

付 属 資 料

1. 調査団調査日程
2. 終了時評価議事録
3. 地方行政・環境省環境総局組織図
4. PDMc 案

1. 調査団調査日程

1 調査団調査日程

月日	曜日	内容		宿泊地
		広内団員	田中団長・進藤団員	
7月22日	日	午前 現地入り 午後 JICA事務所打合せ		ダマスカス
7月23日	月	専門家チームとの打合せ C/Pへのあいさつ、調査の趣旨と方法説明、指標に関する意見交換 インタビュー調査		ダマスカス
7月24日	火	C/Pへのインタビュー調査（タルトス）		ダマスカス
7月25日	水	C/Pへのインタビュー調査 （ダマスカス郊外県）		ダマスカス
7月26日	木	実績グリッド案、活動実績表案作成 専門家チームへのインタビュー調査		ダマスカス
7月27日	金	アンケートの集計		ダマスカス
7月28日	土	アンケートの集計	夜 羽田発 関空発（JL5099）	ダマスカス
7月29日	日	活動実績表案作成 GCEAのC/P及び専門家チームへの聞き取り、フィードバック反映（適宜） 午後 評価分析団員調査報告及び後半調査方針打合せ JICAシリア事務所訪問、方針会議 専門家チームとの打合せ	午前 現地入り	ダマスカス
7月30日	月	午前 在シリア日本国大使館表敬、調査概要説明 SPC Dr. Al Radawi 表敬 午後 合同評価委員メンバーとの打合せ及びインタビュー 専門家チームへの聞き取り		ダマスカス
7月31日	火	午前 7DFEA所長へのインタビュー 午後 テクニカル・コミッティ（14DFEA局長から進捗報告） 夕方 アレッポへ移動		アレッポ
8月1日	水	終日 アレッポC/Pへのインタビュー調査、モニタリング現場訪問 アレッポ県知事表敬 夕方 ホームスへ移動		ホームス
8月2日	木	終日 ホームスC/Pへのインタビュー調査、モニタリング現場訪問 ホームス県知事表敬 夕方 ダマスカスへ移動		ダマスカス
8月3日	金	終日 団内打合せ、M/M案作成		ダマスカス
8月4日	土	終日 団内打合せ、M/M案作成		ダマスカス
8月5日	日	終日 C/Pへのインタビュー調査及び Monitoring Station訪問 （スウェイダDFEA） 午後 M/M案準備	終日 C/Pへのインタビュー調査及び Monitoring Station訪問 （ダマスカスDFEA） ダマスカス郊外県知事表敬 午後 M/M案準備	ダマスカス
8月6日	月	終日 M/M案準備及び修正 M/M案チェック（専門家チーム）	午前 ダマスカス県知事表敬 午後 ダラアDFEA訪問	ダマスカス
8月7日	火	終日 合同評価委員会、M/M協議及び修正		ダマスカス
8月8日	水	終日 M/M最終化、アラビア語翻訳 夕方 M/M署名 夜 MOLAE大臣表敬		ダマスカス
8月9日	木	午前 ステアリング・コミッティ 午後 在シリア日本国大使館報告 JICAシリア事務所報告 夕方 専門家チームとの協議		ダマスカス

8月10日	金	午前 ダマスカス発 (EK912)	-
8月11日	土	夕方 関空着 (JL5090) 羽田着	-

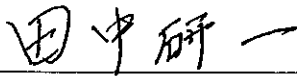
**MINUTES OF MEETING
BETWEEN
THE JAPANESE TERMINAL EVALUATION TEAM
AND
THE SYRIAN TERMINAL EVALUATION TEAM
ON
JAPANESE TECHNICAL COÖPERATION
FOR
THE CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING
AT
DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES**

The Japanese Terminal Evaluation Team (hereinafter referred to as “the Team”), organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Mr. TANAKA Kenichi, visited the Syrian Arab Republic from July 22 to August 9, 2007, for the purpose of conducting the joint terminal evaluation on the Japanese technical cooperation for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates (hereinafter referred to as “the Project”) on the basis of the Record of Discussions signed on September 9, 2004 (hereinafter referred to as “the R/D”).


During its stay in the Syrian Arab Republic, the Team had a series of discussions and exchanged views with the Syrian Terminal Evaluation Team (hereinafter referred to as “the Syrian side”) headed by Dr. Akram Sulaiman Al KHOURI.

As a result of the discussions, the joint evaluation team mutually agreed upon the matters referred to the document attached as ANNEX I.

Damascus, August 8, 2007



Mr. TANAKA Kenichi
Leader
Japanese Terminal Evaluation Team
Senior Advisor,
Japan International Cooperation Agency



Dr. Akram Sulaiman Al KHOURI
General Director
General Commission for Environmental Affaires

ANNEX I JOINT EVALUATION REPORT

**REPORT OF THE JOINT TERMINAL EVALUATION
ON
THE CAPACITY DEVELOPMENT OF ENVIRONMENTAL MONITORING AT
DIRECTORATES FOR ENVIRONMENTAL AFFAIRS IN GOVERNORATES**

1. Introduction

1.1 Objectives of the Evaluation

The evaluation activities were performed with the following objectives:

- (1) To verify the accomplishments of the Project compared to those planned;
- (2) To identify obstacles and/or facilitating factors that have affected the implementation process;
- (3) To analyze the Project in terms of the five evaluation criteria (i.e. Relevance, Effectiveness, Efficiency, Impact, and Sustainability); and
- (4) To make recommendations on the Project regarding the measures to be taken for the remaining period as well as for the post-project period.

1.2 Members of the Joint Evaluation Team

(1) The Syrian Team

Dr. Akram Sulaiman Al KHOURI	Team Leader	Director General of GCEA, MOLAE
Dr. Yasin MOALLA	Member	Director of Laboratories, GCEA, MOLAE
Dr. Nader GHAZI	Member	Director of Environmental Awareness, GCEA, MOLAE
Mrs. Manal ALSAKKA	Member	Director of EIA, GCEA, MOLAE
Mr. Shaka AL SOLEMAN	Member	IT Unit, GCEA, MOLAE
Ms. Reem SADER ALDEEN	Member	Laboratory Chief, Damascus DFEA, MOLAE
Mr. Eilya WASEL	Member	Aleppo DFEA, MOLAE

* MOLAE: Ministry of Local Administration and Environment

GCEA: General Commission for Environmental Affairs, MOLAE

DFEA: Directorate for Environmental Affairs, MOLAE

EIA: Environmental Impact Assessment

(2) The Japanese Team

Mr. TAKANA Kenichi	Team Leader	Senior Advisor, JICA
Ms. SHINDO Reiko	Member	Environmental Management Team II, Group II, Global Environmental Department, JICA
Ms. HIROUCHI Yasuyo	Member	Permanent Expert, International Development Associates Ltd.

1.3 Schedule of the Evaluation Study

The Evaluation Study was conducted from July 22 to August 9, 2007. The Joint Evaluation Team (hereinafter referred to as the Team) collected the information through questionnaires and a series of interviews with Japanese experts and Syrian counterpart personnel (hereinafter referred to as "C/P") at the GCEA and the target DFEAs. The Team also conducted a field observation in DAM, DAMC, ALP, HOM, TAR, SWD and DAR. Based on the results, the Team prepared a draft report and finalized it through a series of discussions on August 7, 2007.

2. Outline of the Project

2.1 Background of the Project

Over the 20 years since the 1980's, the industrialization of Syria has demonstrated steady growth including thermal power plants, oil refineries, and cement plants. Fertilizer mills or small and medium scale metal and dye factories have spread into the suburbs of large cities. At the same time, environmental problems caused by sewage, exhaust and dust from factories have become visible.

In order to respond to these environmental problems, in 1991, the Syrian government passed the Basic Law of Environment (Decree No.11) and established the Ministry of Environmental. In 1996, this ministry set up the DFEAs in five governorates. The DFEAs have task for finding solutions to the environmental problems, which have spread throughout the country and have expanded its network year by year. The Ministry of Environment and the Ministry of Local Administration were integrated and the MOLAE was established in September 2003. In January 2004, the establishment of the DFEAs was ordered through a notification by the Minister of the MOLAE, and currently the DFEAs are established in all of the 14 governorates. The DFEAs are mainly responsible for the environmental administration and environmental monitoring in each region. Moreover, the Emission Standards to Industrial Wastewater and Exhaust Gas were promulgated in May 2002, and the

Environmental Protection Law (Law no.50, 2002), which stipulates punitive regulations, was brought into effect in July 2002.

In July 2002, the Syrian government requested technical cooperation to Japanese government to provide equipment for the DAM DFEA and environmental monitoring and analytical techniques for some DFEAs like DAM, ALP, HOM, LTK, HAM and TAR, etc. In response, the Japanese government dispatched a preparatory study team to investigate the specific nature of the request through January to April, 2004. As a result, it was decided to formulate and implement the technical cooperation project titled "Capacity Development of Environmental monitoring at Directorates for Environmental Affairs in Governorates" (hereinafter referred as "the Project") and the Records of Discussion (R/D) was signed on September 9, 2004.

The Project for three years was lunched in the end of December 2004 and the Japanese Expert Team started preparation for the Project. In the following month, in the beginning of January 2005, the Japanese Expert Team started to work in Syria and the Inception Report was presented in the first Steering Committee meeting held in January 12, 2005, while Inception Report was generally agreed in the second Steering Committee meeting held in February 24, 2005.

2.2 Summary of the Project

According to the latest Project Design Matrix (PDM) (Annex 1), the Project Purpose is "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". The Overall Goal of the Project is "Environmental monitoring system and publication of the monitoring results are introduced at and spread to all the Directorates". The Outputs are (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"; and (5) "The results and data acquired by the Project are 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".

3. Methodology of Evaluation

3.1 Data Collection Method and Analysis

3.1.1 Data Collection Method

The Team made interviews with the Syrian C/P and the Japanese experts engaged in the Project. The Team also collected information through questionnaires from the concerned personnel.

3.1.2 Items of Analyses

(1) Accomplishment of the Project

Accomplishment of the Project was measured in terms of the Inputs, the Outputs and the Project Purpose in comparison with the Objectively Verifiable Indicators of the PDM as well as the plan delineated in the R/D.

(2) Implementation Process

Implementation process of the Project was reviewed to see if the Activities have been implemented according to the schedule delineated in the PO (Annex 2), and to see if the Project has been managed properly as well as to identify obstacles and/or facilitating factors that have affected the implementation process.

(3) Evaluation based on the Five Evaluation Criteria

(a) Relevance

Relevance of the Project was reviewed to see the validity of the Project Purpose and the Overall Goal in connection with the needs of the beneficiaries and policies of Syria and Japan.

(b) Effectiveness

Effectiveness was analyzed by evaluating the extent to which the Project has achieved and contributed to the beneficiaries.

(c) Efficiency

Efficiency of the Project implementation was analyzed focusing on the relationship between the Outputs and Inputs in terms of timing, quality, and quantity.

(d) Impacts

Impacts of the Project were forecasted by referring to positive and negative impacts caused by the Project.

(e) Sustainability

Sustainability of the Project was forecasted in institutional, financial and technical aspects by examining the extent to which the achievement of the Project would be sustained and/or expanded after the Project is completed.



4. Summary of Accomplishment and Implementation Process of the Project

4.1 Accomplishment of the Project (Details are described in Annex 3)

As for the Project Purpose, targets for most of the Objectively Verifiable Indicators have been mostly satisfied. With regard to achievement of analysis technology level, the DFEAs have mostly achieved the targeted level in the field of water quality analysis while they have partly achieved the targeted level in the field of Air Quality Analysis. Monitoring activities of water and air quality have been carried out basically on regular basis mostly according to the plan formulated by the DFEAs. Activities for public awareness have been implemented in four priorities the DFEAs (i.e. DAM, ALP, HOM, and LTK).

Each DFEA has prepared an annual report for 2006 and is preparing an annual report for 2007. The reports for all activities, however, have not been published yet.

Regarding the accomplishment of Outputs and Inputs, please see Annex 3.

4.2 Implementation Process of the Project (Details are described in Annex 4)

Most of the Activities have been implemented as planned while some of the Activities under Output 1 have been delayed. It is expected, however, that the planned Activities will be covered before the termination of the Project through efforts of both Japanese Expert Team and their C/P. The Project has been monitored periodically through internal weekly meetings between the GCEA officials and the Japanese Expert Team as well as 6 Steering Committee and 15 Technical Committee meetings.

Some of the issues are highlighted below:

1. In response to a request made by the Syrian side, additional training in the field of Chemical and Biological Analysis (i.e. Chemical and Biological Analysis (II)) has been implemented at 3 DFEAs (i.e. DAMC, HOM, and ALP), to which the GCEA has provided spectrophotometers and oil content meters. In response to another request made by the Syrian side, in the field of Heavy Metal Analysis, lecture training of basic analysis was carried out at 8 DFEAs (i.e. DAMC, ALP, HAM, LTK, DZR, IDL, HSK, and DAR), to which the GCEA has provided or has a plan to provide Atomic Absorption Spectrophotometer (AAS).
2. In the case of Basic Water Quality Analysis, Heavy Metal Analysis, and Air Quality Analysis, procurement procedures, delivery, and/or installment of the major equipment were delayed, which resulted in an overall delay of the related training activities. Though all the envisaged training items are expected to be covered by the end of the Project, there would not be sufficient time for the C/P to accumulate practical experiences of sampling and analysis for regular monitoring through on-the-job training



(OJT).

3. Communication among the GCEA and the DFEAs has been enhanced through a series of meetings of Technical Committee, which consist of Directors of the DFEA and GCEA officials. Communication between the Japanese Expert Team and the GCEA officials has improved since weekly meeting started in June 2006. It needs further improvement for smooth implementation of the Project.

5. Summary of Evaluation based on the Five Evaluation Criteria

5.1 Relevance (Details are described in Section 1 of Annex 5)

The Overall Goal and the Project Purpose are still considered relevant with the needs of Syria and target groups, including staff of the DFEA and GCEA, local inhabitants, etc.. They are still consistent with the national development plan of Syria as well as Official Development Assistance (ODA) policies of Japan. Japanese technical advantage in the field of environmental monitoring has been confirmed. As for the Project design, it would have been more appropriate if regional peculiarities are taken into account in selecting analytical fields and/or parameters for some DFEAs.

5.2 Effectiveness (Details are described in Section 2 of Annex 5)

So far, most of the Objectively Verifiable Indicators of the Project Purpose have been mostly achieved except for publication of monitoring results. As confirmed at the time of the Mid-term Evaluation, "GCEA has a policy to disclose all the environmental data obtained through the DFEA laboratories to the public through the annual report and the Web site". For the publication of monitoring results, the laboratories need to be authorized by either Syrian Government or a third laboratory such as the Atomic Energy Commission (AEC) of Syria. To date, none of the DFEA laboratories have been authorized yet though some of the laboratories of the DFEAs have participated in a program of AEC titled "Program for Quality Control of Laboratory Analysis". In addition, the achievement in the field of Air Quality Analysis is behind the schedule due to delay of procurement and delivery of the major equipment and subsequent reduction in the training period. Except for publication of monitoring results, however, it is expected that the Project Purpose would be mostly achieved by the end of the Project on the whole. The Outputs of the Project have contributed to the achievement of the Project Purpose. The Project is considered to be effective.

5.3 Efficiency (Details are described in Section 3 of Annex 5)

In general, the Inputs from the both sides have been moderately appropriate in terms of timing, quality and quantity. One of the important assumptions ("Laboratory staffs trained by the Project stay in laboratories and keep working on the environmental monitoring") has not been satisfied. Two out of three Pre-Conditions ("Appropriate number of laboratory staff



who have chemical background are assigned in the target DFEAs in governorates” and “Adequate waste water treatment plants shall be prepared before starting laboratory chemical analysis training in the target DFEA in governorates”) had not been satisfied prior to the commencement of the Project. Only one waste water treatment plant in DAM DFEA has been installed, because of the small quantity of waste water from the other DFEAs. However it has not worked because of technical conditions. Therefore, those two Pre-Conditions have not been fully satisfied, either.

Although there have been issues, most of them have been addressed through collaboration of both sides so that their adverse effects on the achievements of the Outputs have been mitigated to certain extent. It is expected that all of the Outputs would be fully or mostly achieved by the end of the Project. The Project is considered to have been mostly efficient.

5.4 Impacts (Details are described in Section 4 of Annex 5)

Impacts at the Overall Goal level: It is likely that the Overall Goal would be mostly achieved in 3-5years after the termination of the Project.

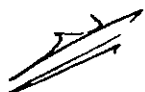
Other impacts: Some positive impacts have been already observed. Negative impacts have not been observed. They are not foreseen, either.

5.5 Sustainability (Details are described in Section 5 of Annex 5)

Institutional and organizational aspects: The legal and policy support for environmental monitoring likely to continue. Environmental monitoring is one of the important organizational tasks of the DFEAs so that it will continue after the end of the Project. In the meantime, the laboratories of the DFEAs have not been authorized yet, which is a major obstacle for the DFEAs to utilize the monitoring data for controlling, enforcing, and punishing the polluters. While GCEA has a plan to increase the number of lab staff further, it is uncertain if all of the current C/P would stay with the DFEAs unless some measures are taken.

Financial aspects: The Syrian government has allocated sufficient budget for laboratories of the DFEAs. It is likely that financial sustainability is secured.

Technical aspects: In terms of sampling and analysis, technical level of most of the C/Ps is expected to be developed enough to continue the relevant activities by themselves, though further improvement regarding Quality Assurance/Quality Control (QA/QC) is necessary. As for the rest of them, those who have and will have reached such a level are expected to transfer the acquired techniques and knowledge to them through OJT, utilizing Standard Operation Procedures (SOP), manuals, teaching materials developed by the Project. In



terms of interpretation and evaluation of the analyzed data, it is necessary for a lab to have at least one person who is able to analyze, evaluate the data, and to determine parameters by his/her own for each relevant analytical field. The equipment provided by the Project is expected to be utilized and maintained properly.

6. Conclusion

So far, the Project Purpose has been mostly accomplished. Hereafter, based on the result of the Project and the new needs of the country, it will be necessary to enhance the precision, among other priorities, of the water quality and air quality monitoring for the improvement of the Project.

It means that the primary basis of the water quality and air quality monitoring system has been established through the implementation of the Project in terms of human resources, facilities, equipments and technologies. Moreover, the water quality data and air quality data acquired by the monitoring activities has been accumulated to publish official reports in the future.

