chart for Project management



## Tentative List of Equipment ( for Sampling & Analysis)

Equipment for Heavy Metal Analysis	
No.	Item
1	Atomic absorption spectrometer
2	Mercury analyzer
Equipment for Air Quality Analysis	
1	Pump
2	Gas meter
3	High volume air sampler
4	Low volume air sampler
5	UV/VIS Spectro Photometer
6	Glassware set
7	Micro Balance
8	Auto-dry desiccators
9	Refrigerator
10	Locker for reagents
11	Metrological device




**RECORD OF DISCUSSIONS BETWEEN  
THE AUTHORITIES CONCERNED OF  
THE GOVERNMENT OF THE SYRIAN ARAB REPUBLIC  
AND JAPAN INTERNATIONAL COOPERATION AGENCY  
ON JAPANESE TECHNICAL COOPERATION FOR THE PROJECT  
FOR "CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING  
AT DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES"**

Based on the Minutes of Meetings signed on March 24, 2004, between the Syrian authorities concerned and the Preparatory Study Team organized by Japan International Cooperation Agency (hereinafter referred to as "JICA"), Resident Representative of JICA Syria Office and the Syrian authorities concerned had a series of discussions on desirable measures to be taken by JICA and Syrian Government for the successful implementation of the Project for Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates (hereinafter referred to as "the Project").

As a result of the discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of the Syrian Arab Republic and the Government of Japan signed on July 18<sup>th</sup>, 1985 (hereinafter referred to as "the Agreement"), the undersigned Syrian authorities concerned and Resident Representative of JICA Syria Office agreed to recommend to their respective governments the matters referred to in the document attached hereto.

Damascus, 9, September, 2004



Eng. Imad HASSOUN  
Deputy Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

for 大竹 茂

Mr. NAGASAWA Kazuhide  
Resident Representative  
JICA Syria Office  
Japan International Cooperation Agency  
Japan

witnessed by

Eng. Hilal Al-ATRASH  
Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

Mr. Abdallah Dardari  
Head  
State Planning Commission  
The Syrian Arab Republic

## ATTACHED DOCUMENT

### I. COOPERATION BETWEEN BOTH GOVERNMENTS

1. The Government of the Syrian Arab Republic will implement the Project in cooperation with JICA.
2. The Project will be implemented in accordance with the Master Plan which is given in Annex-I.

### II. MEASURES TO BE TAKEN BY THE GOVERNMENT OF THE SYRIAN ARAB REPUBLIC

1. The Government of the Syrian Arab Republic will take necessary measures to ensure that the self-reliant operation of the project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project of all related authorities, beneficiary groups and institutions.
2. The Government of the Syrian Arab Republic will ensure that the technologies and knowledge acquired by the Syrian nationals as a result of Japanese technical cooperation will contribute to the sustainable development of the Syrian Arab Republic.
3. In accordance with the provisions of article IV and V of the Agreement, the Government of the Syrian Arab Republic will grant in the Syrian Arab Republic privileges, exemptions and benefits as listed in Annex-IV to the Japanese experts referred to in III-1 below and their families.
4. In accordance with the provisions of article VII of the Agreement, the Government of the Syrian Arab Republic will take necessary measures to receive and use the Equipment provided through JICA under III-2 below and equipment, machinery and materials carried in by the Japanese experts referred to in III-1 below.
5. The Government of the Syrian Arab Republic will take necessary measures to ensure that the knowledge and experience acquired by the Syrian personnel from technical training in Japan will be utilized effectively in the implementation of the Project.

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6. In accordance with the provisions of Article IV-(b) of the Agreement, the Government of the Syrian Arab Republic will provide the services of Syrian counterpart personnel and administrative personnel as listed in Annex IV.
7. In accordance with the provision of Article IV-(a) of the Agreement, the Government of the Syrian Arab Republic will provide the buildings and facilities as listed in Annex V.
8. In accordance with the laws and regulations in force in the Syrian Arab Republic, the Government of the Syrian Arab Republic will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under III-2 below.
9. In accordance with the laws and regulations in force in the Syrian Arab Republic, the Government of the Syrian Arab Republic will take necessary measures to meet the running expenses necessary for the implementation of the Project.

### III. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan and the provisions of article III of the Agreement, JICA will take, at its own expense, the following measures according to the normal procedures under the technical cooperation scheme.

#### 1. DISPATCH OF JAPANESE EXPERTS

JICA will provide the services of the Japanese experts as listed in Annex-II.

The provision of Article VIII of the Agreement will be applied to the above-mentioned experts.

#### 2. PROVISION OF MACHINERY AND EQUIPMENT

JICA will provide such machinery, equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in Annex-III.

The provisions of article VII-1 of the Agreement will be applied to the Equipment.

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#### IV. ADMINISTRATION OF THE PROJECT

1. General Director of General Commission for Environmental Affairs of Ministry of Local Administration and Environment (hereinafter referred to as "MOLAE"), as the Project Manager, will bear overall responsibility for the administration and implementation of the Project.
2. Directors of directorates concerned in MOLAE, as the Project Directors, will be responsible for the managerial and technical matters of the Project.
  - (1) for basic analysis for water quality: Director of Directorate for Water Safety
  - (2) for chemical and biological analysis for water quality: Director of Directorate for Water Safety and Chemical Safety
  - (3) for air quality analysis: Director of Directorate for Climate Change
  - (4) for environmental education: Director of Directorate for Training and Environmental Awareness
  - (5) for data management: Director of Information and Systems
  - (6) Project Sub-site Directors: Directors of Directorates for Environmental Affairs in Governorates (hereinafter referred to as "DFEA"s).
3. The JICA Experts Team will provide necessary recommendations and advice to the Project Manager and the Project Directors and Project Sub-site Directors on any matters pertaining to the implementation of the Project.
4. The JICA Experts will provide necessary technical guidance and advice to the Syrian counterpart personnel on technical matters pertaining to the implementation of the Project.
5. For the effective and successful implementation of technical cooperation for the Project, Steering Committee and Technical Committee will be established whose functions and composition are described in Annex-VII.

#### V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by the Syrian authorities concerned and JICA during the last six months of the cooperation term in order to examine the level of



achievement.

## **VI. CLAIMS AGAINST JICA EXPERTS**

In accordance with the provisions of article-VI of the Agreement, the Government of the Syrian Arab Republic undertakes to bear claims, if any arises, against the JICA experts engaged in technical cooperation for the Project resulting from, occurring in the course of, or otherwise connected with the discharge of their official functions in the Syrian Arab Republic except for those arising from the willful misconduct or gross negligence of the Japanese experts.

## **VII. MUTUAL CONSULTATION**

There will be mutual consultation between JICA and Syrian Arab Republic Government on any major issues arising from, or in connection with, this Attached Document.

## **VIII. MEASURES TO PROMOTE UNDERSTANDING AND SUPPORT FOR THE PROJECT**

For the purpose of promoting support for the Project among the people of the Syrian Arab Republic, the Government of the Syrian Arab Republic will take appropriate measures, such as web pages, to make the Project widely known to the people of the Syrian Arab Republic.

## **IX. TERM OF COOPERATION**

The duration of technical cooperation for the Project under this Attached Document will be three (3) years from January 15, 2005.

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**LIST OF ANNEX**

- ANNEX-I            MASTER PLAN**
- ANNEX-II           LIST OF JAPANESE EXPERTS**
- ANNEX-III          LIST OF MACHINERY AND EQUIPMENT**
- ANNEX-IV          LIST OF SYRIAN COUNTERPART AND ADMINISTRATIVE  
PERSONNEL**
- ANNEX-V            LIST OF LAND, BUILDING AND FACILITIES**
- ANNEX-VI          STEERING COMMITTEE AND TECHNICAL COMMITTEE**

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## ANNEX-I MASTER PLAN

### Overall Goal

Environmental monitoring system and publication of the monitoring results are introduced and disseminated to all the Directorates.

### Project Purpose

The target Directorates for Environmental Affairs in Governorates are capable to introduce and conduct regular monitoring of required parameters for water and air quality according to the monitoring plan formulated by the Directorates themselves and to implement activities for public awareness including publication of the monitoring results.

### Output of the Project

In the target Directorates for Environmental Affairs in Governorates:

1. Technical level of laboratory staff concerning environmental sampling and analysis is improved.
2. Laboratories are properly managed by laboratory staff themselves.
3. Environmental analysis data is accumulated and properly managed.
4. Laboratory staff is able to formulate an environmental monitoring plan specifying parameters required.
5. The results and data acquired by the Project is open to and shared with the citizens of the target Directorates. Staff of the target Directorates is able to formulate its action plan for public awareness and environmental education.

### Activities of the Project

- 1.1 To implement training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.
- 1.2 To implement hands-on trainings in sampling, pretreatment, analysis, interpretation, evaluation, data filing and reporting.
- 1.3 To implement on-site on-the-job (OJT) training in sampling, analysis, interpretation, evaluation, data filing and reporting.
- 2.1 To compile the laboratory operation and maintenance (o/m) manual for equipment operation and maintenance, spare parts preparation, reagents storage and

- treatment, liquid and solid laboratory wastes treatment and others.
- 2.2 To implement Hands-on trainings in equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.
  - 2.3 To Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.
- 
- 3.1 To design the monitoring record formats for laboratories and for General Commission of Environmental Affairs in the MOLAE.
  - 3.2 To compile monitoring records in each Directorate.
  - 3.3 To send the monitoring records from Directorates to General Commission of Environmental Affairs in the MOLAE.
- 
- 4.1 To conduct preliminary pollution source inventory surveys.
  - 4.2 To specify monitoring sites and their parameters.
  - 4.3 To formulate the laboratory operation and maintenance manual (o/m manual).
  - 4.4 To formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory.
  - 4.5 To provide necessary assistance and guidance to integrate the existing environmental monitoring guidelines into a standard for all laboratories.
- 
- 5.1 To conduct preliminary survey on activities regarding to environmental education and public awareness in each governorate
  - 5.2 To formulate textbooks, manuals, and pamphlets for environmental education.
  - 5.3 To implement seminars and workshops targeted for educational institutions and NGOs and so forth.
  - 5.4 To enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorate (ex. to implement periodical meeting)

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## ANNEX-II LIST OF JAPANESE EXPERTS

The experts, who will be in charge of the following fields, will be dispatched:

- 1) water quality analysis;
- 2) air quality analysis;
- 3) environmental management;
- 4) environmental education; and
- 5) data management.

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## ANNEX-III LIST OF MACHINERY AND EQUIPMENT

1. The following equipment, if necessary for the implementation of the Project, will be provided.

- (1) Equipment for basic water analysis.
- (2) Equipment for chemical and biological water analysis.
- (3) Equipment for heavy metal analysis
- (4) Equipment for air quality analysis

The above mentioned equipment is limited to those necessary for the technical cooperation activities by the Japanese experts.

2. Both sides confirmed the following points:

- (1) The equipment should be utilized to achieve the Project purpose.
- (2) The Syrian side will take necessary measures (such as drain, air duct, supply of water and electricity) for the installation of the equipment.
- (3) The Syrian side will provide the running expenses and consumable supplies (such as nitrogen or oxygen gas, chemical agent, and others) for the equipment.
- (4) Contents of the above mentioned equipment are shown in the Minutes of Meetings.
- (5) The detailed contents, specification and quantity of the above mentioned equipment will be decided, each Japanese fiscal year, within the budget allocated for the technical cooperation.

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ANNEX-IV LIST OF SYRIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL (Project administrative management counterpart)

No	Position in MOLAE	Project position
1	General Director of General Commission for Environmental Affairs	Project Manager
2	Director of Directorate for Water Safety	Director for basic analysis for water quality
3	Director of Directorate for Chemical Safety	Director for chemical and biological analysis
4	Director of Directorate for Climate Change	Director for air quality analysis
5	Director of Directorate for Training and Environmental Awareness	Director for environmental education
6	Director of Directorate for Information and Systems	Director for data management
7	Director of Directorate for Laboratories	Director for Laboratory management
8	Director of Damascus Directorate	Sub-site Director
9	Director of Damascus Countryside Directorate	Sub-site Director
10	Director of Aleppo Directorate	Sub-site Director
11	Director of Homs Directorate	Sub-site Director
12	Director of Hama Directorate	Sub-site Director
13	Director of Lattakia Directorate	Sub-site Director
14	Director of Dier-ez-Zor Directorate	Sub-site Director
15	Director of Idleb Directorate	Sub-site Director
16	Director of Hasakeh Directorate	Sub-site Director
17	Director of Raqqa Directorate	Sub-site Director
18	Director of Sweida Directorate	Sub-site Director
19	Director of Daraa Directorate	Sub-site Director
20	Director of Tartous Directorate	Sub-site Director
21	Director of Quneitra Directorate	Sub-site Director

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## ANNEX-V LIST OF LAND, BUILDINGS AND FACILITIES

The following will be prepared by the Government of the Syrian Arab Republic for the implementation of the Project.

1. The land, buildings and facilities necessary for the implementation of the Project, including electricity, water supply and air conditioning facilities. The principal facilities which are necessary to implement the Project are as follows:

- a. Lecture rooms according to needs
- b. Small Library in every directorate
- c. Japanese experts' room in GCEA and at least in Damascus DFEA
- d. Meeting room
- e. Space for the installation of the machinery and equipment in the Laboratory Rooms



## ANNEX-VI STEERING COMMITTEE AND TECHNICAL COMMITTEE

### 1. STEERING COMMITTEE

#### (1) Functions

The Steering Committee shall be held at least once a year and whenever necessity arises in order to fulfill the following functions:

- 1) To formulate the annual operational work plan of the Project based on the Tentative Schedule of Implementation within the framework of the "Record of Discussions" (R/D).
- 2) To review the result of the annual operational work plan and the progress of the Project,
- 3) To review and exchange opinions on major issues that arises during the implementation of the Project.

#### (2) Chairperson and Members of Committee

Minister of MOLAE would be chairperson.

##### 1) Syrian side:

No	Position
1	Minister of MOLAE
2	Deputy Minister for environmental affairs
3	General Director of GCEA, MOLAE
4	Director of Scientific and Environmental Researches Centre (SERC)
5	Governor of Damascus
6	Person in charge, Department for Environment, Ministry of Irrigation
7	Person in charge, Department for Environment, Ministry of Housing and Construction
8	Person in charge, Department for Environment, Ministry of Industry
9	Person in charge, Department for Environment, Ministry of Transport
10	Person in charge, Department for Environment, Ministry of Health

##### 2) Japanese side

- a) JICA Experts
- b) Resident representative, JICA Syria Office
- c) Personnel dispatched from JICA (if necessary)

Note: Official(s) of the Embassy of Japan may attend the Committee sessions as observer(s).

### 2. TECHNICAL COMMITTEE

#### (1) Functions

The Technical Committee shall be held at least quarterly and whenever necessity arises in order to fulfill the following functions:

- 1) To formulate the monthly operational work plan and contents of activities of the Project in

line with the annual operational work plan of the Project;

- 2) To review the progress of the Project as well as the operational work plan;
- 3) To evaluate the achievement of the objectives; and
- 4) To exchange views on issues arising from or in connection with the Project.

(2) Chairperson and Members

Project Manager would be the Chairperson. Chairman would invite appropriate members from the following members in accordance with the topics to be discussed at the regarding committee.

1) Syrian side

No	Position
1	General Director of GCEA, MOLAE
2	Director of Directorate for Water Safety
3	Director of Directorate for Chemical Safety
4	Director of Directorate for Climate Change
5	Director of Directorate for Training and Environmental Awareness
6	Director of Directorate for Information and Systems
7	Director of Directorate for Planning and Follow-up
8	Director of Directorate for Laboratories
9	Director of Damascus Directorate
10	Director of Damascus Countryside Directorate
11	Director of Aleppo Directorate
12	Director of Homs Directorate
13	Director of Hama Directorate
14	Director of Lattakia Directorate
15	Director of Dier-ez-Zor Directorate
16	Director of Idleb Directorate
17	Director of Hasakeh Directorate
18	Director of Raqqa Directorate
19	Director of Sweida Directorate
20	Director of Daraa Directorate
21	Director of Tartous Directorate
22	Director of Quneitra Directorate
23	Director of Environmental Research Laboratory, HIAST
24	Person in charge, Atomic Energy Commission
25	Person in charge, Central Laboratory, Ministry of Irrigation
26	Person in charge, Central Laboratory, Ministry of Economy and Trade

2) Japanese side

- a) JICA Experts
- b) Representative of JICA Syria Office

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**MINUTES OF MEETINGS BETWEEN  
THE AUTHORITIES CONCERNED OF  
THE GOVERNMENT OF THE SYRIAN ARAB REPUBLIC  
AND THE JAPAN INTERNATIONAL COOPERATION AGENCY  
ON JAPANESE TECHNICAL COOPERATION FOR THE PROJECT  
FOR "CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING  
AT DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES"**

The Japan International Cooperation Agency (hereinafter referred to as "JICA") had a series of discussions through Resident Representative of JICA in the Syrian Arab Republic with the Syrian authorities concerned on the formation of the Japanese technical cooperation program regarding the Project for Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates (hereinafter referred to as "the Project").

As a result of the discussions, the Syrian and Japanese side agreed to summarize the matters referred to in the document attached hereto as a supplement to the Record of Discussions (hereinafter referred to as "R/D").

Damascus, 9, September, 2004

*for 大竹 茂*

  
\_\_\_\_\_  
Eng. Imad HASSOUN  
Deputy Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

\_\_\_\_\_  
Mr. NAGASAWA Kazuhide  
Resident Representative  
JICA Syria Office  
Japan International Cooperation Agency  
Japan

**Witnessed by**

\_\_\_\_\_  
Eng. Hilal Al-ATRASH  
Minister  
Ministry of Local Administration and Environment  
The Syrian Arab Republic

\_\_\_\_\_  
Mr. Abdallah Dardari  
Head  
State Planning Commission  
The Syrian Arab Republic

**THE ATTACHED DOCUMENT**

The discussions between the Syrian authorities concerned and JICA were held in Damascus, the Syrian Arab Republic with the participants listed below:

#### **Syrian side**

Eng. Imad Hassoun – Deputy Minister of Local Administration and Environment

(hereinafter referred to as "MOLAE")

Dr. Akram Khorri – General Director of General Commission for Environmental Affairs,

MOLAE

Mr. Mohammad Bakri – Director of Planning and Follow up Directorate, MOLAE

#### **Japanese side**

Nagasawa Kazuhide – Resident Representative, JICA Syria Office

Naoki Takechi – Project Formulation Advisor, JICA Syria Office

Dr. Bachar Ibrahim – Consultant, JICA Syria Office

As a result of the discussions, the Syrian authorities concerned and JICA agreed on the contents of the documents attached.