Furthermore, the sustainability of the DFEA labs on the primary stage has been strengthened by the efforts of both sides in the aspects of human resources, budget allocation, legal and institutional framework through the implementation of the Project.

Therefore, it can be concluded that the original target of the Project is expect to be mostly accomplished and then the Project shall be terminated in January 14, 2008 as planned in the R/D.

7. Recommendations

7.1 For the Remaining Period

- (1) It requires continuous efforts to have staff with adequate background and to keep them not to change the job though the GCEA has attempted to address the issue.
- (2) Five DFEAs (i.e. DAM, DAMC, HOM, LTK, and SWD) have already applied, and nine DFEAs are trying to apply the "Program for Quality Control of Laboratory Analysis". The GCEA is needed to promote renewal of the accreditation every three months. It is needed to enhance the QA/QC and the capacity of interpretation and evaluation of analysis.
- (3) Hazardous/Toxic waste water treatment plant has been established in the DAM DFEA; however, it is necessary to repair it for normal operation as soon as possible.



7.2 For the Post-Project Period

<Short Term Recommendations>

(1) Planning for training of Air Quality Analysis

Only three DFEAs (i.e. DAM, HOM, and ALP) have air quality monitoring training, but still need additional training.

Planning for the technical training of Air quality Analysis is necessary for the rest of DFEAs to reach to the Overall Goal of the Project.

(2) Continuous contact with JICA

After the Project, continuous contact with JICA Syria Office is recommended to inform the latest condition of the DFEA labs and to request support when necessity arises.

(3) Beforehand application for the budget

Budget plan for operational expenses of the labs has been already submitted to the MOLAE and the State Planning Commission (SPC). Smooth and timely disbursement of the applied budget is necessary.

(4) The condition needed for the technical capacity development

The C/Ps have acquired basic knowledge and skills for the water quality and air quality monitoring and now they are capable to handle the routine work. However, the enhancement of the precision of the water quality and air monitoring methodology will be needed for more effective achievement of the DFEA labs, mission defined within the related legal framework. To conduct the future activities smoothly, the following matters are recommended.

- (a) Continuous disbursement of sufficient budget for the operation of the DFEA labs.
- (b) More incentives for the staffs who work in the labs.
- (c) Adequate technicians, who will be engaged especially in the activities on analysis in the labs, based on operational plan to be established with verifiable indicators.
- (d) Continuous and appropriate preventive maintenance of the equipments and machineries in the labs.

<Mid and Long Term Recommendations>

(1) Job descriptions

The role of the GCEA and the DFEA labs has various aspects, e.g. supervision of the



industries, provision of technical advice to the organizations related with the water quality and air quality control, etc. It is relevant for the lab staff to take action related with those aspects. However, in the aspect of the technical capacity development of the lab, it is essential to **secure and increase the appropriate permanent staffs**, who work especially for the analysis in the lab and data management. In this sense, the division of the duties in the lab under the integrated institutional framework will be needed in the near future.

The important role of the GCEA is to manage all of the DFEAs, to coordinate all project activities, and to provide technical supports.

(2) Environmental Policy

The GCEA has prepared the National Monitoring Plan and is going to utilize monitoring results for the implementations of the environmental policies such as public awareness, Environment Impact Assessment (EIA) system, and environmental inspection. It is needed to have appropriate procedures on how to reflect the monitoring activities in the environmental administration at the national and local levels.

(3) Accreditation of AEC


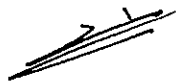
Since the DFEA labs are aiming to be reference laboratories on environmental field in Syria, it is essential to obtain the accreditation of AEC (and the ISO 17025) in the future. Then the labs are expected to proceed the next step for the preparation toward the accreditation. Therefore, it is recommended for JICA to provide appropriate advice when the GCEA and the DFEAs request for it.

8. Lessons Learned

- (1) It is important to promote synergy among the related programs in the same field e.g Mediterranean Environmental Technical Assistance Program (METAP), GTZ's training course on EIA etc. in order to promote greater impact and to ensure sustainability after the project ends.
- (2) Organizational structure of the project as well as internal and mutual communication and understanding is the key issue for efficient and effective implementation of the project.

List of Attachment

Annex 1	The latest PDM (ver. 1)
Annex 2	The latest PO (ver. 0)
Annex 3	Accomplishment of the Project
Annex 4	Implementation Process of the Project
Annex 5	Evaluation based on the Five Evaluation Criteria
Appendix A	Record of Syrian Inputs
A-1	List of C/P
Appendix B	Record of Japanese Inputs
B-1	List of Japanese Experts
B-2	List of Major Equipment
Appendix C	Detailed Tables for some of the Objectively Verifiable Indicators of the Outputs
Appendix D	Detailed Tables for some of the Objectively Verifiable Indicators of the Project Purpose
Appendix E	Activity Chart
Appendix F	List of Abbreviation



Annex 1 The latest Project Design Matrix (page 1/3)

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: -115 staffs of the Directorates and MOLAE

- all 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

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

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p><u>Overall Goal</u> Environmental monitoring system and publication of the monitoring results are introduced at and spread to all the Directorates.</p> <p><u>Project Purpose</u> 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>	<ol style="list-style-type: none"> 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 2. Roles for the national monitoring system are properly allocated among the Directorates. (reference system) 3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates. 4. Results of the monitoring is issued and opened to the public as an annual report at the national level. 	<ol style="list-style-type: none"> 1. Monitoring records kept by the GCEA, MOLAE. 2. Annual report issued by all Directorates. 3. Annual report issued by the GCEA, MOLAE. 	<p>The Syrian government keeps its policy support for environmental protection.</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>	<ol style="list-style-type: none"> 1. Monitoring records kept by the target Directorates and GCEA. 2. Annual report issued by the target Directorates. 	<ol style="list-style-type: none"> 1. Monitoring records kept by the target Directorates and GCEA. 2. Annual report issued by the target Directorates. 	<p>The Syrian government keeps its policy support to provide staff, equipment and budget to the rest of the Directorates</p>

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

Annex 1 The latest Project Design Matrix (page 2/3)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Outputs 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. 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.</p>	<p>2-1 O/m record 2-2 Spare parts & 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>4.1 Environmental monitoring plan specifying parameters and monitoring sites is formulated in respective laboratory by one year after the commencement of the project. 4.2 Environmental monitoring guideline is introduced into a standard for all laboratories by three years after the commencement of the project.</p>	<p>3-1 Data file management record 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. 5.2 Materials for activities for public awareness, such as textbooks, manuals, and pamphlets are prepared 5.3 Seminars and workshops targeted for educational institutions and so forth are conducted 5.4 Periodical network meeting among organization and/or institutions regarding to environmental education in each governorate</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>	

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.

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Annex 1 The latest Project Design Matrix (page 3/3)

Activities	Narrative Summary	Inputs	Important Assumptions
<p>1.1 Completion 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>2.1 Completion 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.</p> <p>2.2 Hands-on trainings at equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</p> <p>2.3 Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.</p> <p>3.1 Design the monitoring record formats for laboratories and for the GCEA in the MOLAE.</p> <p>3.2 Compile monitoring records in each Directorate.</p> <p>3.3 Send the monitoring records from Directorates to the GCEA in the MOLAE.</p> <p>4.1 Conduct preliminary pollution source inventory surveys.</p> <p>4.2 Specify monitoring sites and their parameters.</p> <p>4.3 Formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory.</p> <p>4.4 Provide necessary assistance and guidance to introduce the environmental monitoring guideline into a standard for all laboratories.</p> <p>5.1 To conduct preliminary survey on activities regarding to environmental education and public awareness in each governorate</p> <p>5.2 To formulate textbooks, manuals, and pamphlets for environmental education.</p> <p>5.3 To implement seminars and workshops targeted for educational institutions and NGOs and so forth.</p> <p>5.4 To enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorate (ex. to implement periodical meeting)</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><u>Pre-conditions</u></p> <p>1. Appropriate number of laboratory staff who have chemical background are assigned in the target Directorates for Environmental Affairs in Governorates.</p> <p>2. Laboratory spaces are prepared in the target Directorates for Environmental Affairs in Governorates.</p> <p>3. Adequate waste water treatment plants shall be prepared before starting laboratory chemical analysis training in the target Directorates for Environmental Affairs in Governorates.</p>	

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Annex 2 Tentative Plan of Operation

Version: RFD, Revision 15, September, 2004

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

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 6.2 million inhabitants of Damascus, Aleppo, and Hama 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 CIP	Schedule													
					2004	Year 2005			Year 2006			Year 2007			2008			
					IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	
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, preservation, 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 filing.	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 filing.	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														

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Outputs	Activities	Expected Results	Japanese Experts	Syrian CIP	Schedule Year 2005				Year 2007			
					IV	I	II	III	IV	I	II	III
Output 3 Environmental analysis data is accumulated and properly managed.	3.1 Design the monitoring record forms 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 GCEA in the MOLAE.	Monitoring report format for Directorates Monitoring report format for DSU Environmental monitoring records	Environmental admin. Data Management Environmental admin. Water quality analysis Air quality analysis Environmental admin. Data Management	Environmental admin. Data Management Environmental admin. Water quality analysis Air quality analysis								
Output 4 Laboratory staff is able to formulate an environmental monitoring plan specifying parameters required.	4.1 Conduct preliminary pollution source inventory surveys. 4.2 Specify monitoring sites and their parameters. 4.3 Formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory. 4.4 Provide necessary assistance and guidance to integrate the existing environmental monitoring activities into a standard for oil pollution.	Report of surveys conducted Number of monitoring sites Number of monitoring parameters Environmental monitoring plan for each Directorate	Environmental admin. Water quality analysis Air quality analysis Environmental admin. Water quality analysis Air quality analysis	Environmental admin. Water quality analysis Air quality analysis Environmental admin. Water quality analysis Air quality analysis								
Output 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	5.1 Conduct preliminary survey on activities regarding environmental education and public awareness in each governorates. 5.2 Formulate textbooks, manuals, and pamphlets for environmental education. 5.3 Implement seminars and workshops targeted for educational institutions and NGOs and so on. 5.4 Enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorates (ex. To implement biocultural meeting).	Report of preliminary survey conducted Textbooks, manuals and pamphlets made by the Project Report of seminars and workshops implemented Report of Meetings	Environmental Education Environmental Education Environmental Education Environmental Education	Environmental Education Environmental Education Environmental Education Environmental Education								

CIP: Consultant Personnel
MOLAE: Ministry of Local Administration and Environment
GCEA: General Council for Environmental Affairs, MOLAE
SOP: Standard Operation Procedures
OIM: Operation & Maintenance

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(1) Accomplishment of Inputs

Plan as per PDM/RD	Source/ Method	Results (as of Aug.7, 2007)																											
<p>1 Syrian side</p> <p>1.1 Land, building, laboratories, office space and other necessary facilities for the Project</p>	<p>Review of record inputs</p>	<p>The land and buildings for the Project were made available by Syrian side at the beginning of the project. In 2007, some laboratories of DFEAs moved to new buildings and some others are planning to move in future as summarized below.</p> <p style="text-align: center;">Table (1)-1.1.a Summary of move of laboratories of DFEAs</p> <table border="1"> <thead> <tr> <th>Timing of Move</th> <th>Number and Name of DFEAs</th> </tr> </thead> <tbody> <tr> <td>Labs which have moved to new buildings</td> <td>5 DFEAs - ALP (May 2007), HOM (Jan 2007), HAM (Mar. 2007), DAR (Apr. 2007), QNT (Jan. 2007)</td> </tr> <tr> <td>Labs which plan to move to new buildings</td> <td>7 DFEAs- DAMC (2007 or 2008), LTK (2008), IDL (Oct. 2007), HSK (2008), RAK (unknown), SWD (2009), TAR (2007).</td> </tr> </tbody> </table> <p>Facilities for proper water and electricity supply, drainage, and ventilation, equipment and machinery such as air conditioner (AC), generator and automatic voltage regulator (AVR), and shelves and tables are considered necessary items for the laboratory works in Syria. Available facilities at the target 14 DFEAs are summarized in the table below</p> <p style="text-align: center;">Table (1)-1.1.b Summary of laboratory facilities at DFEAs</p> <table border="1"> <thead> <tr> <th>Facilities & equipment</th> <th>Provision by Syrian side</th> </tr> </thead> <tbody> <tr> <td>Electricity supply</td> <td>-Provided to all labs in DFEAs but unstable in ALP</td> </tr> <tr> <td>Water supply</td> <td>-Provided to all labs in DFEAs</td> </tr> <tr> <td>Drainage system</td> <td>-Provided to all labs in DFEAs -In the case of ALP, where lab is currently located in the basement, drain pipes are placed on the ceilings. Furthermore, a drain ditch is located in the basement, which has caused flooding of discharged water. There is a plan to establish a new lab on the land adjacent to the current building by the end of 2008.</td> </tr> <tr> <td>AC</td> <td>-Provided to 10 labs (DAM, HAM, LTK, DZR, IDL, HSK, SWD, DAR, TAR) -Not provided to 4 labs (DAMC, ALP, HOM and QNT)</td> </tr> <tr> <td>AVR</td> <td>-Provided to 8 labs (DAM, DAMC, ALP, HOM, HAM, HSK, DAR, QNT) -Not provided to 6 labs (LTK, DZR, IDL, RAK, SWD, & QNT)</td> </tr> <tr> <td>Generator</td> <td>-Provided to 1 lab (HOM) * In Mar. 2006, the Japanese side provided 7 generators to 7 labs (ALP, HOM, LTK, DZR, RAK, SWD, & TAR) -Not available in 6 labs (DAM, ALP, HAM, IDL, HSK, DAR, QNT)</td> </tr> <tr> <td>Shelves & tables</td> <td>-Provided to all DFEAs</td> </tr> </tbody> </table>	Timing of Move	Number and Name of DFEAs	Labs which have moved to new buildings	5 DFEAs - ALP (May 2007), HOM (Jan 2007), HAM (Mar. 2007), DAR (Apr. 2007), QNT (Jan. 2007)	Labs which plan to move to new buildings	7 DFEAs- DAMC (2007 or 2008), LTK (2008), IDL (Oct. 2007), HSK (2008), RAK (unknown), SWD (2009), TAR (2007).	Facilities & equipment	Provision by Syrian side	Electricity supply	-Provided to all labs in DFEAs but unstable in ALP	Water supply	-Provided to all labs in DFEAs	Drainage system	-Provided to all labs in DFEAs -In the case of ALP, where lab is currently located in the basement, drain pipes are placed on the ceilings. Furthermore, a drain ditch is located in the basement, which has caused flooding of discharged water. There is a plan to establish a new lab on the land adjacent to the current building by the end of 2008.	AC	-Provided to 10 labs (DAM, HAM, LTK, DZR, IDL, HSK, SWD, DAR, TAR) -Not provided to 4 labs (DAMC, ALP, HOM and QNT)	AVR	-Provided to 8 labs (DAM, DAMC, ALP, HOM, HAM, HSK, DAR, QNT) -Not provided to 6 labs (LTK, DZR, IDL, RAK, SWD, & QNT)	Generator	-Provided to 1 lab (HOM) * In Mar. 2006, the Japanese side provided 7 generators to 7 labs (ALP, HOM, LTK, DZR, RAK, SWD, & TAR) -Not available in 6 labs (DAM, ALP, HAM, IDL, HSK, DAR, QNT)	Shelves & tables	-Provided to all DFEAs					
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Shelves & tables	-Provided to all DFEAs																												
<p>1.2 Assignment of counterparts and administrative personnel</p> <p>(a) Administrative management counterpart: Project Manager, Director for basic analysis for water quality, Director for chemical and biological analysis, Director for air quality analysis, Director for environmental education, Director for data</p>	<p>-ditto-</p>	<p>As per the plan, administrative and management C/P has been assigned as shown in the table below.</p> <p style="text-align: center;">Table(1)-1.2a Assignment of project administrative management C/P</p> <table border="1"> <thead> <tr> <th>Position in the Project</th> <th>#</th> <th>Position in MOLAE</th> </tr> </thead> <tbody> <tr> <td>1 Project Director</td> <td>1</td> <td>General Director of GCEA</td> </tr> <tr> <td>2 Project Manager</td> <td>1</td> <td>Director of Directorate for Laboratories</td> </tr> <tr> <td>3 Director for basic analysis for water quality</td> <td>1</td> <td>Director of Directorate for EIA</td> </tr> <tr> <td>4 Director for chemical and biological analysis</td> <td>1</td> <td>Director of Directorate for Chemical Safety</td> </tr> <tr> <td>5 Director for air quality analysis</td> <td>1</td> <td>Director, Directorate for Air Safety</td> </tr> <tr> <td>6 Director for environmental education</td> <td>1</td> <td>Director, Directorate for Awareness and Environmental Information</td> </tr> <tr> <td>7 Director for data management</td> <td>1</td> <td>Director, Directorate for Information and System</td> </tr> <tr> <td>8 Sub-site Directors</td> <td>14</td> <td>Directors of 14 Target DFEAs</td> </tr> </tbody> </table> <p>At present, 106 persons are assigned to the Project as technical C/P in total. Almost all of them are the lab staff. But in some cases, Director or Deputy Director is also included.</p>	Position in the Project	#	Position in MOLAE	1 Project Director	1	General Director of GCEA	2 Project Manager	1	Director of Directorate for Laboratories	3 Director for basic analysis for water quality	1	Director of Directorate for EIA	4 Director for chemical and biological analysis	1	Director of Directorate for Chemical Safety	5 Director for air quality analysis	1	Director, Directorate for Air Safety	6 Director for environmental education	1	Director, Directorate for Awareness and Environmental Information	7 Director for data management	1	Director, Directorate for Information and System	8 Sub-site Directors	14	Directors of 14 Target DFEAs
Position in the Project	#	Position in MOLAE																											
1 Project Director	1	General Director of GCEA																											
2 Project Manager	1	Director of Directorate for Laboratories																											
3 Director for basic analysis for water quality	1	Director of Directorate for EIA																											
4 Director for chemical and biological analysis	1	Director of Directorate for Chemical Safety																											
5 Director for air quality analysis	1	Director, Directorate for Air Safety																											
6 Director for environmental education	1	Director, Directorate for Awareness and Environmental Information																											
7 Director for data management	1	Director, Directorate for Information and System																											
8 Sub-site Directors	14	Directors of 14 Target DFEAs																											

Plan as per PDM/RD	Source/ Method	Results (as of Aug.7, 2007)						
management, Sub-site Directors (b) Technical C/P at each DFEA		Table(1)-1.2b: Number of technical C/P at each DFEA						
		Number of C/P assigned to the Project						
		Directorates		Net Total	Water (Output 1~4)	Air (Output 1~4)	Data management	Public Awareness
		1	Damascus	18	14 (3)	5	3(1)	3
		2	Damascus Countryside	9	14 (7)	-	2	-
		3	Aleppo	6	4 (2)	4	1(1)	1(1)
		4	Homs	15	10 (4)	6	3	-
		5	Hama	6	6	-	1(1)	-
		6	Lattakia	10	8	-	2	4
		7	Deir-ez-Zor	4	4	-	1(1)	-
		8	Idlib	6	4	-	2	-
		9	Hasakeh	5	4	-	1	1
		10	Rakka	3	3	-	-	-
		11	Sweida	10	8	-	2	-
		12	Dara'a	6	5	-	1	-
13	Tartous	6	6	-	1(1)	3		
14	Quneitra	3	3	-	1(1)	-		
Total including double counting			93 (16)	15	20 (5)	-		
Net Total		119	77	15	15	12(1)		
*Note: () is double counted.								
(For details, please see Appendix A-1)								
1.3Running expenses for the implementation of the Project	-ditto-	So far, total of 10, 538,000 SP has been allocated for running expenses for the Project Activities at DFEAs as shown in the table below. (This is a planned figure. An actual amount expenses are controlled by the Governor Office.)						
Table(1)-1.3 : Allocation of running expenses for the Project Implementation at each DFEA and GCEA by Syrian Fiscal Year (SFY)								
Unit=Syrian Pound								
Directorates		SFY 2006(SP)	SFY 2007(SP)					
1	Damascus	n/a	Not Yet					
2	Damascus Countryside	n/a	600,000					
3	Aleppo	n/a	600,000					
4	Homs	n/a	500,000					
5	Hama	n/a	500,000					
6	Lattakia	n/a	500,000					
7	Deir-ez-Zor	n/a	400,000					
8	Idlib	n/a	200,000					
9	Hasakeh	n/a	300,000					
10	Rakka	n/a	200,000					
11	Sweida	n/a	300,000					
12	Dara'a	n/a	200,000					
13	Tartous	n/a	500,000					
14	Quneitra	n/a	200,000					
GCEA		n/a	n/a					
Total		n/a	5,000,000					
Note: In 2007, DAM DFEA includes the Basic and Chemical & Bio, but other 13 DFEAs are the Basic only. Expenses for Chemical & Bio for DAMC, HOM, and ALP DFEAs, Heavy Metal for DAM DFEA, and Air Quality for DAM, HOM, and ALP DFEAs will be from 2008.								