### **1 Organization of the Project**

The both sides confirmed the Organization of the Project as shown in Annex-1.

### **2 Steering committee and technical committee of the Project**

Regarding to the Article II-5 of R/D, the both sides confirmed that the Project Steering Committee and Technical Committee would be established for the effective and successful implementation of technical cooperation for the Project. The function and members of the Project Steering Committee and Technical Committee are described in Annex-2.

### **3 List of the Counterparts of the Project**

Regarding to the Article II-6 of R/D, the both sides confirmed the list of the counterparts of the project as shown in Annex-3.

### **4 Budgetary Allocations**

Regarding to the Article II-7 of R/D, the both sides confirmed that the necessary budget for the activities of the Project should be allocated by the Syrian side for the smooth implementation of the Project. Syrian budgetary plan for the year 2005 is as shown in the

Annex-4. In addition to this, the Syrian side agreed to allocate the budget for electricity supply and consumable supply for laboratories and equipment such as chemical reagents and gases. Tentative budget estimation of the consumable supply for laboratories and equipment by the Japanese side is shown in the Annex-5.

#### **5 PROJECT DESIGN MATRIX (PDM)**

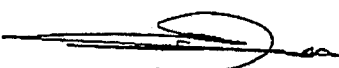
The Japanese side explained that the PDM is to be introduced for the efficient and effective management and evaluation of the Project. Both sides agreed to adopt the PDM to the Project as shown in the Annex-6. Tentative Plan of Operation based on PDM is shown in the Annex-7. The PDM will be finalized in the first Steering Committee meeting which is to be held shortly after the commencement of the Project.

#### **6 Disclosure of achievement of the Project**

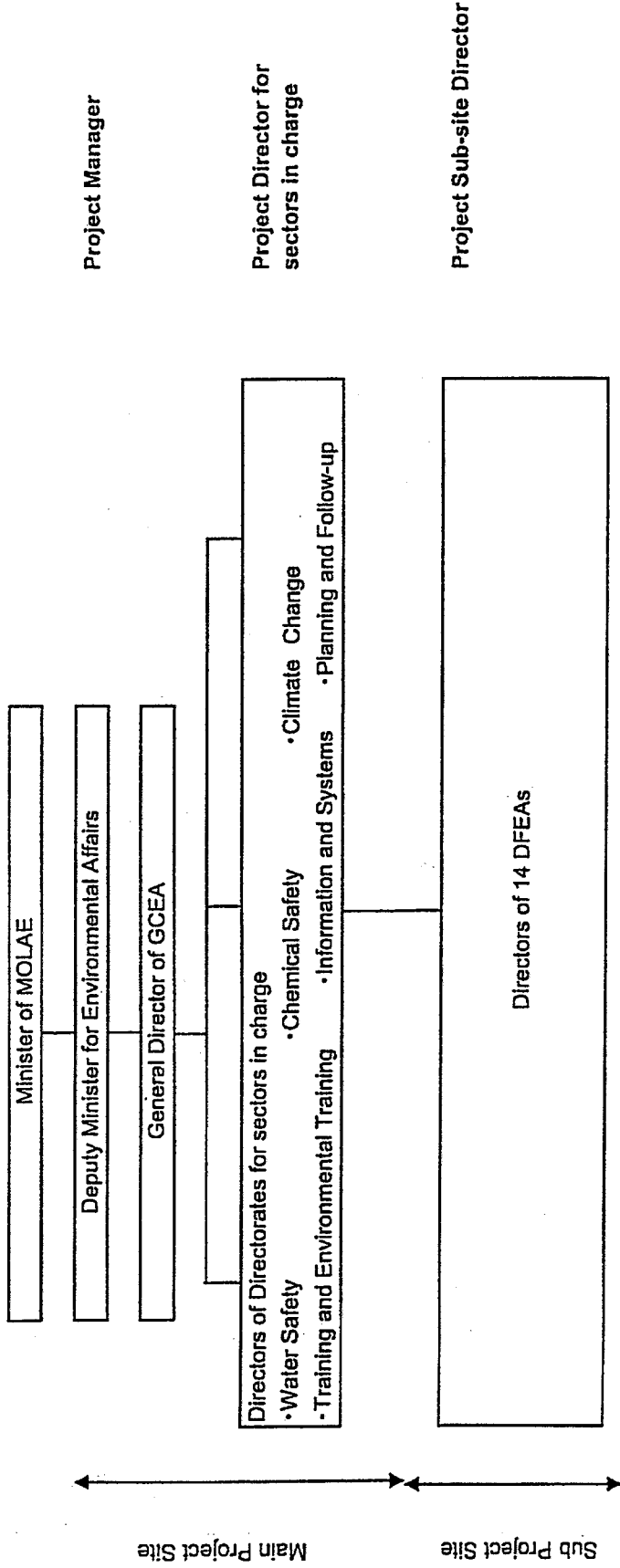
The both sides confirmed that data and results of the environmental analysis acquired through the Project activities shall be utilised by the Syrian authorities concerned and reflected into annual report of GCEA, and that GCEA and DFEAs shall publish its annual report to the public.

**LIST OF ANNEX**

- ANNEX 1                    ORGANIZATION CHART FOR PROJECT MANAGEMENT**
  
- ANNEX 2                    STEERING COMMITTEE and TECHNICAL COMMITTEE  
OF THE PROJECT**
  
- ANNEX 3                    LIST OF COUNTERPART OF THE PROJECT**
  
- ANNEX 4                    BUDGETARY PLAN FOR THE PROJECT**
  
- ANNEX 5                    TENTATIVE BUDGET ESTIMATION FOR REAGENTS AND FUEL  
COST**
  
- ANNEX 6                    PROJECT DESIGN MATRIX (PDM)**
  
- ANNEX 7                    TENTATIVE PLAN OF OPERATION**



# Organization chart for Project management



## ANNEX-2 CHAIRPERSON AND MEMBER OF STEERING COMMITTEE AND TECHNICAL COMMITTEE

### 1. STEERING COMMITTEE

Minister of MOLAE would be chairperson.

1) Syrian side:

No	Full name	Position
1	Eng. Helal Al-Atrash	Minister of MOLAE
2	Eng. Imad Hassoun	Deputy Minister for environmental affairs
3	Dr. Bashar Mufti	Governor of Damascus
4	Dr. Akram Khouri	General Director of GCEA, MOLAE
5	Dr. Mahmmoud Saleh Soleiman	Director of the Center of the Environmental Studies (CES)
6	Eng. Atef Deeb	Director of Combating Pollution of Public Water, Ministry of Irrigation
7	Eng. Shurahbeel Hijazi	Person in charge, Department for Environment, Ministry of Housing and Construction
8	Mrs. Fadia Zeno	Person in charge, Department for Environment, Ministry of Industry
9	Dr. Mahmmoud Al-Haffar	Person in charge, Department for Environment, Ministry of Transport
10	Dr. Mahmmoud Krayem	Person in charge, Department for Environment, Ministry of Health

2) Japanese side

- a) JICA Experts
- b) Resident representative, JICA Syria Office
- c) Personnel dispatched from JICA (if necessary)

Note: Official(s) of the Embassy of Japan may attend the Committee sessions as observer(s).

### 2. TECHNICAL COMMITTEE

Project Manager would be the Chairperson. Chairperson would invite appropriate members from the following members in accordance with the topics to be discussed at the regarding committee.





1) Syrian side

No	Full name	Position
1	Dr. Akram Khouri	General Director of GCEA, MOLAE
2	Eng. Reem Abed Raboh	Director of Directorate for Water Safety
3	Dr. Nader Ghazi	Director of Directorate for Chemical Safety
4	Eng. Khaled Kilali	Director of Directorate for Climate Change
5	Abdulrazzak Safarjalani	Director of Directorate for Awareness and Environmental information
6	Eng. Orfan Ali	Director of Directorate for Information and Systems
7	(Name will be confirmed soon.)	Director of Directorate for Laboratories
8	Mohammad Albakri	Director of Directorate for Planning and Follow-up
9	Eng. Bassam Khier Biek	Director of Damascus Directorate
10	Eng. Tha'er Dief	Director of Damascus Countryside Directorate
11	Mr. Mohammad AlJahed	Director of Dara'a Directorate
12	Mr. Hamzah Solyman	Director of Qunietra Directorate
13	Dr. Mo'tasem Al-Abed	Director of Suwaida'a Directorate
14	Ch. Solyman Kalo	Director of Homs Directorate
15	Ch. Ali Jwyed	Director of Hama Directorate
16	Eng. Mahmmoud Taleb	Director of Idleb Directorate
17	Eng. M. Saeed Naffous	Director of Aleppo Directorate

18	Eng. Lama Al-Ahmad	Director of Lattakia Directorate
19	Eng. Hasan Morjan	Director of Tartuous Directorate
20	Eng. Shams Aljasem	Director of Rakkah Directorate
21	Eng. Reem Shaheen	Director of Dier Azzour Directorate
22	Eng. Raeefeh Asper	Director of Hasakah Directorate
23	Dr. Marwan Dimashki	Director of Environmental Research Laboratory, HIAST
24	Dr. Mohammad Saeed Al-Masri	Person in charge, Atomic Energy Commission
25	Eng. Mayadah Kodmani	Head of the Central Laboratory, Ministry of Irrigation
26	Dr. Mohammad Rateb Salam	Person in charge, Director of Central Laboratory, Ministry of Economy and Trade

2) Japanese side

a) JICA Experts

b) Representative of JICA Syria Office



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ANNEX-3 LIST OF SYRIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

a) Project administrative management counterpart

No	Full name	Position in MOLAE	Project position
1	Dr. Akram Khouri	General Director of GCEA	Project Manager
2	Eng. Reem Abed Raboh	Director of Directorate for Water Safety	Director for basic analysis for water quality
3	Dr. Nader Ghazi	Director of Directorate for Chemical Safety	Director for chemical and biological analysis
4	Eng. Khaled Kilali	Director of Directorate for Climate Change	Director for air quality analysis
5	Abdulrazzak Safarjalani	Director of Directorate for Awareness and Environmental information	Director for environmental education
6	Eng. Orfan Ali	Director of Directorate for Information and Systems	Director for data management
7	Eng. Bassam Khier Biek	Director of Damascus Directorate	Sub-site Director
8	Eng. Tha'er Dief	Director of Damascus Countryside Directorate	Sub-site Director
9	Mr. Mohammad AlJahed	Director of Dara'a Directorate	Sub-site Director
10	Mr. Hamzah Solayman	Director of Qunietra Directorate	Sub-site Director
11	Dr. Mo'tasem Al-Abed	Director of Suwaida'a Directorate	Sub-site Director
12	Ch. Solayman Kalo	Director of Homs Directorate	Sub-site Director

13	Ch. Ali Jwyed	Director of Hama Directorate	Sub-site Director
14	Eng. Mahmmoud Taleb	Director of Idleb Directorate	Sub-site Director
15	Eng. M. Saeed Naffous	Director of Aleppo Directorate	Sub-site Director
16	Eng. Lama Al-Ahmad	Director of Lattakia Directorate	Sub-site Director
17	Eng. Hasan Morjan	Director of Tartuous Directorate	Sub-site Director
18	Eng. Shams ALjasem	Director of Rakkah Directorate	Sub-site Director
19	Eng. Reem Shaheen	Director of Dier Azzour Directorate	Sub-site Director
20	Eng. Raeefeh Asper	Director of Hasakah Directorate	Sub-site Director

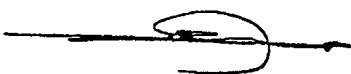
**b) Technical counterpart**

No	Full name	Specialization and Degree	Position in MOLAE
1	Rania Solieman	Civil Eng. / Environment	Directorate of Damascus
2	Khaled Kasem	Agriculture Engineer	Directorate of Damascus
3	Laila Wardeh	Agriculture Engineer	Directorate of Damascus
4	Ferial AL- Husieni	Agriculture Engineer	Directorate of Damascus
5	Reem Taher	Agriculture Engineer	Directorate of Damascus

6	Hanan Samaan	Agriculture Engineer Assistant	Directorate of Damascus
7	Mohammad Ali AL-Hussien	Chemical Engineer	Directorate of Homs
8	Sana'a Mansour	Chemical Engineer	Directorate of Homs
9	Hanan Naffouj	Chemical Engineer	Directorate of Homs
10	Reem Kanbar	Chemical Engineer	Directorate of Hama
11	Rana Wardeh	Chemical Engineer	Directorate of Hama
12	Hebah khouri	Chemical Engineer	Directorate of Hama
13	Mustafa AL-dghayem	Chemical Engineer	Directorate of Idleb
14	Sameer Da'boul	Chemical Engineer	Directorate of Idleb
15	Suhaib Edrees	Chemical Engineer Assistant	Directorate of Idleb
16	Mahmmoud Hasan Essma'el	Master Degree in Chemical Science	Directorate of Aleppo
17	Ahmad Mo'ala Ahmad	Petrochemical Engineer	Directorate of Aleppo
18	Ahed Abo Zainab	Civil Eng. / Environment	Directorate of Aleppo

19	Ahmed Karah Ali	Ph.D.Chemical Eng.	Directorate of Lattakia
20	Amaal Merhej	Petrochemical Engineer	Directorate of Lattakia
21	Ramez Asaad	Petrochemical Engineer	Directorate of Lattakia
22	Wael Jadeed	Agriculture Engineer	Directorate of Lattakia
23	Rowdaina AL-Ali	Petrochemical Engineer	Directorate of Tartous
24	Suhila Bettrous	Petrochemical Engineer	Directorate of Tartous
25	Dalal Ibrahim	Biology Science	Directorate of Tartous
24	Ameera Omran	Biology Science	Directorate of Tartous
25	Mohammad AL-hariri	Chemical Engineer	Directorate of Dara'a
26	Ahmad Kablawe	Chemical Engineer	Directorate of Dara'a
27	Ali Ibrahim	Agriculture Engineer	Directorate of Qunietra
28	Omay'mah AL-Sha'ar	Agriculture Engineer	Directorate of Suwaida'a
29	Maher AL-KHair	Chemical Engineer	Directorate of Suwaida'a

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30	Khozama Abo Saab	Food Chemical Engineer	Directorate of Suwaida'a
31	Mohammad Alhusein	Food Chemical Engineer	Directorate of Rakkah
32	Shams Aljasem	Agr. Eng. Soil and water Analyzing	Directorate of Rakkah
33	Mustafa Al-Abu	Civil Eng. / Environment	Directorate of Rakkah
34	Reham Agha	Agriculture Engineer	Directorate of Dier Azzour
35	Saher Abdullah	Agriculture Engineer	Directorate of Dier Azzour
36	Mohammad Ameen AL-Khalaf	Civil Eng. / Environment	Directorate of Dier Azzour
38	Nawaf Othman	Petrochemical Engineer	Directorate of Hasakah
38	George Shabo	Agriculture Engineer	Directorate of Hasakah
39	Aysar Beniameen	Agriculture Engineer	Directorate of Hasakah
40	Omay'mah Younes	Civil Eng. / Environment <i>Air pollution monitoring</i>	Directorate of Damascus
41	Muna Da'ass	Civil Eng. / Environment <i>Air pollution monitoring</i>	Directorate of Damascus
42	Etedal Awad	Chemical Engineer <i>Air pollution monitoring</i>	Directorate of Homs

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43	Alisar Kassab	Chemical Engineer <i>Air pollution monitoring</i>	Directorate of Homs
44	Eliya Wasel	Civil Eng. / Environment <i>Air pollution monitoring</i>	Directorate of Aleppo
45	Dunia Ghareeb	Civil Engineer <i>Air pollution monitoring</i>	Directorate of Aleppo

**Note:** for *Damascus Countryside Environmental Directorate*, four technical employees will join this directorate in few days, whenever we have the names, we will inform JICA office.






## ANNEX-4 BUDGETARY PLAN OF THE PROJECT

The Syrian side shall provide space and facilities necessary for the implementation of the Project, including followings;

<for 14 DFEAs>

- 1) refurbishment for stable supply of electricity and water, including automatic voltage regulator and water softener
- 2) electricity supply for laboratories
- 3) water supply for laboratories
- 4) air conditioning facilities for laboratories
- 5) adequate ventilation for laboratories
- 6) telecommunication
- 7) laboratory waste (liquid and solid) treatment measures
- 8) consumable supply for laboratories and equipment such as chemical reagents and gases.


Budget for the reagents for the first year is undertakings of the Japanese side.

- 9) sufficient space as an office for the Project team at GCEA in MOLAE
- 10) travel allowance for attendants of training, committee, workshops and seminars
- 11) vehicles for sampling

The Japanese side will provide two vehicles for the use in Damascus mainly for the Project Team.

<for DFEA for chemical and biological analysis for water quality>

- 12) adequate laboratory room which meets design standard in consideration of chemical and biological analysis
- 13) generator for laboratory



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18/8/2004

To: JICA Syria Office cc -Eng. Imad Hassoun  
Mr. NAGASAWA Kasuhide Deputy Minister of LAE  
Resident Representative -Dr. Akram Khouri  
Tel: 3339359 GCEA Gen. Director  
Fax:3334834 -Naoki Takechi  
From: Minister of Local Administration and Environment Project Formulation Advisor  
Eng. Helal Al-Atrash JICA Syria Office  
Tel: 2315894/2322138/2312120  
Fax:2317949  
Subject: JICA Project Formulation Date: 16.8.2004

Dear sir:

Reference is made to the letter of Mr. Naoki Takechi Project / Formulation Advisor, regarding JICA Project Formulation, attachment, the proposal on a draft copy of Minutes of Meetings and the date of exchange signature on those agreements in order to start the project on time, I would like to express of my highly consideration to JICA and Japan.