(17)

2 Japanese side																																																																				
2.1 Dispatch of expert team (Experts in the fields of water quality analysis, air quality analysis, environmental management, environmental education, and data management)	Review of record of Inputs	<p>The Japanese Experts in the fields of water quality analysis, air quality analysis, environmental management, environmental education, and data management have been dispatched as planned.</p> <p>Table(1)-2.1 Dispatch of Japanese Expert Team by Japanese Fiscal Year (Apr-Mar)</p> <table border="1"> <thead> <tr> <th>Technical Fields</th> <th>JFY 2004 (Jan-Mar.2005)</th> <th>JFY 2005</th> <th>JFY 2006</th> <th>JFY 2007 (plan: Apr-Dec)</th> <th>Total (m/m)</th> </tr> </thead> <tbody> <tr> <td>1 Chief Advisor/ Environmental management</td> <td>1.67</td> <td>8.00</td> <td>4.87</td> <td>3.00</td> <td>17.54</td> </tr> <tr> <td>2 Water quality (Basic analysis)</td> <td>2.30</td> <td>6.00</td> <td>4.50</td> <td>2.50</td> <td>15.30</td> </tr> <tr> <td>3 Water quality (Chemical and biological analysis-1)</td> <td>0.00</td> <td>7.40</td> <td>7.00</td> <td>5.60</td> <td>20.00</td> </tr> <tr> <td>4 Water quality (Chemical and biological analysis-2)</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>4.50</td> <td>4.50</td> </tr> <tr> <td>5 Water quality (Heavy metal)</td> <td>0.00</td> <td>1.50</td> <td>4.00</td> <td>4.80</td> <td>10.30</td> </tr> <tr> <td>6 Air quality analysis</td> <td>0.00</td> <td>3.50</td> <td>3.63</td> <td>2.90</td> <td>10.03</td> </tr> <tr> <td>7 Environmental education</td> <td>1.00</td> <td>2.50</td> <td>1.50</td> <td>1.50</td> <td>6.50</td> </tr> <tr> <td>8 Data management</td> <td>0.00</td> <td>2.00</td> <td>2.00</td> <td>2.00</td> <td>6.00</td> </tr> <tr> <td>9 Coordinator/Procurement management</td> <td>1.00</td> <td>2.00</td> <td>2.00</td> <td>0.00</td> <td>5.00</td> </tr> <tr> <td>Total (m/m) (Including coordinator 5.00)</td> <td>6.27</td> <td>32.90</td> <td>29.50</td> <td>26.80</td> <td>95.47</td> </tr> </tbody> </table> <p>* This figure includes 0.30 m/m for Home assign</p>	Technical Fields	JFY 2004 (Jan-Mar.2005)	JFY 2005	JFY 2006	JFY 2007 (plan: Apr-Dec)	Total (m/m)	1 Chief Advisor/ Environmental management	1.67	8.00	4.87	3.00	17.54	2 Water quality (Basic analysis)	2.30	6.00	4.50	2.50	15.30	3 Water quality (Chemical and biological analysis-1)	0.00	7.40	7.00	5.60	20.00	4 Water quality (Chemical and biological analysis-2)	0.00	0.00	0.00	4.50	4.50	5 Water quality (Heavy metal)	0.00	1.50	4.00	4.80	10.30	6 Air quality analysis	0.00	3.50	3.63	2.90	10.03	7 Environmental education	1.00	2.50	1.50	1.50	6.50	8 Data management	0.00	2.00	2.00	2.00	6.00	9 Coordinator/Procurement management	1.00	2.00	2.00	0.00	5.00	Total (m/m) (Including coordinator 5.00)	6.27	32.90	29.50	26.80	95.47
Technical Fields	JFY 2004 (Jan-Mar.2005)	JFY 2005	JFY 2006	JFY 2007 (plan: Apr-Dec)	Total (m/m)																																																															
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3 Water quality (Chemical and biological analysis-1)	0.00	7.40	7.00	5.60	20.00																																																															
4 Water quality (Chemical and biological analysis-2)	0.00	0.00	0.00	4.50	4.50																																																															
5 Water quality (Heavy metal)	0.00	1.50	4.00	4.80	10.30																																																															
6 Air quality analysis	0.00	3.50	3.63	2.90	10.03																																																															
7 Environmental education	1.00	2.50	1.50	1.50	6.50																																																															
8 Data management	0.00	2.00	2.00	2.00	6.00																																																															
9 Coordinator/Procurement management	1.00	2.00	2.00	0.00	5.00																																																															
Total (m/m) (Including coordinator 5.00)	6.27	32.90	29.50	26.80	95.47																																																															
2.2 Provision of equipment (a)Equipment for basic water analysis (b)Equipment for chemical and biological analysis (c)Equipment for heavy metal analysis (d) Equipment for air quality analysis		<p>So far, equipment, which is equivalent to approximately JPY 139,262 thousand yen up to march 2007, has been provided for the implementation of the Project. Major equipment includes Portable Calorimeter Kits(14), Portable EC and TDS Meters (14), Portable DO Meters (14), Portable Turbidity Meters (14), COD Reactors (14), Analytical Balances (14), Incubators(14), UV/VIS Spectrophotometers (1), High-Volume Air Samplers for TSP (12), High-Volume Air Samplers for PM10(12), Low-Volume Air Samplers (12), Atomic Absorption Spectrophotometer (AAS) set (1), Equipment for As,Sb and Hg (1),etc.</p> <p>Table(1)-2.2 Cost for the equipment provided Japanese side</p> <p style="text-align: right;">Unit= 1,000 yen</p> <table border="1"> <thead> <tr> <th>Japanese Fiscal Year (Apr-Mar)</th> <th>Equipment for project</th> <th>Equipment for Experts</th> <th>Equipment provided by JICA Expert Team</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td rowspan="2">2004</td> <td>Procured in Syria</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>Procured in Japan</td> <td>58,705</td> <td>0</td> <td>58,705</td> </tr> <tr> <td rowspan="2">2005</td> <td>Procured in Syria</td> <td>41,169</td> <td>0</td> <td>43,969</td> </tr> <tr> <td>Procured in Japan</td> <td>13,516</td> <td>2,075</td> <td>15,591</td> </tr> <tr> <td rowspan="2">2006</td> <td>Procured in Syria</td> <td>12,075</td> <td>0</td> <td>20,838</td> </tr> <tr> <td>Procured in Japan</td> <td>0</td> <td>59</td> <td>59</td> </tr> <tr> <td rowspan="2">Total</td> <td>Procured in Syria</td> <td>53,244</td> <td>0</td> <td>64,907</td> </tr> <tr> <td>Procured in Japan</td> <td>72,221</td> <td>2,134</td> <td>74,355</td> </tr> <tr> <td>Grand Total</td> <td></td> <td>125,465</td> <td>2,134</td> <td>139,262</td> </tr> </tbody> </table>	Japanese Fiscal Year (Apr-Mar)	Equipment for project	Equipment for Experts	Equipment provided by JICA Expert Team	Total	2004	Procured in Syria	0	0	0	Procured in Japan	58,705	0	58,705	2005	Procured in Syria	41,169	0	43,969	Procured in Japan	13,516	2,075	15,591	2006	Procured in Syria	12,075	0	20,838	Procured in Japan	0	59	59	Total	Procured in Syria	53,244	0	64,907	Procured in Japan	72,221	2,134	74,355	Grand Total		125,465	2,134	139,262																				
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(2) Accomplishment of Outputs