Regarding point (1) Laboratories waste treatment measures, Syria / the Ministry of Local Administration and Environment has allocated the required finance for the waste treatment plants for 2005, although it is deleted from the Pre-Condition issue.

Regarding point(2) Sharing cost of holding training, committee meeting, workshops and seminars, we would like to inform you that Syria will cover daily travel allowance for Syrian participants within Syria, in addition to that, we will do our best to hold meetings in free of charge conference rooms/ halls whenever it is possible.

Regarding point (3) Vehicles for sampling, Syria / the Ministry of Local Administration and Environment will allocate the required finance for the vehicles for 2005.

Regarding the date of exchange signature on those agreements, we and the State Planning Commission Authorities will be available on 25.8.2004, at 10 a.m. at the building of the Ministry of Local Administration and Environment/ the State Planning Commission.

Regarding filling out blanks on a draft of R/D and M/M, we are waiting the nomination of other concerned stakeholders, and we hope that this will be ready by the end of this week.

Finally, you find enclosed a schedule of allocated budget of the Syrian contribution. In this occasion the Ministry of Local Administration and Environment would highly appreciate having information about the allocated JICA budget for this project

With best regards



Eng. Helal Al-Atrash

Minister of Local Administration and Environment

Schedule of Allocated Budget of the Syrian Contribution for 2005

Description	Cost*No.	Sub-Total Syrian Pound
Waste plant treatment for 13 regional directorate, excluded Damascus	1,00,000*13	1,300,000
Waste plant treatment for Damascus Central Laboratory	1,000,000	1,000,000
Vehicles for sampling	6,00,000*14	8,400,000
Conditions and ventilation	13*50,000	650,000
Total		11,350,000

Date: 17.8.2004

Director of Planning and Follow up Directorate

Mohammad Al-Bakri

Deputy Minister of Local Administration  
and Environment

Eng. Imad Hassoun

ANNEX 5 TENTATIVE BUDGET ESTIMATION FOR REAGENTS AND FUEL COST

	Damascus	amount of estimation (Syrian Pound)	Homs, Aleppo	amount of estimation (Syrian Pound)	other Directorates	amount of estimation (Syrian Pound)	TOTAL (annual) (Syrian Pound)
1 <sup>st</sup> year	reagents for basic water analysis	415,000	reagents for basic water analysis	415,000*2	reagents for basic water analysis	415,000*11	(5,810,000)
	fuel cost for vehicles	131,000	fuel cost for vehicles	131,000*2	fuel cost for vehicles	84,000*11	(1,317,000) 7,127,000
	reagents for chemical and biological analysis	1,030,000	reagents for basic water analysis	415,000*2	reagents for basic water analysis	415,000*11	(6,425,000)
2 <sup>nd</sup> year	reagents for air analysis	148,000	reagents for air analysis	148,000*2			(444,000)
	fuel cost for vehicles	131,000	fuel cost for vehicles	131,000*2	fuel cost for vehicles	84,000*11	(1,317,000) 8,186,000
	reagents for chemical and biological analysis (including heavy metals)	1,230,000	reagents for basic water analysis	415,000*2	reagents for basic water analysis	415,000*11	(6,625,000)
3 <sup>rd</sup> year	reagents for air analysis	148,000	reagents for air analysis	148,000*2			(444,000)
	fuel cost for vehicles	131,000	fuel cost for vehicles	131,000*2	fuel cost for vehicles	84,000*11	(1,317,000) 8,386,000
	reagents for chemical and biological analysis (including heavy metals)	1,230,000	reagents for basic water analysis	415,000*2	reagents for basic water analysis	415,000*11	(6,625,000)
Total:							23,699,000

US\$1=51.5 Syrian Pound (approx.)

The amount of budget is based on the following estimation of the frequency of analysis:

- 720 analyses per year for basic water analysis
- 720 analyses per year for chemical and biological water analysis
- 144 analyses per year for air analysis

Budget for the reagents for the first year is undertakings of the Japanese side

Budget for the reagents after the second year and fuel cost for the whole Project period are undertakings of the Syrian side

## Annex-6 Tentative Project Design Matrix (PDM)

Project Name: Capacity Development on Environmental Monitoring of Directorates for Environmental Affairs in Governorates in Syrian Arab Republic

Target Area: 14 Governorates (different target level is targeted) Target Group: -seventy-six (76) staff of the Directorates and MOLAE

-all (about 300) the staff of the Directorates and MOLAE

-attendants for seminars and workshops held by the Directorates

-17 million inhabitants of Syria,  
especially 9.2 million inhabitants of Damascus, Aleppo, and Homs Governorates

Date of Issue: 13 August 2004

Project Duration: from January 2005 to January 2008 (3 years)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><b>Overall Goal</b> Environmental monitoring system and publication of the monitoring results are introduced and disseminated to all the Directorates.</p>	<p>1. All the Directorates conduct monitoring of air on regular basis according to the monitoring plan formulated by themselves by five years after the completion of the project</p> <p>2. Roles for the national monitoring system are properly allocated among the Directorates. (reference system)</p> <p>3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates.</p> <p>4. Results of the monitoring is issued and opened to the public as an annual report at the national level.</p>	<p>1. Monitoring records kept by the GCEA, MOLAE. 2. Annual report issued by all Directorates. 3. Annual report issued by the GCEA, MOLAE.</p>	<p>The Syrian government keeps its policy support for environmental protection.</p>
<p><b>Project Purpose</b> The target Directorates for Environmental Affairs in Governorates are capable to introduce and conduct regular monitoring of required parameters for water and air quality according to the monitoring plan formulated by the Directorates themselves and to implement activities for public awareness including publication of the monitoring results.</p>	<p>1. Analysis technology level to be targeted is as follows:            ■ Damascus : (water) chemical and biological analysis level                              : (air) basic sampling level (manual)            ■ Aleppo and Homs : (water) basic analysis level,                                          : (air) basic sampling level (manual)            ■ other 11 Directorates: (water) manual sampling level                                              : (air) not included to the project</p> <p>2. The target Directorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves</p> <p>3. Activities for public awareness are implemented in four (4) Directorates at least out of fourteen (14) Directorates.</p> <p>4. Monitoring results are issued and continuously opened to the public as an annual report at Governorate level.</p>	<p>1. Monitoring records kept by the target Directorates and GCEA. 2. Annual report issued by the target Directorates.</p>	<p>The Syrian government keeps its policy support to provide staff, equipment and budget to the rest of the Directorates</p>
<p><b>Outputs</b> In the target Directorates: 1. Technical level of laboratory staff concerning environmental sampling and analysis is improved.</p>	<p>1-1 All laboratory staff conduct environmental monitoring according to the SOP compiled by the project by three years after the commencement of the project. 1-2 All laboratory staff reach the grade B* level on monitoring items in charge by three years after the commencement of the project. 1-3 50%* of laboratory staff reach the grade A* level on monitoring items in charge by three years after the commencement of the project.</p>	<p>1-1 Environmental monitoring records 1-2 Training record 1-3 Training record</p>	<p>Execution instructions are promulgated.</p>

<p>2. Laboratories are properly managed by laboratory staff themselves.</p>	<p>2-1 Equipment in laboratories are properly operated and maintained according to the o/m manual compiled by the laboratory staff by three years after the commencement of the project.</p> <p>2-2 Spare parts and consumable materials management system is established by three years after the commencement of the project.</p> <p>2-3 Chemical reagents are properly stored and cared according to the o/m manual by three years after the commencement of the project.</p> <p>2-4 Liquid and solid wastes from laboratory are properly treated according to the o/m manual by three years after the commencement of the project.</p> <p>2-5 Each Directorate prepares its budget plan for regular monitoring.</p>	<p>2-1 O/m record 2-2 Spare parts &amp; suppliers list 2-3 O/m record 2-4 O/m record 2-5 Annual budget of Directorates</p>
<p>3. Environmental analysis data is accumulated and properly managed.</p>	<p>3-1 Monitoring data collected and analyzed are accumulated in the monitoring records by three years after the commencement of the project.</p>	<p>3-1 Data file management record</p>
<p>4. Laboratory staff is able to formulate an environmental monitoring plan specifying parameters required.</p>	<p>4-1 Environmental monitoring plan specifying parameters and monitoring sites is formulated in respective laboratory by one year after the commencement of the project.</p>	<p>4-1 Monitoring guideline 4-2 Laboratory operation and maintenance manual (O/m manual)</p>
<p>5. The results and data acquired by the Project is open to and shared with the citizens of the target Directorates. Staff of target Directorates is able to formulate its action plan for public awareness and environmental education.</p>	<p>5-1 Preliminary condition on public awareness is comprehended by each governorates and shared among the organizations concerned.</p> <p>5-2 Materials for activities for public awareness, such as textbooks, manuals, and pamphlets are prepared.</p> <p>5-3 Seminars and workshops targeted for educational institutions and so forth are conducted.</p> <p>5-4 Periodical network meeting among organization and/or institutions regarding to environmental education in each governorate are organized.</p>	<p>5-1 Report of preliminary survey at each governorate 5-2 List of activity materials 5-3 Report of seminars and workshops 5-4 Report or minutes of meeting</p>