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Aug.7, 2007)																																																																																																																																																										
<p>Outputs In the Target DFEAs:</p> <p>Output 1. Technical level of laboratory concerning to environmental sampling and analysis is improved</p>	<p>1.1 All laboratory staff conducted environmental monitoring according to the SOP completed by the Project after the commencement of the Project</p>	<p>Review of environmental monitoring records</p>	<p>So far, 74.2% of all lab staff have become able to conduct EMO as shown in the table below. It is expected that 80 % of lab staff will have been able to conduct EMO by the end of the Project.</p> <p style="text-align: center;">Table(2)-1.1: Number of lab staff who can conduct EMO according to SOP and its ratio to all the lab staff.</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th># of target lab staff = (a)</th> <th># of staff who can conduct EMO according to SOP = (b)</th> <th>Ratio of (b) to (a)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>Damascus</td> <td>Water</td> <td>14</td> <td>13</td> <td>92.9</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>3</td> <td>3</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>17</td> <td>16</td> <td>94.1</td> </tr> <tr> <td>2</td> <td>Damascus Countryside</td> <td>Water</td> <td>14</td> <td>12</td> <td>85.7</td> <td>BWQA, CBA,</td> </tr> <tr> <td rowspan="3">3</td> <td>Aleppo</td> <td>Water</td> <td>5</td> <td>4</td> <td>80.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>4</td> <td>4</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>9</td> <td>8</td> <td>88.9</td> </tr> <tr> <td rowspan="3">4</td> <td>Homs</td> <td>Water</td> <td>10</td> <td>9</td> <td>90.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>6</td> <td>6</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>16</td> <td>15</td> <td>93.8</td> </tr> <tr> <td>5</td> <td>Hama</td> <td>Water</td> <td>6</td> <td>6</td> <td>100.0</td> <td>BWQA,</td> </tr> <tr> <td>6</td> <td>Lattakia</td> <td>Water</td> <td>8</td> <td>8</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>8</td> <td>Idlib</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>9</td> <td>Hasakeh</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>10</td> <td>Rakka</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>11</td> <td>Sweida</td> <td>Water</td> <td>8</td> <td>8</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>12</td> <td>Dara'a</td> <td>Water</td> <td>5</td> <td>5</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>13</td> <td>Tartous</td> <td>Water</td> <td>6</td> <td>6</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>14</td> <td>Quneitra</td> <td>Water</td> <td>3</td> <td>2</td> <td>66.7</td> <td>BWQA</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Water</td> <td>93</td> <td>69</td> <td>74.2</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>13</td> <td>13</td> <td>100</td> </tr> <tr> <td></td> <td>All</td> <td>106</td> <td>82</td> <td>77.4</td> </tr> </tbody> </table> <p style="text-align: right;">(For detailed information, please see Appendix C-1.1)</p>				Directorates	Field	# of target lab staff = (a)	# of staff who can conduct EMO according to SOP = (b)	Ratio of (b) to (a)	Remarks	1	Damascus	Water	14	13	92.9	BWQA, CBA, HMA		Air	3	3	100.0		All	17	16	94.1	2	Damascus Countryside	Water	14	12	85.7	BWQA, CBA,	3	Aleppo	Water	5	4	80.0	BWQA, CBA,		Air	4	4	100.0		All	9	8	88.9	4	Homs	Water	10	9	90.0	BWQA, CBA,		Air	6	6	100.0		All	16	15	93.8	5	Hama	Water	6	6	100.0	BWQA,	6	Lattakia	Water	8	8	100.0	BWQA	7	Deir-ez-Zor	Water	4	4	100.0	BWQA	8	Idlib	Water	4	4	100.0	BWQA	9	Hasakeh	Water	3	3	100.0	BWQA	10	Rakka	Water	3	3	100.0	BWQA	11	Sweida	Water	8	8	100.0	BWQA	12	Dara'a	Water	5	5	100.0	BWQA	13	Tartous	Water	6	6	100.0	BWQA	14	Quneitra	Water	3	2	66.7	BWQA	Total		Water	93	69	74.2	BWQA, CBA, HMA		Air	13	13	100		All	106	82	77.4
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	<p>1.2 All lab staff reach the grade B level by 3 years.</p> <p>-Grade B=be able to analyze and work out the data, but need decision by the superior to evaluate and determine the data.</p>	<p>Review of training records</p>	<p>In total 85.8 % of lab staffs have reached the grade B level already as shown in the table below. It is expected that 90% will have reached the Grade A level by the end of the Project.</p> <p style="text-align: center;">Table(2)-1.2: Number of lab staff who have reached the Grade B level and its ratio to all the lab staff</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th># of target lab staff = (a)</th> <th># of staff who have reached Grade B level = (b)</th> <th>Ratio of (b) to (a) (%)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>Damascus</td> <td>Water</td> <td>14</td> <td>7</td> <td>50.0</td> <td rowspan="3">BWQA, CBA, HMA *1</td> </tr> <tr> <td></td> <td>Air</td> <td>3</td> <td>3</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>17</td> <td>10</td> <td>58.8</td> </tr> <tr> <td>2</td> <td>Damascus Countryside</td> <td>Water</td> <td>14</td> <td>12</td> <td>85.7</td> <td>BWQA, CBA,</td> </tr> <tr> <td rowspan="3">3</td> <td>Aleppo</td> <td>Water</td> <td>5</td> <td>4</td> <td>80.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>4</td> <td>4</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>9</td> <td>8</td> <td>88.9</td> </tr> <tr> <td rowspan="3">4</td> <td>Homs</td> <td>Water</td> <td>10</td> <td>9</td> <td>90.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>6</td> <td>6</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>16</td> <td>15</td> <td>93.8</td> </tr> <tr> <td>5</td> <td>Hama</td> <td>Water</td> <td>6</td> <td>6</td> <td>100.0</td> <td>BWQA,</td> </tr> <tr> <td>6</td> <td>Lattakia</td> <td>Water</td> <td>8</td> <td>8</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>8</td> <td>Idlib</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>9</td> <td>Hasakeh</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>10</td> <td>Rakka</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>11</td> <td>Sweida</td> <td>Water</td> <td>8</td> <td>7</td> <td>87.5</td> <td>BWQA</td> </tr> <tr> <td>12</td> <td>Dara'a</td> <td>Water</td> <td>5</td> <td>4</td> <td>80.0</td> <td>BWQA</td> </tr> <tr> <td>13</td> <td>Tartous</td> <td>Water</td> <td>6</td> <td>5</td> <td>83.3</td> <td>BWQA</td> </tr> <tr> <td>14</td> <td>Quneitra</td> <td>Water</td> <td>3</td> <td>2</td> <td>66.7</td> <td>BWQA</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Water</td> <td>93</td> <td>93</td> <td>83.9</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>13</td> <td>13</td> <td>92.9</td> </tr> <tr> <td></td> <td>All</td> <td>106</td> <td>106</td> <td>85.8</td> </tr> </tbody> </table> <p>*1 Six more persons are expected to be able to operate and maintain the equipment by the end</p>				Directorates	Field	# of target lab staff = (a)	# of staff who have reached Grade B level = (b)	Ratio of (b) to (a) (%)	Remarks	1	Damascus	Water	14	7	50.0	BWQA, CBA, HMA *1		Air	3	3	100.0		All	17	10	58.8	2	Damascus Countryside	Water	14	12	85.7	BWQA, CBA,	3	Aleppo	Water	5	4	80.0	BWQA, CBA,		Air	4	4	100.0		All	9	8	88.9	4	Homs	Water	10	9	90.0	BWQA, CBA,		Air	6	6	100.0		All	16	15	93.8	5	Hama	Water	6	6	100.0	BWQA,	6	Lattakia	Water	8	8	100.0	BWQA	7	Deir-ez-Zor	Water	4	4	100.0	BWQA	8	Idlib	Water	4	4	100.0	BWQA	9	Hasakeh	Water	3	3	100.0	BWQA	10	Rakka	Water	3	3	100.0	BWQA	11	Sweida	Water	8	7	87.5	BWQA	12	Dara'a	Water	5	4	80.0	BWQA	13	Tartous	Water	6	5	83.3	BWQA	14	Quneitra	Water	3	2	66.7	BWQA	Total		Water	93	93	83.9	BWQA, CBA, HMA		Air	13	13	92.9		All	106	106	85.8
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	<p>1.3. 50% of all lab staff reach the grade A level by 3 years after the commencement of the Project</p> <p>-Grade A=be able to analyze, evaluate the data, and determine parameters by his/her own.</p>	-ditto-	<p>of August 2007.</p> <p>(For detailed information, please see Appendix C-1.2)</p> <p>So far, 19.8% of lab staff of all DFEAs has reached the grade A level as shown in the table blow. It is expected that 30 % will have reached the Grade A level by the end of the Project.</p> <p>Table(2)-1.3: Number of lab staff who have reached the Grade A level and its ratio to all the lab staff</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th># of target lab staff = (a)</th> <th># of staff who have reached Grade A level = (b)</th> <th>Ratio of (b) to (a) (%)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>Damascus</td> <td>Water</td> <td>14</td> <td>1</td> <td>7.1</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>3</td> <td>0</td> <td>0.0</td> </tr> <tr> <td></td> <td>All</td> <td>17</td> <td>1</td> <td>5.9</td> </tr> <tr> <td rowspan="2">2</td> <td>Damascus Countryside</td> <td>Water</td> <td>14</td> <td>2</td> <td>14.3</td> <td rowspan="2">BWQA, CBA,</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="3">3</td> <td>Aleppo</td> <td>Water</td> <td>5</td> <td>1</td> <td>20.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>4</td> <td>1</td> <td>25.0</td> </tr> <tr> <td></td> <td>All</td> <td>9</td> <td>2</td> <td>22.2</td> </tr> <tr> <td rowspan="3">4</td> <td>Homs</td> <td>Water</td> <td>10</td> <td>2</td> <td>20.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>6</td> <td>2</td> <td>33.3</td> </tr> <tr> <td></td> <td>All</td> <td>16</td> <td>4</td> <td>25.0</td> </tr> <tr> <td>5</td> <td>Hama</td> <td>Water</td> <td>6</td> <td>2</td> <td>33.3</td> <td>BWQA,</td> </tr> <tr> <td>6</td> <td>Lattakia</td> <td>Water</td> <td>8</td> <td>1</td> <td>12.5</td> <td>BWQA</td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor</td> <td>Water</td> <td>4</td> <td>2</td> <td>50.0</td> <td>BWQA</td> </tr> <tr> <td>8</td> <td>Idlib</td> <td>Water</td> <td>4</td> <td>1</td> <td>25.0</td> <td>BWQA</td> </tr> <tr> <td>9</td> <td>Hasakeh</td> <td>Water</td> <td>3</td> <td>1</td> <td>33.3</td> <td>BWQA</td> </tr> <tr> <td>10</td> <td>Rakka</td> <td>Water</td> <td>3</td> <td>0</td> <td>0.0</td> <td>BWQA</td> </tr> <tr> <td>11</td> <td>Sweida</td> <td>Water</td> <td>8</td> <td>2</td> <td>25.0</td> <td>BWQA</td> </tr> <tr> <td>12</td> <td>Dara'a</td> <td>Water</td> <td>5</td> <td>1</td> <td>20.0</td> <td>BWQA</td> </tr> <tr> <td>13</td> <td>Tartous</td> <td>Water</td> <td>6</td> <td>1</td> <td>16.7</td> <td>BWQA</td> </tr> <tr> <td>14</td> <td>Quneitra</td> <td>Water</td> <td>3</td> <td>1</td> <td>33.3</td> <td>BWQA</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Water</td> <td>93</td> <td>18</td> <td>19.4</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>13</td> <td>3</td> <td>23.1</td> </tr> <tr> <td></td> <td>All</td> <td>106</td> <td>21</td> <td>19.8</td> </tr> </tbody> </table>	Directorates	Field	# of target lab staff = (a)	# of staff who have reached Grade A level = (b)	Ratio of (b) to (a) (%)	Remarks	1	Damascus	Water	14	1	7.1	BWQA, CBA, HMA		Air	3	0	0.0		All	17	1	5.9	2	Damascus Countryside	Water	14	2	14.3	BWQA, CBA,						3	Aleppo	Water	5	1	20.0	BWQA, CBA,		Air	4	1	25.0		All	9	2	22.2	4	Homs	Water	10	2	20.0	BWQA, CBA,		Air	6	2	33.3		All	16	4	25.0	5	Hama	Water	6	2	33.3	BWQA,	6	Lattakia	Water	8	1	12.5	BWQA	7	Deir-ez-Zor	Water	4	2	50.0	BWQA	8	Idlib	Water	4	1	25.0	BWQA	9	Hasakeh	Water	3	1	33.3	BWQA	10	Rakka	Water	3	0	0.0	BWQA	11	Sweida	Water	8	2	25.0	BWQA	12	Dara'a	Water	5	1	20.0	BWQA	13	Tartous	Water	6	1	16.7	BWQA	14	Quneitra	Water	3	1	33.3	BWQA	Total		Water	93	18	19.4	BWQA, CBA, HMA		Air	13	3	23.1		All	106	21	19.8
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<p>Output 2 Labs are properly managed by lab staff themselves.</p>	<p>2.1 Equip in labs are properly operated and maintained according to the O/M manual compiled by lab staff by 3 years after the commencement of the Project</p>	Review of O/M records	<p>So far, 82.1 % of the lab staff of all DFEAs is able to operate and maintain the equipment in the lab according to the O/M manual as shown in the table blow.</p> <p>Table(2)-2.1: Number of lab staff who can operate and maintain equipment in lab according to the manual and overall compliance of the manual at each Directorates.</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th># of target lab staff = (a)</th> <th># of staff who can O/M equip. in lab according to the manual = (b)</th> <th>Ratio of (b) to (a) (%)</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td rowspan="3">1</td> <td>Damascus</td> <td>Water</td> <td>14</td> <td>6</td> <td>42.9</td> <td rowspan="3">BWQA, CBA, HMA *1</td> </tr> <tr> <td></td> <td>Air</td> <td>3</td> <td>3</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>17</td> <td>9</td> <td>52.9</td> </tr> <tr> <td rowspan="2">2</td> <td>Damascus Countryside</td> <td>Water</td> <td>14</td> <td>9</td> <td>64.3</td> <td rowspan="2">BWQA, CBA,</td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td rowspan="3">3</td> <td>Aleppo</td> <td>Water</td> <td>5</td> <td>4</td> <td>80.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>4</td> <td>4</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>9</td> <td>8</td> <td>88.9</td> </tr> <tr> <td rowspan="3">4</td> <td>Homs</td> <td>Water</td> <td>10</td> <td>9</td> <td>90.0</td> <td rowspan="3">BWQA, CBA,</td> </tr> <tr> <td></td> <td>Air</td> <td>6</td> <td>6</td> <td>100.0</td> </tr> <tr> <td></td> <td>All</td> <td>16</td> <td>15</td> <td>93.8</td> </tr> <tr> <td>5</td> <td>Hama</td> <td>Water</td> <td>6</td> <td>6</td> <td>100.0</td> <td>BWQA,</td> </tr> <tr> <td>6</td> <td>Lattakia</td> <td>Water</td> <td>8</td> <td>8</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>8</td> <td>Idlib</td> <td>Water</td> <td>4</td> <td>4</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>9</td> <td>Hasakeh</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>10</td> <td>Rakka</td> <td>Water</td> <td>3</td> <td>3</td> <td>100.0</td> <td>BWQA</td> </tr> <tr> <td>11</td> <td>Sweida</td> <td>Water</td> <td>8</td> <td>7</td> <td>87.5</td> <td>BWQA</td> </tr> <tr> <td>12</td> <td>Dara'a</td> <td>Water</td> <td>5</td> <td>4</td> <td>80.0</td> <td>BWQA</td> </tr> <tr> <td>13</td> <td>Tartous</td> <td>Water</td> <td>6</td> <td>5</td> <td>83.3</td> <td>BWQA</td> </tr> <tr> <td>14</td> <td>Quneitra</td> <td>Water</td> <td>3</td> <td>2</td> <td>66.7</td> <td>BWQA</td> </tr> <tr> <td rowspan="3">Total</td> <td></td> <td>Water</td> <td>93</td> <td>74</td> <td>79.6</td> <td rowspan="3">BWQA, CBA, HMA</td> </tr> <tr> <td></td> <td>Air</td> <td>13</td> <td>13</td> <td>100</td> </tr> <tr> <td></td> <td>All</td> <td>106</td> <td>87</td> <td>82.1</td> </tr> </tbody> </table> <p>*1 Six more persons are expected to be able to operate and maintain the equipment by the end</p>	Directorates	Field	# of target lab staff = (a)	# of staff who can O/M equip. in lab according to the manual = (b)	Ratio of (b) to (a) (%)	Remarks	1	Damascus	Water	14	6	42.9	BWQA, CBA, HMA *1		Air	3	3	100.0		All	17	9	52.9	2	Damascus Countryside	Water	14	9	64.3	BWQA, CBA,						3	Aleppo	Water	5	4	80.0	BWQA, CBA,		Air	4	4	100.0		All	9	8	88.9	4	Homs	Water	10	9	90.0	BWQA, CBA,		Air	6	6	100.0		All	16	15	93.8	5	Hama	Water	6	6	100.0	BWQA,	6	Lattakia	Water	8	8	100.0	BWQA	7	Deir-ez-Zor	Water	4	4	100.0	BWQA	8	Idlib	Water	4	4	100.0	BWQA	9	Hasakeh	Water	3	3	100.0	BWQA	10	Rakka	Water	3	3	100.0	BWQA	11	Sweida	Water	8	7	87.5	BWQA	12	Dara'a	Water	5	4	80.0	BWQA	13	Tartous	Water	6	5	83.3	BWQA	14	Quneitra	Water	3	2	66.7	BWQA	Total		Water	93	74	79.6	BWQA, CBA, HMA		Air	13	13	100		All	106	87	82.1
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	2.2. Spare parts and consumable materials management system is established by 3 years after the commencement of the Project	Review of spare parts and suppliers lists	<p>of August 2007.</p> <p>(For detailed information, please see Appendix C-2.)</p> <p>O/M sheets for spare parts and chemical reagents were prepared at all DFEAs in June 2006. The O/M sheets for spare parts have been updated as appropriate as shown in the table below.</p> <p>Table(2)-2.2: Status of establishment of management system at each Directorates</p> <table border="1"> <thead> <tr> <th colspan="2">Directorates</th> <th>Timing of preparation of O/M sheet</th> <th>Updating of record on occasion</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Damascus</td> <td>June 2006</td> <td>July 2006(oil meter) May 2007(low volume) July 2007(EC meter)</td> </tr> <tr> <td>2</td> <td>Damascus Countryside</td> <td>ditto</td> <td></td> </tr> <tr> <td>3</td> <td>Aleppo</td> <td>ditto</td> <td></td> </tr> <tr> <td>4</td> <td>Homs</td> <td>ditto</td> <td></td> </tr> <tr> <td>5</td> <td>Hama</td> <td>ditto</td> <td>July 2007(pH meter)</td> </tr> <tr> <td>6</td> <td>Latakia</td> <td>ditto</td> <td></td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor</td> <td>ditto</td> <td></td> </tr> <tr> <td>8</td> <td>Idlib</td> <td>ditto</td> <td>Jan 2006(COD meter)</td> </tr> <tr> <td>9</td> <td>Hasakeh</td> <td>ditto</td> <td></td> </tr> <tr> <td>10</td> <td>Rakka</td> <td>ditto</td> <td></td> </tr> <tr> <td>11</td> <td>Sweida</td> <td>ditto</td> <td>July 2007(EC meter)</td> </tr> <tr> <td>12</td> <td>Dara'a</td> <td>ditto</td> <td></td> </tr> <tr> <td>13</td> <td>Tartous</td> <td>ditto</td> <td></td> </tr> <tr> <td>14</td> <td>Quneitra</td> <td>ditto</td> <td></td> </tr> </tbody> </table>	Directorates		Timing of preparation of O/M sheet	Updating of record on occasion	1	Damascus	June 2006	July 2006(oil meter) May 2007(low volume) July 2007(EC meter)	2	Damascus Countryside	ditto		3	Aleppo	ditto		4	Homs	ditto		5	Hama	ditto	July 2007(pH meter)	6	Latakia	ditto		7	Deir-ez-Zor	ditto		8	Idlib	ditto	Jan 2006(COD meter)	9	Hasakeh	ditto		10	Rakka	ditto		11	Sweida	ditto	July 2007(EC meter)	12	Dara'a	ditto		13	Tartous	ditto		14	Quneitra	ditto	
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	2.3. Chemical reagents are properly stored and cared according to the O/M manual by 3 years after the commencement of the Project	Review of O/M records	<p>As for chemical reagents, O/M sheets are planned to be updated quarterly. While most of DFEAs update the sheets according to the plan, 2 DFEAs have not been able to do so because of serious staff shortage, etc. In most DFEAs, chemical reagents are properly stored and cared. The Team has observed a case where the reagents that need to be kept under certain temperature are stored outside the refrigerator in a lab room without A/C. Director of the said DFEA plans to provide A/C to lab shortly so that adverse effects on the reagents are expected to be solved.</p> <p>Table(2)-2.3: Status of storing and caring chemical reagents at each Directorates</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Timing of preparation of O/M sheet</th> <th>Frequency of updating of O/M sheet (one time/ 3 months)</th> </tr> </thead> <tbody> <tr> <td>1 Damascus</td> <td>June 2006</td> <td>Continued</td> </tr> <tr> <td>2 Damascus Countryside</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>3 Aleppo</td> <td>ditto</td> <td>Not continued (due to serious shortage of staff)</td> </tr> <tr> <td>4 Homs</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>5 Hama</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>6 Latakia</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>7 Deir-ez-Zor</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>8 Idlib</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>9 Hasakeh</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>10 Rakka</td> <td>ditto</td> <td>Not continued</td> </tr> <tr> <td>11 Sweida</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>12 Dara'a</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>13 Tartous</td> <td>ditto</td> <td>Continued</td> </tr> <tr> <td>14 Quneitra</td> <td>ditto</td> <td>Continued</td> </tr> </tbody> </table>	Directorates	Timing of preparation of O/M sheet	Frequency of updating of O/M sheet (one time/ 3 months)	1 Damascus	June 2006	Continued	2 Damascus Countryside	ditto	Continued	3 Aleppo	ditto	Not continued (due to serious shortage of staff)	4 Homs	ditto	Continued	5 Hama	ditto	Continued	6 Latakia	ditto	Continued	7 Deir-ez-Zor	ditto	Continued	8 Idlib	ditto	Continued	9 Hasakeh	ditto	Continued	10 Rakka	ditto	Not continued	11 Sweida	ditto	Continued	12 Dara'a	ditto	Continued	13 Tartous	ditto	Continued	14 Quneitra	ditto	Continued															
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	2.4. Liquid and solid wastes from lab are properly treated according to the lab O/M manual by 3 years after the commencement of the Project	Review of O/M records	<p>As for treatment of liquid wastes from labs, preparation of "(a)dequate waste water treatment . . . before starting laboratory chemical analysis training" is one of the pre-conditions of the Project. This has not been fully satisfied yet. GCEA has purchased wastewater treatment facilities for DAM DFEA, expecting wastewater from all labs to be treated there. The facilities have not been operational, however, due to technical troubles that the supplier has not been able to fix. In the mean time, the other DFEAs have been storing the liquid wastes in tanks, some of which have been already sent to Damascus DFEA already as shown in the table below.</p>																																																												

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Aug.7, 2007)																																																																																																																																																												
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<p>Output 3 Environmental analysis data is accumulated and properly managed.</p>	<p>3.1. Monitoring data collected and analyzed are accumulated in the monitoring records 3 years after the commencement of the Project</p>	<p>Review of data file management records</p>	<p>So far, total of 1,966 samples have been collected and 50,557 data have been analyzed. Total of 21,256 data have been accumulated in the database of PC at each laboratories of DFEAs.</p> <p>Table(2)-3.1: Number of monitoring data accumulated in the database.</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th># of data (samples) collected</th> <th># of data analyzed</th> <th># of data accumulated in the PC database</th> <th>Remarks</th> </tr> </thead> <tbody> <tr><td rowspan="3">1</td><td>Damascus</td><td>Water</td><td>197</td><td>6,520</td><td>2,324</td><td rowspan="3">Mostly BWQA.</td></tr> <tr><td></td><td>Air</td><td>192</td><td>192</td><td>154</td></tr> <tr><td></td><td>All</td><td>389</td><td>6,712</td><td>2,478</td></tr> <tr><td rowspan="2">2</td><td>Damascus Countryside</td><td>Water</td><td>257</td><td>6,770</td><td>3,570</td><td rowspan="2">Mostly BWQA.</td></tr> <tr><td></td><td></td><td></td><td></td><td></td></tr> <tr><td rowspan="3">3</td><td>Aleppo</td><td>Water</td><td>71</td><td>2,682</td><td>854</td><td rowspan="3">Mostly BWQA.</td></tr> <tr><td></td><td>Air</td><td>115</td><td>115</td><td>92</td></tr> <tr><td></td><td>All</td><td>186</td><td>2,797</td><td>946</td></tr> <tr><td rowspan="3">4</td><td>Homs</td><td>Water</td><td>129</td><td>4,316</td><td>1,792</td><td rowspan="3">Mostly BWQA.</td></tr> <tr><td></td><td>Air</td><td>100</td><td>100</td><td>80</td></tr> <tr><td></td><td>All</td><td>229</td><td>4,416</td><td>1,872</td></tr> <tr><td>5</td><td>Hama</td><td>Water</td><td>124</td><td>4,004</td><td>1,736</td><td>BWQA.</td></tr> <tr><td>6</td><td>Lattakia</td><td>Water</td><td>179</td><td>5,698</td><td>2,506</td><td>BWQA</td></tr> <tr><td>7</td><td>Deir-ez-Zor</td><td>Water</td><td>62</td><td>2,268</td><td>868</td><td>BWQA</td></tr> <tr><td>8</td><td>Idlib</td><td>Water</td><td>67</td><td>2,338</td><td>938</td><td>BWQA</td></tr> <tr><td>9</td><td>Hasakeh</td><td>Water</td><td>71</td><td>2,282</td><td>994</td><td>BWQA</td></tr> <tr><td>10</td><td>Rakka</td><td>Water</td><td>60</td><td>1,960</td><td>560</td><td>BWQA</td></tr> <tr><td>11</td><td>Sweida</td><td>Water</td><td>125</td><td>4,298</td><td>1,750</td><td>BWQA</td></tr> <tr><td>12</td><td>Dara'a</td><td>Water</td><td>75</td><td>2,366</td><td>1,050</td><td>BWQA</td></tr> <tr><td>13</td><td>Tartous</td><td>Water</td><td>89</td><td>2,758</td><td>1,246</td><td>BWQA</td></tr> <tr><td>14</td><td>Quneitra</td><td>Water</td><td>53</td><td>1,890</td><td>742</td><td>BWQA</td></tr> <tr><td rowspan="3">Total</td><td></td><td>Water</td><td>1,599</td><td>50,150</td><td>20,930</td><td rowspan="3">Mostly BWQA.</td></tr> <tr><td></td><td>Air</td><td>407</td><td>407</td><td>326</td></tr> <tr><td></td><td>All</td><td>1,966</td><td>50,557</td><td>21,256</td></tr> </tbody> </table> <p>(For detailed information, please see Appendix C- 3.1)</p>	Directorates	Field	# of data (samples) collected	# of data analyzed	# of data accumulated in the PC database	Remarks	1	Damascus	Water	197	6,520	2,324	Mostly BWQA.		Air	192	192	154		All	389	6,712	2,478	2	Damascus Countryside	Water	257	6,770	3,570	Mostly BWQA.						3	Aleppo	Water	71	2,682	854	Mostly BWQA.		Air	115	115	92		All	186	2,797	946	4	Homs	Water	129	4,316	1,792	Mostly BWQA.		Air	100	100	80		All	229	4,416	1,872	5	Hama	Water	124	4,004	1,736	BWQA.	6	Lattakia	Water	179	5,698	2,506	BWQA	7	Deir-ez-Zor	Water	62	2,268	868	BWQA	8	Idlib	Water	67	2,338	938	BWQA	9	Hasakeh	Water	71	2,282	994	BWQA	10	Rakka	Water	60	1,960	560	BWQA	11	Sweida	Water	125	4,298	1,750	BWQA	12	Dara'a	Water	75	2,366	1,050	BWQA	13	Tartous	Water	89	2,758	1,246	BWQA	14	Quneitra	Water	53	1,890	742	BWQA	Total		Water	1,599	50,150	20,930	Mostly BWQA.		Air	407	407	326		All	1,966	50,557	21,256
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<p>Output 4 Lab staff is able to formulate an EMO plan (EMP) specifying parameters required.</p>	<p>4.1. Environmental monitoring plan (EMP) specifying parameters and sites is formulated in respective lab by one year after the commencement of the Project.</p>	<p>Review of monitoring plan</p>	<p>In the fields of BWQA and AQA, monitoring plans for the year 2006 and 2007 have been prepared. It is planned that the plans for the year 2008 will be prepared in December 2007. As for CBA, the plans for the year 2008 are planned to be prepared in December 2007.</p>																																																																																																																																																												