Narrative Summary	Inputs	Important Assumptions
<p><b>Activities</b></p> <p>1.1 Compilation of the SOP for samplings, analysis, interpretation, evaluation, data filing and reporting.</p> <p>1.2 Training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.</p> <p>1.3 Hands-on trainings in sampling, pretreatment, analysis, interpretation, evaluation, data filing and reporting.</p> <p>1.4 On-site OJT in sampling, analysis, interpretation, evaluation, data filing and reporting.</p>	<p><u>Syrian Side Inputs</u></p> <p>(1) Land, building, laboratories, office space and other necessary facilities for the project.</p> <p>(2) Assignment of counterparts and administrative personnel.</p> <p>(3) Running expenses for the implementation of the project.</p> <p><u>Japanese Side Inputs</u></p> <p>(1) Dispatch of experts team</p> <p>(2) Provision of equipment</p>	<p>Laboratory staffs trained by the project stay in laboratories and keep working on the environmental monitoring.</p> <p>Agents/manufactures timely provide spare parts for the equipment.</p>

<p>2.1 <u>Compilation of the laboratory o/m manual for equipment operation and maintenance, spare parts preparation, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</u></p> <p>2.2 <u>Hands-on trainings at equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</u></p> <p>2.3 <u>Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.</u></p>	<p>Pre-conditions</p> <ol style="list-style-type: none"> <li>1. Appropriate number of laboratory staff who have chemical background are assigned in the target Directorates for Environmental Affairs in Governorates.</li> <li>2. Laboratory spaces are prepared in the target Directorates for Environmental Affairs in Governorates.</li> <li>3. Adequate waste water treatment plants shall be prepared before starting laboratory chemical analysis training in the target Directorates for Environmental Affairs in Governorates.</li> </ol>
<p>3.1 <u>Design the monitoring record formats for laboratories and for the GCEA in the MOLAE.</u></p> <p>3.2 <u>Compile monitoring records in each Directorate.</u></p> <p>3.3 <u>Send the monitoring records from Directorates to the GCEA in the MOLAE.</u></p> <p>4.1 <u>Conduct preliminary pollution source inventory surveys.</u></p> <p>4.2 <u>Specify monitoring sites and their parameters.</u></p> <p>4.3 <u>Formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory.</u></p> <p>4.4 <u>Provide necessary assistance and guidance to integrate the existing environmental monitoring guideline into a standard for all laboratories.</u></p>	
<p>5.1 <u>To conduct preliminary survey on activities regarding to environmental education and public awareness in each governorate</u></p> <p>5.2 <u>To formulate textbooks, manuals, and pamphlets for environmental education.</u></p> <p>5.3 <u>To implement seminars and workshops targeted for educational institutions and NGOs and so forth.</u></p> <p>5.4 <u>To enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorate (ex. to implement periodical meeting)</u></p>	

Note:

1. \*Grade A : be able to analyze samples, evaluate the data, and determine them on his/her own.
2. \*Grade B: be able to analyze samples and work out the data, but need decision by the superior to evaluate and determine the data.

Abbreviations: MOLAE: the Ministry of Local Administration and Environment  
 Directorate: Directorate for Environmental Affairs in Governorate  
 GCEA: General Commission for Environmental Affairs, MOLAE  
 SOP: Standard Operation Procedures  
 o/m: operation and maintenance  
 OJT: On-the-Job Training

**ANNEX-7 Tentative Plan of Operation**

Project Name: Capacity Development on Environmental Monitoring of Directorates for Environmental Affairs in Governorates in Syrian Arab Republic  
 Duration: 3 years (from January 2005 until January 2008) Target Areas: 14 Governorates

Version: R/D, shinning (September, 2004)

Target Group: seventy-six (76) staff of the Directorates and MOLAE

- all the staff of the Directorates and MOLAE (about 300 personnel)
- attendants for seminars and workshops held by the Directorates
- 17 million inhabitants of Syria, especially 9.2 million inhabitants of Damascus, Aleppo, and Homs Governorates

**Project Purpose:** The target Directorates for Environmental Affairs in Governorates are capable to introduce and conduct regular monitoring of required parameters for water and air quality according to the monitoring plan (formulated by the Directorates themselves and to implement activities for public awareness including publication of the monitoring results).

Outputs	Activities	Expected Results	Japanese Experts	Syrian C/P	Schedule																	
					Year 2004			Year 2005			Year 2006			Year 2007			2008					
					IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II			
Pre-conditions	1 Assignment of laboratory staff for the Project	76 of staff with required background																				
	2. Preparation of Laboratory spaces	Laboratory with the adequate floor area	Water quality analysis	Water quality analysis																		
	3. Installation of wastewater treatment plant	Installation of waste water treatment plant	Water quality analysis	Water quality analysis																		
Output 1 Technical level of laboratory staff concerning environmental sampling and analysis is improved.	1.1 Completion of the SOP for samplings, analysis, interpretation, evaluation, data filing and reporting.	Standard Operation Procedures (SOP)	Environmental admin. Water quality analysis Air quality analysis Data Management	Environmental admin. Water quality analysis Air quality analysis Data Management																		
	1.2 Training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.	Training materials Number of trainings conducted Number of participants	Environmental admin. Water quality analysis Air quality analysis Data Management	Environmental admin. Water quality analysis Air quality analysis Data Management																		
	1.3 Hands-on trainings in sampling, pretreatment, analysis, interpretation, evaluation, data filing and reporting.	Training materials Number of trainings conducted Number of participants	Environmental admin. Water quality analysis Air quality analysis Data Management	Environmental admin. Water quality analysis Air quality analysis Data Management																		
	1.4 On-site on-the-job (OJT) training in sampling, analysis, interpretation, evaluation, data filing and reporting.	Number of trainings conducted Number of participants	Environmental admin. Water quality analysis Air quality analysis Data Management	Environmental admin. Water quality analysis Air quality analysis Data Management																		
Output 2 Laboratories are properly managed by laboratory staff themselves.	2.1 Completion of the laboratory operation and maintenance (O/m) manual for equipment operation and maintenance, spare parts preparation, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.	O/M manual	Environmental admin. Water quality analysis Air quality analysis	Environmental admin. Water quality analysis Air quality analysis																		
	2.2 Hands-on trainings of equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.	Number of trainings conducted Number of participants	Environmental admin. Water quality analysis Air quality analysis	Environmental admin. Water quality analysis Air quality analysis																		
	2.3 Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.		Environmental admin. Water quality analysis Air quality analysis	Environmental admin. Water quality analysis Air quality analysis																		





シリア全国地方環境監視能力整備計画事前評価調査 対処方針に基づく調査結果

6. 事前評価調査 対処方針に基づく調査結果

項目	調査内容	対処方針	調査結果
<p>0. 実施方針案及び活動計画案の作成</p>	<p>&lt;議論・調査が必要な事項&gt;                      1) 日本の ODA としての意義の確認</p>	<p>実施方針案及び活動計画案を現地調査を通じての環境問題の現状把握や地方行政・環境省他シリア側との協議を踏まえて作成する。</p> <p>1) 日本の ODA が持続的成長・地球的規模の問題への取り組み支援を重視するという文脈の中で、本協力が環境分野・環境モニタリングで体制強化として意義があることを関係者間で共有しておく。要請内容は技術面での協力が、要請書にこだわらず技術面・行政面を含めて日本ができる協力を検討する。</p>	<p>0</p> <p>1) 妥当性の説明は以下のとおり。                      a) 相手国のニーズ シリアにおける環境汚染は表流及び地下水資源の低下と汚染、大気汚染、土地質の悪化などが年々深刻化しており、速やかな対応が必要とされ、本プロジェクトは環境行政を実施していくうえで最も基礎となる、環境汚染の現状についての情報を定期的に提供することを目的としており、シリアにとってのニーズが高い。また、一人当たり GNP が 1,000US\$ を超えるころから環境汚染が深刻化するという指摘もあり、1,200US\$ 前後で推移しているシリアにおいて現時点でプロジェクトを開始することはタイミング的にも妥当。                      b) 上位計画との整合性：シリア政府は環境施策の必要性を強く認識し、環境基本法、排水・排ガス基準、環境保護法、国家環境行動計画といった環境関連法規を制定し、同時に環境監視のための地方環境局を各県に設置してきた。また、第 9 次経済社会開発 5 年計画では、環境分野の人材開発、環境監視機能の整備、地方環境局の強化、ラボラトリーの整備等が計画されており、本プロジェクトの目的とシリア国の政策との整合性は高い。</p> <p>2) a) 対象支局：ミニツツ 3. Implementing Organization 及び ANNEX-1 のとおり。</p>
	<p>2) 要請内容の検討                      a) 6 支局への分析技術指導について</p>	<p>2) a) 6 支局のみでなく全国の 14 支局対象にすることも一案として検討する。技術指導対象支局を限定する必要がある場合、顕在する公害問題、産業の配置、人口の配置などからの環境モニタリング強化の必要性などを通じてその支局の優位性を検討する。</p> <p>b) センター方式またはクラスター方式で実施していくのか、関係者間の議論の上決定する</p>	<p>2) a) 対象支局：ミニツツ 3. Implementing Organization 及び ANNEX-1 のとおり。</p> <p>b) 14 支局を対象とする内容については、ダマスカスにて各地方環境局から代表者に研修に参加してもらう研修を実施す</p>
	<p>b) 技術協力の方法</p>		