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	<p>4.2 Environmental monitoring guideline is introduced into a standard for all labs is formulated in respective lab by 3year after the commencement of the Project</p>	<p>Review of lab O/M manual</p>	<p>Environmental monitoring guidelines have not been prepared yet at all DFEAs but it is expected that they would be prepared by each DFEA by the end of August 2007.</p>																																																																																							
<p>Output 5 The results and data acquired are open to and shared with the citizens of the target DFEAs.</p> <p>Staff of DFEAs is able to formulate its action plan for public awareness (PW) and environmental education (E&E).</p>	<p>5.1 Preliminary condition on PW is comprehended by each Governorate and shared among organization concerned.</p>	<p>Review of report of preliminary survey at each Governorate</p>	<p>Preliminary survey on condition of public awareness was conducted in 2004 and 2005 in 7 governorates (i.e. Damascus, Damascus Countryside, Aleppo, Homs, Hasakeh, Sweida, and Tartous). Method and results were presented in the National Committee for Public Awareness in Feb. 2006.</p> <p align="center">Table(2)-5.1: Implementation of preliminary survey on public awareness</p> <p align="right">o = implemented X=not implemented</p> <table border="1"> <thead> <tr> <th>Governorate</th> <th>Survey</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Damascus o2004</td> <td>Actual content is trained in the 1st integrated training for environmental management held in DAM.</td> </tr> <tr> <td>2</td> <td>Damascus Countryside o2004</td> <td>ditto</td> </tr> <tr> <td>3</td> <td>Aleppo o2004</td> <td>ditto</td> </tr> <tr> <td>4</td> <td>Homs o2005</td> <td>ditto</td> </tr> <tr> <td>5</td> <td>Hama X</td> <td>ditto</td> </tr> <tr> <td>6</td> <td>Lattakia X</td> <td>ditto</td> </tr> <tr> <td>7</td> <td>Deir-ez-Zor X</td> <td>ditto</td> </tr> <tr> <td>8</td> <td>Idlib X</td> <td>ditto</td> </tr> <tr> <td>9</td> <td>Hasakeh 2005</td> <td>ditto</td> </tr> <tr> <td>10</td> <td>Rakka X</td> <td>ditto</td> </tr> <tr> <td>11</td> <td>Sweida 2005</td> <td>ditto</td> </tr> <tr> <td>12</td> <td>Dara'a X</td> <td>ditto</td> </tr> <tr> <td>13</td> <td>Tartous 2005</td> <td>ditto</td> </tr> <tr> <td>14</td> <td>Quneitra X</td> <td>ditto</td> </tr> <tr> <td>Total</td> <td>7</td> <td></td> </tr> </tbody> </table>	Governorate	Survey	Remarks	1	Damascus o2004	Actual content is trained in the 1 st integrated training for environmental management held in DAM.	2	Damascus Countryside o2004	ditto	3	Aleppo o2004	ditto	4	Homs o2005	ditto	5	Hama X	ditto	6	Lattakia X	ditto	7	Deir-ez-Zor X	ditto	8	Idlib X	ditto	9	Hasakeh 2005	ditto	10	Rakka X	ditto	11	Sweida 2005	ditto	12	Dara'a X	ditto	13	Tartous 2005	ditto	14	Quneitra X	ditto	Total	7																																								
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	<p>5.2. Materials for activities for public awareness, such as textbook, manuals, and pamphlets are prepared.</p>	<p>Review of list of activity materials</p>	<p>Materials for activities for public awareness, such as textbook, manuals, etc. have been prepared by GCEA and the priority DFEAs as shown in the tables below.</p> <p>Table (2)-5.2a: Types and number of public awareness materials prepared by GCEA (2005-2006)</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Textbooks</th> <th>Manuals</th> <th>C/D</th> <th>others</th> </tr> </thead> <tbody> <tr> <td>2005</td> <td>-Eco-plant game (300 sets) -Its instruction manual</td> <td>-</td> <td>-Video program "Japan Experience on Pollution Control" (2,000 sets)</td> <td>-Humat Beia Newsletter No.2 (3,000 sets)</td> </tr> <tr> <td>2006</td> <td>-</td> <td>-Environmental Works Manual (2,000 sets)</td> <td>-Water treatment Technology in Japan (300 sets) -The History of Pollution and Environmental Restoration in Yokkaichi (300 sets)</td> <td>-Humat Beia Newsletter No.3 (1,500 sets) - Humat Beia Newsletter No.4 (2,000 sets) -Humat Beia Newsletter special issue for study tour to Egypt (200 sets)</td> </tr> </tbody> </table> <p>Table (2)-5.2b: Types and number of public awareness materials prepared by the priority Directorates (since Jan, 2007)</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Textbooks</th> <th>C/D</th> <th>others</th> </tr> </thead> <tbody> <tr> <td>1 Damascus</td> <td>-Eco-plant game (20 sets)</td> <td>- CDs mentioned in the table above (50 sets)</td> <td>-Presentation materials for WS and seminar -Humat Beia Newsletter</td> </tr> <tr> <td>2 Homs</td> <td>ditto</td> <td>ditto</td> <td>ditto</td> </tr> <tr> <td>3 Aleppo</td> <td>ditto</td> <td>ditto</td> <td>ditto</td> </tr> <tr> <td>4 Latakia</td> <td>ditto</td> <td>ditto</td> <td>ditto</td> </tr> <tr> <td>Total</td> <td>80 sets</td> <td>200 sets</td> <td>800 sets</td> </tr> </tbody> </table>	Year	Textbooks	Manuals	C/D	others	2005	-Eco-plant game (300 sets) -Its instruction manual	-	-Video program "Japan Experience on Pollution Control" (2,000 sets)	-Humat Beia Newsletter No.2 (3,000 sets)	2006	-	-Environmental Works Manual (2,000 sets)	-Water treatment Technology in Japan (300 sets) -The History of Pollution and Environmental Restoration in Yokkaichi (300 sets)	-Humat Beia Newsletter No.3 (1,500 sets) - Humat Beia Newsletter No.4 (2,000 sets) -Humat Beia Newsletter special issue for study tour to Egypt (200 sets)	Directorates	Textbooks	C/D	others	1 Damascus	-Eco-plant game (20 sets)	- CDs mentioned in the table above (50 sets)	-Presentation materials for WS and seminar -Humat Beia Newsletter	2 Homs	ditto	ditto	ditto	3 Aleppo	ditto	ditto	ditto	4 Latakia	ditto	ditto	ditto	Total	80 sets	200 sets	800 sets																									
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	<p>5.3 Seminars and workshops targeted for educational institutions and so forth are conducted.</p>	<p>Review of reports of seminars and workshops</p>	<p>In total, 12 workshops have been conducted by 4 priority DFEAs as shown in the tables below.</p> <p>Table (2)-5.3a: Damascus DFEA</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of workshop/seminar</th> <th># of participants</th> <th>Type of institutions/organizations</th> </tr> </thead> <tbody> <tr> <td>1 May 2006</td> <td>Workshop for demonstration of Eco-plant game</td> <td>App. 10</td> <td>Staff in Damascus DFEA</td> </tr> <tr> <td>2 Feb. 2007</td> <td>Seminar on public awareness raising for industrial sector</td> <td>3</td> <td>Staff in Damascus DFEA</td> </tr> <tr> <td>3 Feb., 2007</td> <td>Workshop with Chamber of Industry initiated by GCEA and DFEA</td> <td>30</td> <td>Damascus Chamber of Industry and member companies</td> </tr> </tbody> </table> <p>Table (2)-5.3b: Homs DFEA</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of workshop/seminar</th> <th># of participants</th> <th>Type of institutions/organizations</th> </tr> </thead> <tbody> <tr> <td>1 May 2006</td> <td>Workshop with Chamber of Industry initiated by GCEA and DFEA</td> <td>50</td> <td>Homs Chamber of Industry and member companies</td> </tr> <tr> <td>2 Feb. 2007</td> <td>Seminar on public awareness raising for industrial sector</td> <td>3</td> <td>Staff in Homs DFEA</td> </tr> </tbody> </table> <p>Table (2)-5.3c: Aleppo DFEA</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of workshop/seminar</th> <th># of participants</th> <th>Type of institutions/organizations</th> </tr> </thead> <tbody> <tr> <td>1 May 2006</td> <td>Seminar on awareness targeting the owner of factories, through Chamber of Industry</td> <td>Over 30</td> <td>Aleppo Chamber of Industry and member companies</td> </tr> <tr> <td>2 Jan. 2007</td> <td>Seminar on public awareness raising for industrial sector</td> <td>9</td> <td>Staff in Aleppo DFEA</td> </tr> <tr> <td>3 Jan. 2007</td> <td>Workshop with Chamber of Industry initiated by GCEA and DFEA</td> <td>30</td> <td>Aleppo Chamber of Industry and member companies</td> </tr> </tbody> </table> <p>Table (2)-5.3d: Latakia DFEA</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Type of workshop/seminar</th> <th># of participants</th> <th>Type of institutions/organizations</th> </tr> </thead> <tbody> <tr> <td>1 May 2006</td> <td>Workshop for demonstration of Eco-plant game</td> <td>3</td> <td>Staff in Latakia DFEA</td> </tr> <tr> <td>2 June 2006</td> <td>Seminar on awareness targeting the owner of factories through Chamber of Industry</td> <td>6</td> <td>JUDCO Steel</td> </tr> <tr> <td>3 Jan. 2007</td> <td>Seminar on public awareness raising for industrial sector</td> <td>12</td> <td>Staff in Latakia DFEA</td> </tr> <tr> <td>4 Jan. 2007</td> <td>Workshop with Chamber of Industry initiated by GCEA and DFEA</td> <td>20</td> <td>Latakia Chamber of Industry and member companies</td> </tr> </tbody> </table>	Year	Type of workshop/seminar	# of participants	Type of institutions/organizations	1 May 2006	Workshop for demonstration of Eco-plant game	App. 10	Staff in Damascus DFEA	2 Feb. 2007	Seminar on public awareness raising for industrial sector	3	Staff in Damascus DFEA	3 Feb., 2007	Workshop with Chamber of Industry initiated by GCEA and DFEA	30	Damascus Chamber of Industry and member companies	Year	Type of workshop/seminar	# of participants	Type of institutions/organizations	1 May 2006	Workshop with Chamber of Industry initiated by GCEA and DFEA	50	Homs Chamber of Industry and member companies	2 Feb. 2007	Seminar on public awareness raising for industrial sector	3	Staff in Homs DFEA	Year	Type of workshop/seminar	# of participants	Type of institutions/organizations	1 May 2006	Seminar on awareness targeting the owner of factories, through Chamber of Industry	Over 30	Aleppo Chamber of Industry and member companies	2 Jan. 2007	Seminar on public awareness raising for industrial sector	9	Staff in Aleppo DFEA	3 Jan. 2007	Workshop with Chamber of Industry initiated by GCEA and DFEA	30	Aleppo Chamber of Industry and member companies	Year	Type of workshop/seminar	# of participants	Type of institutions/organizations	1 May 2006	Workshop for demonstration of Eco-plant game	3	Staff in Latakia DFEA	2 June 2006	Seminar on awareness targeting the owner of factories through Chamber of Industry	6	JUDCO Steel	3 Jan. 2007	Seminar on public awareness raising for industrial sector	12	Staff in Latakia DFEA	4 Jan. 2007	Workshop with Chamber of Industry initiated by GCEA and DFEA	20	Latakia Chamber of Industry and member companies
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	<p>5.4 Periodical network meeting among organizations and institutions regarding to E&E in each Governorate are organized.</p>	<p>Review of report or minutes of meeting</p>	<p>Under the MOLAE decision No.2051 dated on Oct. 3, 2005, the National Committee for Public Awareness was established. Under the Committee, a sub-committee, consisting of the relevant organizations, was established in each governorate.</p>																									

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(3) . Project Purpose

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Aug.7, 2007)																																																																									
<p>Target DFEAs are capable to conduct EMO according to own EMP and to implement public awareness activities.</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 DFEAs: (water) manual sampling level (air) not included to the Project</p>	<p>Review of monitoring records kept by the target DFEAs and GCEA and annual report issued by the target DFEAs</p>	<p>In the field of water quality analysis, all of the target DFEAs have mostly achieved the targeted level. In the field of air quality analysis, all of the target DFEAs have partly achieved the targeted level. Details are described in the table below.</p> <p>Table(3)-1: Achievement of target analysis technology level at each Directorate.</p> <table border="1"> <thead> <tr> <th>Directorates</th> <th>Field</th> <th>Achievement</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td rowspan="2">a</td> <td>Damascus</td> <td>Water</td> <td>Mostly</td> <td>Knowledge acquired through the Project has been prepared in place of SOP's.: pH, temp, color total dissolved solids (TDS), DO, total suspended solids (SS), COD, BOD, NO3, PO4, Cl, NH3-N, electrical conductivity, and turbidity have been compiled. Compilation of SOP for Chemical and Biological Analysis (CBA) has been mostly completed and is expected to be completed by the end of the Project. 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	<p>2. The target Directorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves</p>	<p>-ditto-</p>	<p>Monitoring activities of water and air quality have been carried out basically on regular basis mostly according to the plan formulated by the Project.</p>																																																																									

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3.	Activities for public awareness are implemented in four (4) Directorates at least out of fourteen (14) Directorates	-ditto-																																																																																																																																														

(17)

Annex 3 : Accomplishment of the Project (page 13/13)

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Results (as of Aug.7, 2007)
	4. Monitoring results are issued and continuously opened to the public as an annual report at Governorate level	-ditto-	Annual reports for the year 2006 have been prepared by all of the DFEAs and preparation of the reports for the year 2007 is underway. The reports, however, have not been published yet.

(4) . Overall Goal (Prospects)

Narrative Summary	Objectively Verifiable Indicators	Source/ Method	Prospects
Environmental Monitoring (EMO) system and publication are introduced and disseminated to all DFEAs.	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	Question naire and interview with C/P and JET	Air quality monitoring at target 3 DFEA(DAM, Homs, and Aleppo) in Hot Spot areas are started and first objectives have been achieved. Provisionally GCEA will be able to make a plan to set up the automatic air quality monitoring system in Hot Spot areas and the basic Lab for Air quality monitoring especially PM10 and TSP at other 11 DFEA in the next stage. Objectives will be mostly achieved within 5 years.
	2. Roles for national monitoring system are properly allocated among the Directorates (reference system) a	-ditto-	14 DFEA have important roles for the national environmental monitoring system. Strengthening for Lab analysis is carried out to assist the national environmental monitoring system. This Project's desired objective is being achieved in the sense that monitoring technology has been improved to a certain level, however technical capacities must be improved even further and on a continuous basis in order for Syria to be able to accurately analyze all of the items in the water quality and air quality. Medium and long-term attainment targets for the laboratory's analytical technology should be set up.
	3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates	-ditto-	Results of Water quality and Air quality monitoring have been accumulated in 14 DFEA. Indispensable Information disclosure e.g. environmental annual report and data book will be implemented to open to the public at 14 governorates in the near future. Networking between GCEA and DFEAs for data accumulation, DFEAs in Hasakeh, Deir ez Zor, Rakka and Damascus are out of service area by STE (Syria telecommunuchication establishment). In addition, STE branch offices in Tartous and Lattakia have not been able to provide the service due to technical reasons. DFEAs in Aleppo, Homs, Hama, Dara'a and Quneitra have moved to new building and need to establish new connection.
	4. Results of the monitoring is issued and opened to the public as an annual report at the national level	-ditto-	Results of water quality and air quality monitoring have been accumulated in 14 DFEA. GCEA's Information disclosure e.g. environmental annual report and data book will be implemented to open to the public in the near future.