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項目	調査内容	対処方針	調査結果
	<p>c) ダマスカス支局への機材供与 ラタキア支局には既に UNDP から基本的な分析機器類が供与されており、ホムス支局には簡易測定器が供与されたようである。他の支局については不明。</p> <p>3) 高等教育機関における環境分析カリキュラムの把握 (人材育成面)</p> <p>4) ダマスカス支局と環境科学</p>	<p>る。</p> <p>c) ダマスカス支局以外への基本的な分析機器類の供与の必要の有無を検討する。他の支局の機材所有状況、他ドナーの動向について調査する。</p> <p>3) 高等教育機関での人材育成状況について情報収集する。</p> <p>4) ESRC の地方行政・環境省内での位置づけ、</p>	<p>る。※研修機能を継続するために、GCEA 内のスタッフ研修担当機関への依頼が必要。 その後、各支局を巡回指導で指導することを想定している。</p> <p>e) 詳細は報告書のとおり。 全対象支局に対し、3年後の目標レベルに合わせた機材供与が必要。 UNEP (MAP (Mediterranean Action Plan)) による 2001 年から 2002 年の原子吸光度計やガスクロマト装置などの大型分析機器のラタキア支局への供与、2001 年ごろの JICA (牧野専門家) によるホムス支局に対する簡易測定器供与、HIAST に対する大型分析機器供与 (95 年頃の無償) を確認した。他の支局に対しても調査をしているが供与はない様子。 地方環境局へ協力を行っているのは上記の UNEP 関連の他、UNDP (METAP (地中海環境技術プログラム))、EU (SMAP (Small Mediterranean Action Plan)) による協力もある。</p> <p>3) 高等教育機関としては大学、他省庁等の関係機関の 2 つがある。大学については、ある支局 (ラタキア) では、スタッフに対して各県の大学での基礎的研修を受けさせることも 1 つの方法として歓迎している。 他省庁の関係機関として HIAST があり、他組織のスタッフ訓練及び環境分析についての高度な研究を主な業務とし、要請に応じ他組織から依頼されるサンプルの分析を行っている。HIAST から機関としての能力強化のための支援 (機材供与) を要請されたが、HIAST はその活動が軍事関連に使用されるという懸念があるため、今回の協力対象とはしないこととしたい。ラタキア支局のスタッフは以前 HIAST 実施の研修に参加したが、内容は 1 週間程度の視察中心のもので、技術習得が期待されるものではないことから、HIAST での研修には期待していいとのこと。</p> <p>4) ESRC は組織上は MOLAE に所属するが General Council に</p>

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項目	調査内容	対処方針	調査結果
	<p>研究センター (ESRC) の関係の明確化</p> <p>5) 支局におけるスタッフのキャパシティ調査 (無記名アンケート方式)                      例) 2003 年 11 月時点ではホムス支局のラボ職員は 43 名、うちケミカルエンジニアは 13 名。ラタキア支局のラボ職員は 31 名、うちケミカルエンジニアは 1 名。</p>	<p>役割、活動実績を確認し、本協力における関係を整理する。</p> <p>5) 分析機材の有無、利用状況、予算配分、環境基準項目のモニタリング体制、スタッフの能力などについてカウンターパート調査を実施する。</p>	<p>は所属しておらず、その予算も首相府から独自に管轄されている。(当初、MOLAE 内の組織ではなく、首相府管轄のそしきとされていたが、2003 年ごろから組織上は MOLAE の管轄に変更になった) 研究内容としては外部からのリクエストに基づく研究・分析となっており、活動実績はシリア事務所に概要が報告されている<sup>1)</sup>が、GOEA との関係はほとんどない様子。ESRC は 4 月に新ラボトリに移転し (※未確認)、今後は MOLAE の Central Lab としての役割を担いたいと説明しているが、MOLAE 大臣は ESRC との関係を整理し、ESRC とは別に独自のセントラルラボをドゥンマールの 1,800 平方メートルの用地に設立したい意向。ESRC の所長は陸軍出身で国防省とのつながりが強く、活動内容が軍事転用される懸念があることから、今後の組織関係の整理の結果 GCEA の下の組織と位置づけられればダマスカス地方環境局ラボとして、もしくはセントラルラボとして活用することも検討するが、現在の組織関係のままであれば本協力に含めない方針。</p> <p>5) 支局のキャパシティについて、分析機材の有無、予算配分、スタッフ数についてアンケート調査を実施済み。詳細は報告書第 4 章を参照。</p>

<sup>1)</sup> 詳細はシリア事務所からの Dr.Ibrahim の報告を参照。

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<p>1. 実施方針に関する協議／実施妥当性判断</p>	<p>1) 実施方針及び活動計画</p>	<p>1) 実施方針案及び活動計画案をもとにシリア側と協議し、官団員派遣時に合意する。要請ではダマスカス支局及び主要地方6支局だが、重点的に協力をを行う対象を確認する必要がある。シリア政府の意向を踏まえ協力量野を絞る。協力量野を絞った上で、必要であれば、プロジェクトの名称を変更する。</p>	<p>プロジェクトの名称は「全国地方環境モニタリング能力強化計画 “Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates” 」とする。在ダマスカス日本大使館とも協議の上、日本語名称としては「全国環境モニタリング能力強化計画」とした。</p>
<p>2) 実施妥当性判断 以下の事前評価項目に関する情報を収集する。 a) 妥当性 b) 有効性 c) 効率性 d) インパクト e) 自立発展性</p>	<p>2) 以下の項目について調査を行い、事前評価調査表（和文・案）に取りまとめる。 a) 妥当性 ・ 環境モニタリングに関し環境問題の現状や先方が有する計画における本要請の位置づけを明確にする。 ・ 水・大気・土壌の3分野についての協力を要請されているが、シリア側の意向も踏まえ必要に応じ分野を絞る。 b) 有効性 ・ プロジェクトが環境モニタリング体制の強化につながるかを明確にする。 c) 効率性 ・ プロジェクト概算コスト／プロジェクト裨益者数 ・ 適切な投入タイミミングが図れるような投入計画を立案する。 d) インパクト ・ プロジェクト裨益者概数 ・ 環境分野における計画や課題と本プロジェクトの目標、上位目標との関連性・論理を明確にする。 e) 自立発展性 ・ シリア側がどの程度プロジェクトにより</p>	<p>実施妥当性に関する調査結果は報告書付属資料 事前評価調査表のとおり。</p>	

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		<p>整備される環境モニタリング体制を維持、利用していかけるか政策・制度、組織・財政、技術面から確認する。</p>	<p>プロジェクトサイト候補地を選定し、その妥当性を調査する。選定クライテリア及び調査項目は以下の通り。</p> <ol style="list-style-type: none"> <li>1) 開発政策、計画における優先度とパイロットサイトとしての位置づけ</li> <li>2) 環境モニタリング体制強化の必要性             <ul style="list-style-type: none"> <li>・対象地区の人口</li> <li>・地域環境課題の有無、その重要性</li> </ul> </li> <li>3) 対象ラボラトリのモニタリング体制(人員配置状況含む)及び機器の維持管理能力</li> <li>4) モニタリング用機材の適切な設置環境</li> <li>5) 他支局への指導力・指導体制</li> <li>6) 治安状況</li> </ol>
<p>2. プロジェクトサイト</p>	<p>左記の調査結果を総合的に勘案の上、サイト決定に必要な情報を収集する。必要性、妥当性の2点から判断する。</p> <ol style="list-style-type: none"> <li>1) 調査結果を表にまとめ、総合的に判断する。</li> <li>2) 必要性については、地方行政・環境省が管轄する他ラボラトリとの比較で判断し、候補サイトが十分な理由を有しているか確認する。</li> <li>3) 妥当性については、以下の点から判断する。             <ul style="list-style-type: none"> <li>・先方計画との関連性</li> <li>・実施機関の維持管理能力(人員数、予算、技術力等)を確認のうえ、能力の範囲内とする。</li> <li>・候補サイトの設置環境の適切さ(電気等のインフラ、データ通信)</li> </ul> </li> </ol>	<p>プロジェクトサイト及びその活動目標はミニッツ3. Implementing Organization 及び ANNEX-1 のとおり。</p> <p>これらを決定する際には、各支局の概況を調査した。</p>	<p>ミニッツ7. Measure to be taken by the Japanese side のとおり。</p> <p>1) 機材：ANNEX-4 のとおり。</p> <p>メンテナンス能力・方法、調達にかかる情報は報告書第4章のとおり。</p>
<p>3. 投入計画 (日本側)</p>	<p>1) 機材供与</p> <p>a) 事業実施に必要な資機材について調査する。また、これに合わせ、先方メンテナンス能力や方法を調査する。</p>	<p>1) 必要な資機材についてリストアップする。機材のグレード、数量については、環境モニタリングにおける必要性と、先方のデータ解析能力、維持管理能力の範囲内とする。メンテナンスに関しては、想定される費用や修理にかかる手間について具体的に説明し、理解を得る。</p>	<p>ミニッツ7. Measure to be taken by the Japanese side のとおり。</p> <p>1) 機材：ANNEX-4 のとおり。</p> <p>メンテナンス能力・方法、調達にかかる情報は報告書第4章のとおり。</p>