(18)

Annex 4: Implementation Process of the Project (page 1/6)

Abbreviation: C/P-counterpart personnel J/E-Japanese Expert

Item	Source/Methods	Results (as of Aug.7, 2007)																											
1 Progress of Activities		Most of the Activities of PDM have been implemented as planned while some of the Activities under Output 1 have been delayed. It is expected, however, that the planned items of the Activities will be mostly completed before the termination of the Project through efforts both J/Es and their C/Ps. Major issues specific to the Activities under each Output are highlighted in the rows below.																											
(1) Activities under Output 1	Review of Activity Chart, progress reports, Questionnaire, interview with C/P, J/E.	<p>Overall: Target DFEAs and the parameters to be dealt with for each analytical fields are summarized below.</p> <table border="1"> <thead> <tr> <th colspan="2">Analytical Field</th> <th>Target DFEAs</th> <th colspan="2">Parameters</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Water</td> <td>1 Basic Water Quality Analysis</td> <td>14 (all)</td> <td>14</td> <td>pH, temp, color, total dissolved solids (TDS), DO, suspended solids (SS), COD, BOD, NO₃-N, PO₄-³⁻, Cl⁻, NH₃-N, electrical conductivity, and turbidity</td> </tr> <tr> <td>2 Chemical and Biological Analysis (I)</td> <td>1 (DAM)</td> <td>15</td> <td>Total Suspended Solids (SS), COD, NO₃, PO₄, Chloride, NH₃-N, Oil and Grease, Settleable Solids, Fluorides, Sulfide-S, Surfactants, Total Count of the Coliform Group, Cyanide, Hexavalent Chromium (Cr⁶⁺), T-Cr</td> </tr> <tr> <td>3 Heavy Metal Analysis</td> <td>1 (DAM)</td> <td>14</td> <td>Aluminum, Arsenic, Barium, Cadmium, Chromium, Nickel, Mercury, Iron, Antimony, Copper, Manganese, Zinc, Lead, Silver</td> </tr> <tr> <td>4 Chemical and Biological Analysis (II)</td> <td>3 (DAMC, ALP, HOM)</td> <td>10</td> <td>COD, NO₃, PO₄, NH₃-N, Oil & Grease, Sulfide-S, Surfactants, Hexavalent Chromium (Cr⁶⁺), T-Cr, Hardness, NO₂</td> </tr> <tr> <td>Air</td> <td>1 Air Quality Analysis</td> <td>3 (DAM, ALP, HOM)</td> <td>9</td> <td>SO_x, NO_x, Pb, TSP, PM₁₀, Ozone, Fluorine compound, NH₃, Dust fall</td> </tr> </tbody> </table> <p>(a) Activity1-1 > Compilation of Standard Operational Procedures (SOP) for Basic Water Quality Analysis (BWQA), Heavy Metal Analysis (HMA) and Air Quality Analysis (AQA) has been completed. Compilation of SOP for Chemical and Biological Analysis (CBA) has been mostly completed and is expected to be completed by the end of the Project.</p> <p>(b) Activity1-2~1-4 Overall: So far, lecture, hands-on training, as well as on-the-job training has been conducted. Training activities under CBA have been implemented almost as planned. In the case of BWQA, HMA, and AQA, procurement procedures, delivery, and/or installment of the major equipment was delayed, which resulted in an overall delay of the related training activities. Though all the training subjects/items envisaged under Output 1 are expected to be covered by the end of the Project, there would not be sufficient time for the C/Ps to accumulate practical experiences of sampling and analysis for regular monitoring through on-the-job training.</p> <p>1) Basic Water Analysis: > As per the plans delineated in the R/D signed in September 2004 as well as the M/M signed in March 2004, training for Basic Water Quality Analysis (BWQA) has been conducted in 14 DFEAs, covering 14 parameters in total (i.e. pH, temp, color, total dissolved solids (TDS), DO, suspended solids (SS), COD, BOD, NO₃-N, PO₄³⁻, Cl⁻, NH₃-N, electrical conductivity, and turbidity). Since January 2005, the training for BWQA has been implemented in 6 batches. > <u>Delay of delivery of equipment:</u> Equipment for BWQA was supposed to have been delivered and installed at DFEAs by the beginning of April 2005 before the first batch of training of BWQA started. The supplier, however, could not deliver the equipment as scheduled. Whereas most of the equipment was delivered in June 2005, one of the major equipment, which is necessary to analyze BOD, was not delivered until after the end of the first batch, which</p>	Analytical Field		Target DFEAs	Parameters		Water	1 Basic Water Quality Analysis	14 (all)	14	pH, temp, color, total dissolved solids (TDS), DO, suspended solids (SS), COD, BOD, NO ₃ -N, PO ₄ - ³⁻ , Cl ⁻ , NH ₃ -N, electrical conductivity, and turbidity	2 Chemical and Biological Analysis (I)	1 (DAM)	15	Total Suspended Solids (SS), COD, NO ₃ , PO ₄ , Chloride, NH ₃ -N, Oil and Grease, Settleable Solids, Fluorides, Sulfide-S, Surfactants, Total Count of the Coliform Group, Cyanide, Hexavalent Chromium (Cr ⁶⁺), T-Cr	3 Heavy Metal Analysis	1 (DAM)	14	Aluminum, Arsenic, Barium, Cadmium, Chromium, Nickel, Mercury, Iron, Antimony, Copper, Manganese, Zinc, Lead, Silver	4 Chemical and Biological Analysis (II)	3 (DAMC, ALP, HOM)	10	COD, NO ₃ , PO ₄ , NH ₃ -N, Oil & Grease, Sulfide-S, Surfactants, Hexavalent Chromium (Cr ⁶⁺), T-Cr, Hardness, NO ₂	Air	1 Air Quality Analysis	3 (DAM, ALP, HOM)	9	SO _x , NO _x , Pb, TSP, PM ₁₀ , Ozone, Fluorine compound, NH ₃ , Dust fall
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(19)

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Item	Source/Methods	Results (as of Aug.7, 2007)																																	
		<p>resulted in a delay of two month for starting hands-on and on-the job training related to BOD analysis at DFEAs. Training related to BOD analysis was postponed to the second batch</p>																																	
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		<p>2) Chemical and Biological Analysis (I) of water:</p> <ul style="list-style-type: none"> ➤ As per the plans delineated in the R/D signed in September 2004 as well as the M/M signed in March 2004, training for Chemical and Biological Analysis (CBA) has been conducted in Damascus DFEA, covering 13 parameters in total (i.e. Total Suspended Solids (SS), COD, NO3, PO4, Cl, NH3-N, Oil and Grease, Settleable Solids, Fluorides, Sulfide-S, Surfactants, Total Count of the Coliform Group, and Cyanide)., including 6 parameters which are also listed as parameters for BWQA. Since July 2006, training has been implemented in 3 batches. Lecture, hands-on training as well as OJT training have been conducted. ➤ <u>Addition of the parameter to be dealt with:</u> In 2006, Hexavalent Chromium was dropped from the list for HMA and added to the list for CBA because this could be measured and analyzed by Spectrophotometer under CBA. 																																	
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		<p>3) Heavy Metal Analysis (HMA) of water</p> <ul style="list-style-type: none"> ➤ As per the M/M signed in March 2004, training for HMA was to cover 16 parameters (i.e. Aluminum, Arsenic, Barium, Beryllium, Cadmium, Chromium, Hexavalent Chromium, Nickel, Mercury, Iron, Antimony, Copper, Manganese, Zinc, Lead, Silver) and one item (i.e. Total Value of Heavy Metal). So far, one batch of training has been conducted and the second batch is ongoing. Lecture, hands-on training as well as OJT training have been conducted. ➤ <u>Change in the parameters to be dealt with:</u> In February 2007, Beryllium was dropped from the list of the parameters to be dealt within the Project because its standard solution was not available. In 2006, Hexavalent Chromium was dropped because this parameter could be measured and analyzed by Spectro photometer under CBA. ➤ <u>Delay in installment of equipment:</u> Initially, the training in HMA was planned to start in December 2006, when Atomic Absorption System (AAS), the principle and essential equipment for the analysis, was expected to be delivered and 																																	

Annex 4: Implementation Process of the Project (page 3/6)

Item	Source/Methods	Results (as of Aug.7, 2007)																																																																
		<p>installed in DAM DFEA. Though the equipment was delivered in time, it took the supplier more than one month to properly install it. Subsequently, the start of the full-fledged training was delayed, which resulted in reduction of the actual training period in that batch (from 3 months to nearly one and a half month). This has caused an overall delay in the training in HMA.</p> <p>➤ <u>Additional lecture training</u>: In addition to the original plan, lecture training of manual analysis for HMA at 8 DFEAs (i.e. DAMC, ALP, HAM, LTK, DZR, IDL, HSK, and DAR), to which GCEA has provided or plan to provide AAS, started in June 2007 (i.e. the second batch) in response to the request made by the Syrian side.</p> <p style="text-align: center;">Overall progress of training for HMA under Output 1</p> <table border="1"> <thead> <tr> <th>Training Subject</th> <th>Target DFEAs</th> <th>Progress</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Sampling</td> <td>14 DFEAs</td> <td>-Completed</td> <td></td> </tr> <tr> <td>Manual analysis</td> <td>8 DFEAs*1</td> <td>-Completed</td> <td>-Lecture training only.</td> </tr> <tr> <td>Manual and instrumental analysis</td> <td>DAM</td> <td>-Ongoing</td> <td>-Expected to be completed in Dec. 2007</td> </tr> <tr> <td>Data filing</td> <td>DAM</td> <td>-Ongoing</td> <td>-ditto</td> </tr> <tr> <td>Interpretation</td> <td>DAM</td> <td>-Ongoing</td> <td>-Expected to be conducted in Nov-Dec 2007</td> </tr> <tr> <td>Evaluation</td> <td>DAM</td> <td>-Not started yet</td> <td>-Expected to be conducted in Nov-Dec 2007</td> </tr> <tr> <td>Reporting</td> <td>DAM</td> <td>-Not started yet</td> <td>-ditto</td> </tr> </tbody> </table> <p>*1 DAMC, ALP, HAM, LTK, DZR, IDL, HSK, and DAR, which have procured or plan to procure AAS with the budget of GCEA</p> <p>4) Chemical and Biological Analysis (II) of water</p> <p>➤ In response to the request made by the Syrian side, additional training in the field of CBA, covering 10 parameters (i.e. COD, NO₃, PO₄, NH₃-N, Oil & Grease, Sulfide-S, Surfactants, Hexavalent Chromium (Cr⁶⁺), T-Cr, Hardness, NO₂), started at 3 DFEAs (i.e. DAMC, HOM, ALP), to which GCEA had provided Spectro Photometers and Oil Content Meters. Lecture, hands-on training as well as OJT training have been conducted.</p> <p style="text-align: center;">Overall progress of training for CBA (II) under Output 1</p> <table border="1"> <thead> <tr> <th>Training Subject</th> <th>Target DFEAs</th> <th>Progress</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Sampling</td> <td>3 DFEAs (DAMC, HOM, ALP)</td> <td>-Completed</td> <td></td> </tr> <tr> <td>Basic analysis for CBA</td> <td>ditto</td> <td>-Completed</td> <td></td> </tr> <tr> <td>Manual analysis</td> <td>ditto</td> <td>-Ongoing</td> <td>-Expected to be completed in Dec. 2007</td> </tr> <tr> <td>Data filing</td> <td>ditto</td> <td>-Ongoing</td> <td>-ditto</td> </tr> <tr> <td>Interpretation</td> <td>ditto</td> <td>-Ongoing</td> <td>-ditto</td> </tr> <tr> <td>Evaluation</td> <td>ditto</td> <td>-Not started yet</td> <td>-Plan to be conducted in Nov-Dec 2007</td> </tr> <tr> <td>Reporting</td> <td>ditto</td> <td>-Not started yet</td> <td>-ditto</td> </tr> </tbody> </table> <p>5) Air Quality Analysis (AQA)</p> <p>➤ As per the plans delineated in the R/D signed in September 2004 as well as the M/M signed in March 2004, training for Air Quality Analysis (AQA) has been conducted at DFEAs in Damascus, ALP, and HOM, dealing with 5 out of 12 parameters listed in Law no.50 (i.e. SO_x, NO_x, Pb, TSP, PM₁₀). Since June 2005, training has been implemented in 5 batches. Lecture, hands-on training as well as OJT training have been conducted.</p> <p>➤ <u>Addition of the parameters to be dealt with</u>: Four more parameters (i.e. Ozone, Fluorine compound, NH₃, Dust fall) have been added as items of training, taking into account regional peculiarity, etc.</p> <p>➤ <u>Delay of procurement and delivery of equipment</u>: There was a serious delay in starting the training activities for AQA. The major equipments, such as high-volume air samplers, low-volume air samplers, weather stations, etc., were scheduled to be delivered in December 2005-January 2006 in order to be</p>	Training Subject	Target DFEAs	Progress	Remarks	Sampling	14 DFEAs	-Completed		Manual analysis	8 DFEAs*1	-Completed	-Lecture training only.	Manual and instrumental analysis	DAM	-Ongoing	-Expected to be completed in Dec. 2007	Data filing	DAM	-Ongoing	-ditto	Interpretation	DAM	-Ongoing	-Expected to be conducted in Nov-Dec 2007	Evaluation	DAM	-Not started yet	-Expected to be conducted in Nov-Dec 2007	Reporting	DAM	-Not started yet	-ditto	Training Subject	Target DFEAs	Progress	Remarks	Sampling	3 DFEAs (DAMC, HOM, ALP)	-Completed		Basic analysis for CBA	ditto	-Completed		Manual analysis	ditto	-Ongoing	-Expected to be completed in Dec. 2007	Data filing	ditto	-Ongoing	-ditto	Interpretation	ditto	-Ongoing	-ditto	Evaluation	ditto	-Not started yet	-Plan to be conducted in Nov-Dec 2007	Reporting	ditto	-Not started yet	-ditto
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Annex 4: Implementation Process of the Project (page 4/6)

Item	Source/Methods	Results (as of Aug.7, 2007)																																
		<p>in time for the first batch of the training. Due to administrative reasons of JICA, however, the procurement procedure was delayed. Furthermore, the suppliers could not deliver the equipment as contracted: most of the equipment was delivered to the DFEAs nearly at the end of or after the end of second batch. As a consequence, the full-fledged training, utilizing the major equipments, could not start until January 2007 (i.e. the third batch). Besides, it was necessary to repair Low-Volume Air Samplers so that the related training had to be postponed for five months till June 2007 (i.e. the fourth batch). Although it is expected that all of the planned training subjects would be covered as shown in the table above, the problem of the equipment and subsequent reduction of the training period have adversely affected achievement of Output 1 in the field of AQA.</p> <p style="text-align: center;">Overall progress of training for AQA under Output 1</p> <table border="1"> <thead> <tr> <th>Training Subject</th> <th>Target DFEAs</th> <th>Progress</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>Sampling</td> <td>3 DFEAs (DAM, HOM, ALP)</td> <td>-Completed</td> <td></td> </tr> <tr> <td>Basic analysis</td> <td>ditto</td> <td>-Completed</td> <td></td> </tr> <tr> <td>Manual analysis</td> <td>ditto</td> <td>-Completed</td> <td>-Expected to be completed in Dec. 2007</td> </tr> <tr> <td>Data filing</td> <td>ditto</td> <td>-Completed</td> <td>-ditto</td> </tr> <tr> <td>Interpretation</td> <td>ditto</td> <td>-Ongoing</td> <td>-ditto</td> </tr> <tr> <td>Evaluation</td> <td>ditto</td> <td>-Not started yet</td> <td>-Plan to be conducted in Nov-Dec 2007</td> </tr> <tr> <td>Reporting</td> <td>ditto</td> <td>-Ongoing</td> <td>-ditto</td> </tr> </tbody> </table> <p>6) Sample transportation to DAM DFEA in the field of water quality analysis</p> <ul style="list-style-type: none"> ➤ <u>Needs for sample transportation system:</u> As per the plan delineated in the Inception Report, in the field of water quality analysis, DAM is expected to be able to analyze the pollution parameters, which the other 13 DFEAs are not able to do (i.e. the parameters covered by CBA (I) and HMA). For that, sample transportation system in the fields of CBA and HBA between DAM DFEA and the others is planned to be established by the end of the Project. ➤ <u>Parameters for CBA (I):</u> Preliminary training was carried out at ALP in January 2007. Draft SOP on sampling for CBA was prepared in July 2007. The draft has been explained to DFEAs in DAMC, HOM, and ALP. To the other 10 DFEAs, the draft is planned to be explained by the end of the Project. It is expected that the draft would be finalized by the end of the Project. It may be difficult to carry out training on sample transportation using the finalized SOP by the end of the Project, however. ➤ <u>Parameters for HMA:</u> Six DFEAs (i.e.HOM, TAR, IDL, SWD, QNT, RAK), to which GCEA does not have a plan to provide AAS at the moment, has formulated their respective sample transportation plans. Two of them (i.e.TAR and IDL) have started sending the samples already. It is expected that the other four will start sending samples to DAM DFEA by the end of the Project. 	Training Subject	Target DFEAs	Progress	Remarks	Sampling	3 DFEAs (DAM, HOM, ALP)	-Completed		Basic analysis	ditto	-Completed		Manual analysis	ditto	-Completed	-Expected to be completed in Dec. 2007	Data filing	ditto	-Completed	-ditto	Interpretation	ditto	-Ongoing	-ditto	Evaluation	ditto	-Not started yet	-Plan to be conducted in Nov-Dec 2007	Reporting	ditto	-Ongoing	-ditto
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(2)Activities under Output 2	-ditto-	<ul style="list-style-type: none"> ➤ Activities under Output 2 have been mostly implemented as planned. 																																
(3)Activities under Output 3	-ditto-	<ul style="list-style-type: none"> ➤ Activities 3-1& 3-2 have been mostly implemented as planned. ➤ Activity 3-3: As for networking between GCEA and DFEAs for data accumulation, DFEAs in HSK, DZR, RAK and DAM are out of service area by Syria Telecommunication Establishment (STE). -In addition, STE branch offices in TAR and LTK have not been able to provide the service due to technical reasons. DFEAs in ALP, HOM, HAM, DAR and QNT have moved to new building and need to establish new connection. 																																

Annex 4: Implementation Process of the Project (page 5/6)

Item	Source/ Methods	Results (as of Aug.7, 2007)
(4)Activities under Output 4	-ditto-	<ul style="list-style-type: none"> ➤ Activities 4-1-4-2: These Activities have been implemented and have been completed as planned. ➤ Activity 4-3: In the fields of BWQA and AQA, monitoring plans for the year 2006 and 2007 have been prepared. It is planned that the plans for the year 2008 will be prepared in December 2007. With regard to HMA, one-year plan was prepared in August 2007. As for CBA, the plans for the year 2008 are planned to be prepared in December 2007. With regard to HMA, one-year plan was prepared in August 2007. ➤ Activity 4-4: This Activity item is planned to be conducted and to be completed by the end of August
(6)Activities under Output 5	-ditto-	<ul style="list-style-type: none"> ➤ Activities 5-1 & 5-2: These Activity items have been conducted as planned. ➤ Activity 5-3: In the first half of the Project period, seminars and workshops targeted for educational institutions, etc. have been conducted by GCEA. The Project has increasingly focused on the public awareness activities on industrial sector through Chamber of Industry (COI) towards the latter half, which would contribute to the achievement of Output 5 more directly. (This was confirmed by the recommendation (6) of the Mid-term Evaluation). The priority DFEAs were selected in May 2007, under whose jurisdiction exist a good number of pollution sources. The change of direction from environmental education in the school to public awareness with industrial firms, however, make less expectation to the Project for staff of Dept. of Public Awareness in both GCEA and DFEAs. In January 2007, Workshops targeting COI were conducted in the priority DFEAs except HOM, where such a workshop had been organized by the Project previously. But in July-August 2007, workshops were not realized.
2 Project Management		
(1)Decision making & Monitoring process	Review of project reports, materials related to PO, PDM, questionnaire & interview with C/P, J/E	<ul style="list-style-type: none"> ➤ The primary decision making body for the Project is the Steering Committee (SC), which is equivalent to Joint Coordination Committee of other JICA projects, chaired by the Minister of MOLAE (chair), has been organized twice a year to review the overall progress of the Project and exchange opinions on major issues that have arisen during the implementation of the Project. In addition, the Technical Committee (TC), consisting of administrative C/P and the J/E team was met 15 times (7 times in 2005 and 5 times in 2006, 3 times in 2007) so far. According to the R/D, functions of TC include formulation of the monthly operational work plan and contents of the Project in line with the annual operational work plan of the Project among others. Though general progress of the previous period as well as the plan for the current period was discussed, monthly operational work plan per se has not been formulated. ➤ As an internal monitoring system, weekly meeting, consisting of the GCEA administrative C/P and the J/E team, has been conducted since June 2006. Progress of the activities of the previous week, activity plan of the week, issues encountered during the previous week, as well as special topics are discussed during the meetings. ➤ The J/E Team has prepared and submitted four progress reports to JICA and the GCEA. After its summary is approved by SC, the reports (Arabic translation) are distributed to the DFEAs for reference. Summary which was discussed and approved by the meeting of SC. ➤ PDM and PO are essential tool for monitoring of the projects of JICA. Some of the Objectively Verifiable Indicators for the Outputs and the Project Purpose of the PDM (ver.0), attached to the R/D, were not well defined and some of them lack target. Description of some of the Activities is vague. The tentative PO (ver. 0) attached to the R/D also lacked "Person in Charge (Syrian side)" and "Implementers (Syrian side)" as well as required Inputs were not specified for each Activity, either. It also lacked sub-activities. In the reviewing process, these issues have not been addressed. This has made it difficult for all those concerned to have common understanding of the overall implementation process and progress of the Project based on the PO as well as achievement at the Output level.

Annex 4: Implementation Process of the Project (page 6/6)

Item	Source/Methods	Results (as of Aug.7, 2007)
(2) Communication	Review of project reports, questionnaire & interview with C/P, J/E	<ul style="list-style-type: none"> ➤ Communication within the DFEA between the lab staff and their Director as well as among the lab staff has been adequate in general. The lab staff of the DFEAs seem to work as a team and they transfer the skills and knowledge acquired through precedent training to those who could not attend and/or new comers. In some cases, lab staff was not consulted about the layout of the newly established lab. ➤ Communication among the DFEAs and the GCEA has been enhanced at the management level through a series of meetings of TC, which consists of Directors of the DFEAs and the GCEA officials. Besides, DFEA Directors and GCEA contact with each other by telephone, etc. as needed. It would be useful to continue to have periodical meetings among the DFEAs (not only Directors but also lab chiefs) and the GCEA after the end of the Project. At the level of laboratories, however, some of the C/P are of the opinion that more frequent visit of the staff of the GCEA to the DFEAs would be helpful. ➤ Communication between DFEAs and the J/E team has been sufficient for implementation of day-to-day activities of the Project especially since the J/E started visiting the sites for training and assistance. Direct connection with J/E helped the lab staff in solving problems and taking necessary actions. ➤ Communication between the GCEA and the J/E team was not sufficient in the beginning. Since weekly meeting was set in place in June 2006, it has been improved by the effort from both sides. It needs further improvement, however, for smooth implementation of the Project.
3. Coordination with relevant organizations	-ditto-	<ul style="list-style-type: none"> ➤ Most of the DFEAs have been coordinating with the local government organizations (governorates, directorates of water resource, drinking water, irrigation, etc.), Chamber of Industry, private enterprises, Women Federation and Al Baath Youth, environment friend clubs, schools, etc. in implementing the Project activities..
4. Other factors that have affected the implementation process	-ditto-	<ul style="list-style-type: none"> ➤ Contributing factors <ul style="list-style-type: none"> • Cooperation of private sectors and local inhabitants during the sampling, providing the electric power needed for the sampling equipments. • Support of the MOLAE (such as budget) and the GCEA (such as instruction on certain matters) • Support and understanding of Governors and Directors of the DFEAs in laboratory work for environmental monitoring. There is a case where vehicle had been made available by the DFEAs before sampling car was provided by the GCEA • Support of JICA Syria Office in promoting delivery of equipment • Round instruction of J/E team • Team spirit and willingness to learn among technical C/P. ➤ Hampering factors: <ul style="list-style-type: none"> • Lack of support for health cost insurance, allowance for laboratory work and overtime work while some support for official travel and commuting allowance were observed. (On this matter, the Project Director proposed to the Minister of the MOLAE to give incentives for them by applying similar employment conditions as labs in other ministries and institutes in accordance with the laws and regulations of Syria at the fifth meeting of the Steering Committee held in August 2006.) • Frequent occurrence of electric power failure.



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Annex 5: Evaluation by Five Criteria (page 1/10)

Abbreviation: C/P-counterpart personnel J/E-J/E

1. RELEVANCE:

Item	Source/ methods	Evaluation (as of Aug. 7, 2007)
1.1 Necessity		
(1) Relevance with the needs of Syria	Review of the relevant document Questionnaire and interview with C/P	The Overall Goal ("Environmental monitoring system and publication of the monitoring results are introduced at and spread to all the Directorates ") is considered to be still relevant with the needs of Syria. > Over the 20 years since the 1980's, the industrialization of Syria has demonstrated steady growth including thermal power plants, oil refinery, and cement plants. Fertilizer mills or small and medium scale metal and dye factories have spread into the suburbs of large cities. At the same time, environmental problems caused by sewage, exhaust and dust from factories have become visible. In 1991, the Syrian government passed the Basic Law of Environment (Decree No.11). Moreover, the Emission Standards to Industrial Wastewater and Exhaust Gas were promulgated in May 2002 and Environmental Protection Law (Law No.50, 2002), which stipulates punitive regulations, was brought into effect in July 2002. There is a need for environmental monitoring system and publication of the monitoring results which can be utilized for enforcement of the relevant laws and regulations in order to address these issues.
(2) Relevance with the needs of the target group	Review of the relevant document Questionnaire and interview with C/P	The 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.") is relevant with needs of the DFEAs and the GCEA/MOLAE > In order to respond to the above mentioned environmental problems, the Ministry of Local Administration and Environment (MOLAE) was established in September 2003. In January 2004, the establishment of DFEAs was ordered through a notification by the Minister of the MOLAE, and currently the DFEAs are established in all of the 14 governorates. The DFEAs are mainly responsible for the environmental administration and environmental monitoring in each region.
1.2 Priority		
(1) Relevance with development policies of Syria	Review of national development plan	The Overall Goal is considered to be relevant with the national development plan of Syria. > "The 10th Five-Year National Development Plan" (2006-2010) is the country's long-term development plan. And there is a part which describes importance of 1) consistency of implementation of environmental policy; 2) capacity development of environmental sector; and 3) understanding of environmental conditions in Syria.
(2) Relevance with ODA policies of Japan	Review of ODA policy documents	The Overall Goal and the Project Purpose are still consistent with ODA policies of Japan that prioritize "environmental sector," as one of the 6 priority issues. According to the latest "JICA Country Programme" for Syria (2006), environment is one of the 4 priority areas.
1.3 Adequacy as means		
(1) Project Design	Review of PDM	On the whole, the design of the Project is considered appropriate in order to achieve the Project Purpose. It would have been more appropriate if regional peculiarities had been taken into account when identifying and selecting analytical fields and/or parameters for some of the DFEAs. For example, air pollution is a problem for DAMC and some other DFEAs, but they are not included in the target DFEAs for AQA. The major pollution sources for water in HAM and IDL are olive oil producers but "grease and oil" is not included in the parameters they get trained. In the case of SWD, the major pollution source is drinking water but the parameters covered by the Project are mainly for industrial wastewater.
(2) Technological Advantage of Japan	Questionnaire and interview with C/P	> Air pollution and water contamination were serious problems in 1960's in Japan. The government succeeded in beating such grave pollution with appropriate promulgation of control Laws and environmental technologies

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Annex 5: Evaluation by Five Criteria (page 2/10)

Item	Source/ methods	Evaluation (as of Aug. 7, 2007)
		<p>based on the monitoring results.</p> <p>➤ Technology transfer aiming to strengthen water quality and air quality monitoring capacity, including the analytical technology of the DFEA's laboratory, and monitoring carried out in 14 governorates of Syria —the target area—is a relevant strategy. This can be attributed to the fact that training water quality and air quality monitoring technicians with an emphasis on this particular technical capacity is expected to have the most spillover effect in enhancing the capacity to manage environmental regulations. This, in turn, is because the selection of the Syrian Hot spots, which suffers the most severe air pollution and water contamination, as the target area means that the transferred technology can be used directly and indirectly.</p>

2. EFFECTIVENESS :

Items	Source/ methods	Evaluation (as of Aug. 7, 2007)
2.1 Achievement level of the Project Purpose	Review of Accomplishment Grid, (Annex 3) & project reports, questionnaire & interview with C/P, J/E	So far, most of the Objectively Verifiable Indicators of the Project Purpose have been mostly achieved except for publication of monitoring results. As confirmed at the time of the Mid-term Evaluation, "GCEA has a policy to disclose all the environmental data obtained through DFEA laboratories to the public through the annual report and the Web site". For the publication of monitoring results, the laboratories need to be authorized by either Syrian Government or a third laboratory such as Atomic Energy Commission (AEC) of Syria. To date, none of the DFEA laboratories have been authorized yet though some of the laboratories of the DFEAs have participated in a program of AEC titled "Program for Quality Control of Laboratory Analysis". In addition, the achievement in the field of Air Quality Analysis is behind the schedule due to delay of procurement and delivery of the major equipments and subsequent reduction in the training period. Except for publication of monitoring results, it is expected that the Project Purpose would be mostly achieved by the end of the Project on the whole. Further efforts are necessary to improve quality assurance and quality control on the analytical process as well as interpretation and evaluation of the analyzed data in the remaining period.
2.2 Contribution of the Outputs to the Project Purpose	-ditto-	Development of capacity in sampling and analysis techniques, laboratory management, data management, formulation of monitoring plan, as well as data publication is essential for achievement of the Project Purpose. All of the Outputs have contributed to the achievement of the Project Purpose.
2.3 Important Assumptions	-ditto-	The Important Assumption ("Executive instructions are promulgated") has been satisfied. The Executive Instructions for Environmental Protection Law (No. 50, 2002) was promulgated in September 2005.
2.4 Other promoting /hampering factors	-ditto-	As described in 2.1 above, in order for the DFEAs/GCEA to publish monitoring data analyzed by their respective laboratories, authorization of either Syrian government or a third laboratory such as AEC is regarded as a prerequisite because the DFEAs would find it difficult to defend themselves with the published data analyzed by their unauthorized laboratories in case any enterprise or individual go to court to file a complaint against them.

3. EFFICIENCY:

Items	Source/ Methods	Evaluation (as of Aug. 7, 2007)
3.1 Achievement level of the Outputs	Review of Accomplishment grid (Annex 3), project reports, questionnaire & interview with C/P & J/E	<p>Overall: The Outputs of the Project have been mostly achieved so far and are likely to be mostly or fully achieved by the end of the Project</p> <p>1. Output 1:</p> <ul style="list-style-type: none"> Standard operational procedures (SOPs) have been elaborated for most of the parameters. Most of the present C/P has become able to conduct environmental monitoring according to the SOP and to analyze and work out the data under supervision of the superior in evaluating and determination

Annex 5: Evaluation by Five Criteria (page 3/10)

Items	Source/ Methods	Evaluation (as of Aug. 7, 2007)
		<p>the data. In addition, approximately 20 % of the C/P is able to analyze, evaluate the data and determine the parameters by themselves. It is expected that approximately one third of the C/P will be able to reach the foresaid level by the end of the Project. On the whole, Output 1 is likely to be mostly achieved by the end of the Project though achievement level in the field of AQA is behind the schedule due to a serious delay in procurement procedures and delivery of the major equipment.</p> <p>2. Output 2:</p> <ul style="list-style-type: none"> • Achievement of Output 2 is steady. In general, equipment in labs are properly operated and maintained according to the O/M manual compiled by the staff. In addition, most of the lab staff is able to operate the equipment according to the O/M manual. O/M sheets for spare parts and chemical reagents were prepared at all DFEAs in June 2006. The O/M sheets for spare parts have been updated as appropriate. As for chemical reagents, O/M sheets are planned to be updated quarterly. While most of DFEAs update the sheets according to the plan, 2 DFEAs have not been able to do so because of serious staff shortage, etc. In most of the DFEAs, chemical reagents are properly stored and cared. The Team has observed a case where the reagents that need to be kept under certain temperature are stored outside the refrigerator in a lab room without air conditioner (A/C). Director of the DFEA plans to provide A/C to lab shortly so that adverse effects on the reagents are expected to be solved. As for treatment of liquid wastes from labs, preparation of "(a)dequate waste water treatment . . . before starting laboratory chemical analysis training" is one of the pre-conditions of the Project. This has not been fully satisfied yet. The GCEA has purchased wastewater treatment facilities for DAM DFEA, expecting wastewater from all labs to be treated there. The facilities have not been operational, however, due to technical troubles that the supplier has not been able to fix. It is necessary to solve this problem as possible by the end of the Project so that wastewater can be treated properly. On the whole, Output 2 is likely to be mostly achieved by the end of the Project <p>3. Output 3:</p> <ul style="list-style-type: none"> • Achievement level of Output 3 is as planned. Environmental monitoring data of BWQA, HMA, and AQA have been accumulated in the form of electronic data at the relevant DFEAs. As for CBA, entering the data is planned to start in November-December 2007 before the end of the Project. In addition, establishment of data concentration system regarding environmental monitoring is underway. Networking system connecting the GCEA and the DFEAs has been developed though only a few DFEAs have been able to send the electronic data to GCEA on regular basis due to connection problems. As an alternative, sending CDs is being considered. It is likely that Output 3 will be fully achieved by the end of the Project. <p>4. Output 4:</p> <ul style="list-style-type: none"> • Achievement level of Output 4 is steady now. First environmental monitoring plans for water quality (i.e. BWQA) and air quality, specifying parameters and monitoring sites, have been prepared by all of the DFEAs as planned. Environmental monitoring guidelines are planned to be prepared in August 2007. Output 4 is expected to be achieved fully by the end of the Project <p>5. Output 5:</p> <ul style="list-style-type: none"> • The statement of Output 5 is "The results and data acquired by the Project is open to and shared with the citizens of the target Directorates" and "Staff of target Directorates is able to formulate its action plan for public awareness and environmental education". It was found hard to assess the current level of achievement of Output 5 with the Objectively Verifiable Indicators because neither of them is directly related to publication of monitoring results and data as well as formulation of action plans. The following are separate



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Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<p>assessment of achievement of the Objectively Verifiable Indicators as well as the statements of Output 5.</p> <ul style="list-style-type: none"> The Objectively Verifiable Indicators: They have been mostly achieved. Preliminary survey on condition of public awareness was conducted in 2004 and 2005 in 7 governorates (i.e. DAM, DAMC, ALP, HOM, HSK, SWD, and TAR) as planned. Method and the results were presented in the National Committee for Public Awareness in February 2006. Materials for activities for public awareness, such as textbook, manuals, etc. have been prepared by GCEA and the priority DFEA. In total, 12 workshops, targeting Chamber of Industries, etc., have been conducted by 4 priority DFEAs though workshops were not organized during the last assignment period. As for the periodical network meetings among the organizations related to environmental education, the National Committee for Public Awareness was established under the MOLAE decision No.2051 dated on October 3, 2005. A sub-committee, consisting of the local relevant organizations, has been or is going to be established in each governorate, which is expected to meet periodically to discuss the issues related to public awareness for environment. The statement of Output 5 ("The results and data acquired by the Project is open to and shared with the citizens of the target Directorates" and "Staff of target Directorates is able to formulate its action plan for public awareness and environmental education"): The first one has not been achieved. Though DFEAs could report or present their results informally to the relevant organizations, they are not able to officially publish them since their laboratories of the DFEAs have not been authorized yet. As for the second one, the National Committee for Public Awareness has formulated a national strategy on public awareness. Under overall framework of the national strategy, each subcommittee, of which DFEA is a member, has started to or is going to prepare strategy/action plan for public awareness at governorate level. The GCEA is of the opinion that it is no more necessary for the Project to formulate the action plans.
3.2 Important Assumptions	Interview with C/P & J/E	<ol style="list-style-type: none"> The first Important Assumption ("Laboratory staff trained by the Project stay in laboratories and keep working on the environmental monitoring") has not been satisfied. So far, 157 persons in total have been assigned to the laboratory work of the Project, of which 24% (38 persons) have left the DFEAs for another job, etc. Not a few left the DFEAs shortly after they participated in the training organized by the Project. In extreme cases, some stayed with the DFEAs only for a few months. In addition, some left the laboratories temporarily (for two years) for military obligations. It is noted that those who remain with the laboratories have transferred their knowledge and skills acquired through the preceding training to the newly assigned staff, if any. Those who joined the laboratories later also made efforts to keep up. Through their efforts as well as the support provided by the J/Es, the negative impacts have been alleviated to some extent. The second Assumption "Agents/manufactures timely provide some spare parts for the equipment". As for the reagents, there is only one agent in Syria so that it is a seller's market. It normally takes quite a time for the suppliers to deliver variety of reagents in small quantities. In order to cope with the situation, the Project has established a centralized procurement system for reagents.
3.3 Appropriateness of the Inputs		
(1) Syrian side		
(a) Land, facility and equipment	Review of Accomplishment grid (Annex 3), project reports, questionnaire & interview with C/P & J/E	<p>> Timing:</p> <ul style="list-style-type: none"> Labs: Laboratory space was made available in timely manner at the beginning of the Project. The labs of DFEAs in ALP, HOM, HAM, DAR, and QNT moved to new buildings in the current year. The move itself was completed in between the training batches scheduled for the respective DFEAs. In some DFEAs, however, all the necessary facilities were not provided right away or have not been provided yet, which, coupled with other issues, made it difficult for the lab staff to continue monitoring