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<p>4. シリア側負担事項</p>	<p>b) 上記資機材についての調達に必要となる情報を調査する。</p> <p>2) 専門家 日本側から必要な技術支援について地方行政・環境省の意向を確認する</p> <p>3) 本邦研修・第3国研修 本邦における技術研修のニーズ 第3国研修（既存エジプト環境モニタリング研修センターとの位置付け）</p>	<p>b) リストアップされた機材については、現地調達の可能性及び現地調達した場合の価格、納入業者、納期、据付方法等を調査し、施工、調達計画に取りまとめる（含：入札等の調達に必要となる情報の作成）。</p> <p>※テロ対策上、機材によっては特別な許可が必要になっている。許可の必要の有無、有りの場合は許可手続方法と相手に要する期間も合わせて調査する。</p> <p>2) 事業実施に必要な TOR（案）や派遣計画（案）を作成する。機材の投入計画との時期の整合性をはかる。</p> <p>3) 本邦における研修ニーズを確認した上で、持ち帰る。 エジプト環境モニタリング研修センターでの第3国研修も技術移転方法として検討する。 ※エジプトでのプロジェクトの協力期間は1997年9月～2002年8月。現在、プロジェクトの本体期間は終了し、2004年10月までの2年間の予定でフォローアップ専門家が活動中である。2004年度には環境分野でこれまでの協力成果を活かして新プロジェクト立ち上げを見込んでいる。新プロジェクトで第3国研修実施を計画しており、第一歩として2004年7月にアフリカ・アラブ地域（主にアフリカ）の関係者に呼びかけ国際フォーラムを開催し、各国のニーズ聞き取りを行う予定である。</p>	<p>2) 専門家 水質分析、大気分析、環境マネジメント、環境教育、データマネジメントの分野での専門家派遣する予定。ただし、詳細は公示にかけ、プロポーザルを審査の上決定する。</p> <p>3) 研修 研修は基本的にシリア国内での研修をプロジェクトの活動として行うものとする。日本及び第三国（エジプトを想定）での研修は必要に応じて検討する。現在、日本関係者内では、プロジェクトの関係者を対象としたエジプトへのスタディツアーを実施し、エジプト環境庁と日本の協力状況を視察してもらおうことも一案と考えている。</p>	<p>≡ ニッツ 6. Measures to be taken by the Syrian side のとおり。</p> <p>1) カウンターパートの配置及びカウンターパートの経験等は</p>
<p>1) 人員配置 (C/P) 必要人員の配置を要請する。 a) 研究員</p>	<p>1) 以下の配置を要請しコミットメントを取り付ける。 a) 研究員</p>	<p>1) 以下の配置を要請しコミットメントを取り付ける。 a) 研究員</p>	<p>≡ ニッツ 6. Measures to be taken by the Syrian side のとおり。</p> <p>1) カウンターパートの配置及びカウンターパートの経験等は</p>	

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<p>b) 技官</p> <p>2) 施設提供 (プロジェクトオフィス) (専門家用執務スペースを地方行政・環境省内もしくは候補サイト内に準備可能か)</p> <p>3) 予算 地方行政・環境省内で環境支局の設立及び機材配備のための予算は以下の通り報告されている。 第9次5か年計画で認可された額： 82,000(約400万ドル) 2002年実績：20,318(約45万ドル) 2003年認可済み額：45,000(約100万ドル) (単位：1,000シリアポンド＝約US\$21.5。US\$1＝46.5シリアポンド(公定レート))</p> <p>シリア側負担を確認する。 a) スタッフ給与 b) プロジェクトオフィス、地方環境局の維持管理費(光熱水料、施設修繕費、清掃費、警備費等) c) 供与機材の維持管理費(修理のための輸送に係</p>	<p>主 C/P、副 C/P (それぞれ数名) の指名を依頼する。 b) 技官 供与機材担当の技官を設置する。</p> <p>2) プロジェクトオフィスとして十分な広さと機能を有していることを確認する。</p> <p>3) R/D 難形を提示し、シリア側負担が可能かどうかを確認する。シリア側負担が困難な事項が明確に提示された場合は、その旨ミニッツに記載し持ち帰り検討事項とする。 ※機材の免責等の情報については、「水資源情報センター整備計画」の調整員からも現地状況をヒアリングする。</p>	<p>ANNEX-2 のとおり要請した。この合意に基づき、MOLAE は 2004 年 4 月に全国の地方環境局の人事ヒアリングを行っており、暫定版のカウンターパート名簿ができ次第日本側に提出される見込み。</p> <p>2) 施設として下記の内容をシリア側が準備することとした。 1) 電気及び水の安定供給のための改修 (AVR 及び Water Softener を含む) 2) 電気・水の供給 3) エアコン設備 4) 排気設備 5) ラボ廃棄物(液体・固体)処理設備 6) ラボ消耗品(試薬、ガス等) 7) プロジェクトチームの事務所(環境総局内に設置) 8) 研修、会議、ワークシヨップ、セミナー出席者のための交通費・日当・宿泊費 9) ラボラトリールーム (ダマスカス支局内) 10) ラボ用発電機(ダマスカス支局内)</p> <p>サンプリング用車両について、シリア側に準備を求めたが、MOLAE 大臣によるとシリアでは外貨の準備の困難さもあり、確約はなかった。国家企画庁とともに、車両の準備の可能性についてさらに検討中である。もし、シリア側で準備できない場合は、MOLAE 本省、大気分析も行うダマスカス、アレップ、ホムスの3支局での活動のための車両は日本から供与することを検討する。</p>
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<p>5. プロジェクト実施体制を確認する。</p>	<p>経費、スベアパーツ、更新等)                  d) 日本人専門家のシリア側用務に係る国内出張旅費                  e) 免税での機材通関に係る引き取り手数料、国内輸送費、機材据付費等（機材を本邦から購送した場合)</p>	<p>1) 実施機関                  ・責任者および窓口担当者を確認する。                  ・ 実施機関の概要（組織、人数、予算、活動実績等）</p> <p>—実施機関                  —Project Director                  —Project Manager                  —合同調整委員会議長                  —合同調整委員会委員                  —運営委員会委員</p> <p>2) 実施体制                  a) 地方行政・環境省、地方行政体等の環境担当の關係機関を把握する。</p>	<p>1) 実施機関                  責任者 (Project Director) および実務責任者 (Project Manager) を確認する。</p> <p>2) 実施体制                  JCC 委員会の必要性を確認し、必要であればメンバーと開催頻度についてミニッツに記載する。</p>	<p>ミニッツ 8. Project Management、9. Steering Committee、10. Technical Committee。及び ANNEX-5 のとおり。                  プロジェクトマネージャー：地方行政・環境省副大臣                  プロジェクトディレクター：環境総局内環境分野各部長                  水質基礎分析、一般理化学分析、大気分析、環境教育、データマネジメントの各分野についてそれぞれ環境総局内の各部長がプロジェクトディレクターとして取りまとめる。                  プロジェクトサブサイトディレクター：地方環境局長</p> <p>ステアリングコミッティー、テクニカルコミッティーについてもシリア側にその意図を伝え、委員名簿の作成を依頼している。</p>
<p>6. 他ドナーの協力内容、及び必要な連携について確認する。</p>	<p>シリアにおいて環境モニタリング技術強化及び環境監視体制強化の支援を行っているドナー等の活動状況を確認する。                  主な他ドナーとその活動                  ・ UNDP による環境観測機器の供与                  ・ METAP (地中海環境技術</p>	<p>日本への要請と重複がないことを確認する。</p>	<p>他のドナーとの重複は見当たらない。データマネジメント分野では、UNDP が環境省の組織的なシステムづくりに協力しようとしているが、分析データの取りまとめに直接関わるものは予定していない。</p>	

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	<p>プログラム) による移動環境測定車の供与 (30 万米ドル)</p> <ul style="list-style-type: none"> <li>・ 独GTZによる大気測定車の供与</li> <li>・ その他 (世銀、EU 等)</li> </ul>		
<p>7. 今後のスケジュール及びシリア側準備について説明する。</p>	<p>1) 今後のスケジュール 5月 実施協議、R/D締結 シリア政府からの要請書提出 9月 プロジェクト開始(予定)</p>	<p>1) 今後のスケジュール スケジュール(案)を、地方行政・環境省に説明し協議の上合意する。</p>	<p>ミニッツ 12. Record of Discussions を参照。 R/D 署名前にシリア側に以下の3点の書面の提出を依頼している。 ・本省ならびに地方 14 支局に配置するカウンターパート名簿 ・ステアリング・コミッティーとテクニカル・コミッティーの構成員名簿 ・プロジェクト運営のための予算措置を説明する書類 &lt;今後のスケジュール(調査団による見込み)&gt; 6月 シリア側関係者間での委員会開催(国家企画庁主催) 7月 シリア側から3点の書面提出(パース党の大会開催) 8月 R/D 署名、専門家派遣及び機材調達のための手続き開始 2005年1月 プロジェクト開始</p>