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Annex 5: Evaluation by Five Criteria (page 5/10)

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<p>activities as per the plan in between the training periods. In some cases, the activities were virtually ceased for more than a few months.</p> <ul style="list-style-type: none"> • Project Office: Office space for the J/Es was made available at the basement of GCEA in Damascus in timely manner. <p>➤ Quantity:</p> <ul style="list-style-type: none"> • Labs: While the laboratory area of some DFEAs is considered sufficient, that of others is rather small. Most of the labs are equipped with most of the necessary items for laboratory works as shown in 1.1 of Annex 3. It would have been more efficient if all the necessary items have been provided to all target DFEAs. In some DFEAs, shortage of vehicles and insufficient space of the available vehicles, which could take on only one person except a driver, has sometimes made it difficult to carry out sampling activities in accordance with the monitoring plan in the absence of the J/Es, who offer transportation for them during his visit for training. In addition, the lab staff cannot transfer the acquired knowledge and skills regarding sampling to new staff, especially who joined in between the training periods, through OJT since there is not enough space in the available vehicle to take the new ones along. • Project Office: Office space for the J/E team is rather small. At the peak time, the number of desks and chairs for the Experts and the interpreters is not enough. <p>➤ Quality:</p> <ul style="list-style-type: none"> • Labs: In general, the facilities provided for the laboratories have been appropriate. In the case of ALP, which has recently relocated the lab to the basement from the ground floor in order to provide more space for their work, however, quality of the provided facilities is not sufficient. For example, drain pipes are placed on the ceilings. A drain ditch is located in the basement, which often causes flooding of discharged water when power cuts takes place. There is neither adequate ventilation system nor air conditioner. Although there is a plan to establish a new lab on the land adjacent to the current building, it takes more than a year according to the current plan. It is necessary to take measures to ensure the safe and healthy working conditions for lab staff as soon as possible. • Project Office: The internet connection had been down very frequently in first two and half years. It has been improved since June 2007.
(b) Assignment of counterparts personnel	-ditto-	<p>➤ Timing:</p> <ul style="list-style-type: none"> • Technical C/Ps (i.e. lab staff) for BWQA had been assigned prior to the start of the Project. The C/Ps for AQA, CBA, HMA, and Data Management had been assigned prior to the start of the related activities. • As mentioned in 3.2 above, 24 % of the C/P has left the laboratory works. In some cases, the successors were assigned sooner rather than later: in other cases, the replacement was not found for a longer period. In the case of RAK, for example, the C/P for Data Management has not been assigned since the predecessor left the job in October 2006. • Not a few C/Ps have been assigned after the start of the Project. Some have been recently assigned and some more are planned to be assigned in order to make up for staff shortage. It shows a seriousness of DFEA/GCEA regarding environmental monitoring. It would have been more efficient, however, if those had been appointed early enough to acquire sufficient skills and techniques by the end of the Project. • Some of them got transferred to a laboratory of other DFEAs. <p>➤ Quantity:</p> <ul style="list-style-type: none"> • While appropriate number of technical C/P has been assigned to most of the DFEAs, shortage is still a big issue for some DFEAs, of which the GCEA are also well aware. The GCEA has sent an official letter to the Minister of MOLAE, requesting to increase the number of lab staff of the DFEAs, who have chemical background, by approximately 50 in total. • Most of the C/P engage in the Project on part-time basis: there are some other works for them to do and are not able to concentrate on the Activities of the Project, including continuation of regular monitoring in between the training periods. Very often, the C/P is requested to go sampling and/or

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Annex 5: Evaluation by Five Criteria (page 6/10)

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<p>analyze the samples in order for the DFEAs to respond to claims of the citizens, request of the other government bodies, including the Governor. Sometimes, some of them were too much occupied with other tasks to attend all the necessary training activities carried out by the Project.</p> <p>> Quality:</p> <ul style="list-style-type: none"> • Most of the C/P did not have chemical background before the commencement of the Project though it is one of the Pre-Conditions. They are agronomists, petroleum engineers, nutritional engineers, etc.. The J/Es, therefore, had to devote their considerable time to teaching basic chemistry before starting and during the training. Some of the C/P did not have experience to use computers and/ or basic software like Excel, which is necessary for analysis and data management. • It is noted that most of them were eager to learn and had capacity to keep up with the training which was new to them. During the training period, those who could stay longer than their normal working hour (up to 3 PM) worked till late when they felt it necessary to finish what they were doing on that day. Some of the DFEAs provide financial assistance for their staff to take English and PC lessons at private institutions.
(c) Running expenses for the implementation of the Project	-ditto-	<p>> Timing: The budget has been disbursed to the DFEAs in January-February.</p> <p>> Quantity: Necessary amount has been allocated to the DFEAs.</p>
(2) Japanese side		
(a) Japanese Expert	Review of Accomplishment grid (Annex 3), project reports, questionnaire & interview with C/P & J/E	<p>> Timing:</p> <ul style="list-style-type: none"> • In general, the J/Es were dispatched according to the original schedule. • In the case of the Expert in AQA, his second dispatch was postponed for nearly one and a half month, taking into account delay in procurement and delivery of the major equipments for AQA. The delivery, however, was further delayed and the Expert was not able to start the full-fledged training using the major equipments in the said period. <p>> Quantity:</p> <ul style="list-style-type: none"> • The assignment period for most of the J/Es was moderately appropriate. • Duration of the assignment of the Experts in BWQA is short, considering that he has to go around all the 14 DFEAs to carry out training activities without any technical assistants. As for AQA, shortness of the assignment period, coupled with the above mentioned delay of the procurement procedure and delivery of the major equipment, has led to insufficient time for training. Sometimes, only one or two sampling was possible and analysis was not completed during the training period. They have to wait the J/Es to come back until their analysis results were checked. Besides, the C/P felt the period between training was too long. When some new problems occur, they had to wait until the next training period. • In order to make up for deficiency in time, the J/E team normally work till late in the evening though official working hour of the GCEA is 8 to 14. They often come to the Project Office to work on weekend. <p>> Quality:</p> <ul style="list-style-type: none"> • The experts with adequate technical background and skills have been dispatched. According to the C/P interviewed by the Evaluation Team, the Experts were ready to respond to any technical problems the C/P faced and their response was quick.
(b) Study tour in Egypt	-ditto-	<p>> Timing:</p> <ul style="list-style-type: none"> • Two study tours have been carried out so far. Timing of the tours had been discussed with the GCEA before finalization. They were implemented according to the plan without delay. <p>> Quantity</p> <ul style="list-style-type: none"> • So far, total of 19 persons have been dispatched. With regard to the number of the participants as well as their member was discussed and agreed by both sides in advance. As for the duration, many of the

Annex 5: Evaluation by Five Criteria (page 7/10)

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<p>participants felt that it was too short, considering the contents covered and distance between the sites they visited. As a result, most of them felt tired towards the end of the day and sometimes could not concentrate on the issues being raised. Some felt that the duration was insufficient to have a comprehensive idea on Egyptian experiences.</p> <ul style="list-style-type: none"> ➤ Quality <ul style="list-style-type: none"> • Most of the participants felt that fields, contents, and quality of study tour were relevant with their needs. Some felt that it would have been more effective if they had had more time and opportunities to discuss with Egyptian C/Ps on their experience and to exchange views and information. ➤ Utilization: <ul style="list-style-type: none"> • While most of the participants and/or their immediate supervisors felt that they could utilize what they have learned in the Activities of the Project, some felt that they could not because the level of Egypt is very different from what they are now.
(d) Provision of equipment	-ditto-	<ul style="list-style-type: none"> ➤ Timing: <ul style="list-style-type: none"> • In the case of CBA, the procurement and delivery of the equipment was implemented as scheduled but not so for the equipments for the other analytical fields. • In the case of BWQA, delivery of the necessary equipments was delayed, which resulted in an overall delay of the related training for two months. As for HMA, delay in installment of AAS, the major equipment, caused a reduction in the training period. In the case of AQA, delay in procurement procedure and delivery of the major equipments, including High-Volume Air Samplers, Low-Volume Air Samplers, etc. led to almost one-year delay in starting the full-fledged training activities. (For details, please see Annex 4) ➤ Quantity: <ul style="list-style-type: none"> • Appropriate number of equipment has been provided to the target DFEAs. ➤ Quality: <ul style="list-style-type: none"> • Items, specifications, and quality of most of the provided equipment were appropriate. • There was a defect in Low-Volume Air Samplers, which required a repair by the supplier. The related training was not able to be conducted and was postponed for five months till the subsequent training batch. • In the beginning of the Project, high-range reagents, which are meant for detection of COD for industrial wastewater, were provided to all DFEAs, irrespective of types of major pollutants in the regions. In the case of TAR, SWD, etc., where not a many factories exist, the major concern is contamination of drinking water, agricultural water, etc., for which low-range reagents should be used. Recognizing the problem, in 2006, JICA provided low-range reagents to all of the DFEAs. ➤ Operation & Maintenance (O/M): <ul style="list-style-type: none"> • O/M manuals for all of the provided equipment have been prepared in Arabic. Through training provided by the Project, most of the lab staff has become able to operate the relevant equipment appropriately according to the manuals. In terms of maintenance, a list of suppliers to be contacted has been prepared by each DFEA so that the DFEAs can make a contact in case any failure or malfunction of the provided equipment occurs. ➤ Utilization <ul style="list-style-type: none"> • Most of the provided equipment has been utilized fully.
3.4 Preconditions	-ditto-	<ul style="list-style-type: none"> ➤ The first condition ("Appropriate number of laboratory staff who have chemical background are assigned in the target Directorates for Environmental Affairs in Governorates") had not been satisfied prior to the start of the Project. It has not been satisfied fully yet. At present, 40 % of total number of lab staff (and 36% of the C/P who engage in sampling and analysis) has chemical background. The others are agronomists, civil engineers, etc.. ➤ The second condition ("Laboratory spaces are prepared in the target Directorates for Environmental Affairs in Governorates") had been satisfied prior to the start of the Project.



Annex 5: Evaluation by Five Criteria (page 8/10)

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<p>➤ The third condition ("Adequate waste water treatment plants shall be prepared before starting laboratory chemical analysis training in the target Directorates for Environmental Affairs in Governorates") had not been satisfied before starting laboratory chemical analysis. It has not been satisfied yet. In order to treat the wastewater generated through laboratory analysis, the GCEA has purchased wastewater treatment facilities for DAM DFEA based on the suggestion of the J/E Team. At present, only DAM DFEA possesses such facilities and the wastewater generated from the other DFEAs is planned to be treated at DAM DFEA. Though the facilities were delivered and installed in December 2006, it has not been operational due to technical troubles that the supplier has not been able to fix. Accordingly, wastewater transport system to DAM DFEA from the others has not been established yet. In the other DFEAs, the wastewater is stored in tanks at present. As for the treatment of expired reagents, the J/E team has recommended to return them to the agent.</p>
3.5 Coordination with other relevant Japanese and international projects/schemes	Review of progress reports, questionnaire and interview with J/E	<p>➤ <u>Japanese Scheme:</u> Five Japan Overseas Cooperation Volunteers in the field of Environmental Education and one Senior Volunteer who works in the Chamber of Industries in ALP have had cooperative network and exchange information with the project. The J/E team also has contacts with the Technical Cooperation Projects like "The Project on Establishment of Water Resources Information Center" and "The Project on Efficient Irrigation Development and Extension in the Syrian Arab Republic", as well as Development Study Teams of "The Study on Urban Planning for Sustainable Development of Damascus Metropolitan Area" and "The Study on Sewerage System Development in the Syrian Arab Republic".</p> <p>➤ <u>Other International Cooperation:</u> The Project has exchanged information with "The Municipal Administration Modernization (MAM) Programme" financed by EU. And the Egyptian Environmental Affairs Agency has received Syrian personnel during one month for water analysis training and 19 personnel as study tour in 2005 and 2006.</p>

4. IMPACT:

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
4.1 Impact at the Overall Goal level		
(1) Likelihood of achievement	Questionnaire & interview with C/P & J/E	Judging from the prospect of achievement of the Objectively Verifiable Indicators (Annex 3), it is likely that the Overall Goal is likely to be achieved in 3-5 years after the end of the Project.
(2) Important Assumption	-ditto-	The Important Assumption ("The Syrian government keeps its policy support to provide staff, equipment and budget to the rest of the Directorates") is likely to be satisfied.
4.2 Other impacts	-ditto-	
(1) Positive impacts		<p>➤ Impacts on the DFEAs and local governments</p> <ul style="list-style-type: none"> • Lab staff has acquired knowledge, skills, and experiences to implement environmental monitoring. With a lab established in each governorate, the DFEAs have become able to initiate environmental inspection in accordance with the Law No. 50 in 14 governorates. • The Project has provided opportunities to participate in the meetings with the Minister of MOLAE and the General Manager of the GCEA at the presence of the Japanese side. • Confidence of other local organizations in the lab activities, decisions and reports of the DFEA has increased. Opportunities for collaboration with other concerned department have increased. • The DFEAs have acquired a good knowledge about the degree of pollution, their associated risks, adverse impacts of the industrial technology, and the need to take care of environment with scientific data.

Annex 5: Evaluation by Five Criteria (page 9/10)

Items	Source/Methods	Evaluation (as of Aug. 7, 2007)
		<ul style="list-style-type: none"> ➤ Impacts on citizens <ul style="list-style-type: none"> • The increase in citizen trust by the effected water analysis • More interest in environment and pollution issues and aspects. ➤ Impacts on industries <ul style="list-style-type: none"> • Some factories have installed wastewater treatment facilities, • There are some complains which had been treated according to the analysis results. • They understand the need to adhere to the environmental Law No. 50 • Those who attended workshops organized by priority DFEAs have become more aware of importance of environment.
(2) Negative impacts		Negative impacts have not been observed so far. They are not foreseen, either.

5. SUSTAINABILITY:

Items	Source/Methods	Evaluation
5.1 Institutional & Organizational Aspects		
(1) Policy and legal supports	C/P, J/E	Environmental monitoring has sufficient policy and legal support.
(2) Organizational strategy/plan	Review of the draft Strategic Plan, questionnaire and interview with C/P	Environmental monitoring is one of the important tasks of the DFEAs, which is necessary for them to enforce Law No. 50.
(3) Official authorization of laboratories		<ul style="list-style-type: none"> ➤ As stated already, authorization of the laboratories of the DFEAs by AEC is essential for the monitoring data produced by the laboratories to be officially recognized as scientific and reliable. It is also a prerequisite for publication of the data. At present, none of the laboratories have been authorized by AEC yet. ➤ Meanwhile, some laboratories of the DFEAs (i.e. DAM, DAMC, LTK, HOM) have participated in a program of AEC called "Program for Quality Control of Laboratory Analysis" since August 2006. SWD has just participated in the Program since June 2007. It is a system of licensing examination using test sample water administered by AEC. Data produced by the laboratories is licensed or a given official approval by AEC if the data is rated "A".
(4) Deployment of the C/P	Review of the draft Strategic Plan, questionnaire and interview with C/P & J/E	<ul style="list-style-type: none"> ➤ So far, 24% of the assigned C/P has left the DFEAs for another job, etc. In addition, the C/P of some DFEAs are not permanent employees of the DFEAs. It is uncertain if all of the current C/Ps will remain with the DFEAs in future. ➤ In the meantime, the C/Ps trained by the Project are likely to be posted in appropriate positions. Therefore, they will be able to fully utilize their knowledge and skills to continue their task and sustain the Project effect. In case of these C/P personnel remaining with the DFEAs the technical sustainability will be secured after the completion of the Project.
(5) Management capacity of the relevant activities	-ditto-	All of the DEFAs have managed the Project activities without any serious problems. It is expected that they would manage the relevant activities (i.e, environmental monitoring and public awareness) by themselves after completion of the Project.
(6) Coordination with other relevant organizations	-ditto-	The DFEAs have coordinated their monitoring and/or public awareness activities with various local organizations as stated in Annex 4. It is likely that the collaborative relationship with the relevant organizations will be sustained.
5.2 Financial Aspects	-ditto-	So far, the Syrian government has allocated necessary budget for the laboratories of the DFEAs. It is likely that financial sustainability is secured.
5.3 Technological Aspects		
(1) Technical capacity of	Questionnaire and interview with C/P & J/E	At present, total of 119 persons are assigned to the Project as technical C/P, who have been trained in the areas of environmental sampling and analysis

Annex 5: Evaluation by Five Criteria (page 10/10)

Items	Source/Methods	Evaluation
the C/P	J/E	<p>(BWQA, CBA, HMA, and AQA), laboratory management, data management, formulation of environmental monitoring plan, and public awareness.</p> <p>(a) Sampling and analysis In terms of sampling and analysis, technical level of most of the C/Ps is expected to be developed enough to continue the relevant activities by themselves, though further improvement regarding Quality Assurance/Quality Control (QA/QC), in particular, in the field of AQA, is necessary. As for the rest of them, those who have and will have reached such a level are expected to transfer the acquired techniques and knowledge to them through OJT, utilizing Standard Operation Procedures (SOP), manuals, teaching materials developed by the Project. In terms of interpretation and evaluation of the analyzed data, it is necessary for a lab to have at least one person who is able to analyze, evaluate the data, and to determine parameters by his/her own for each relevant analytical field.</p> <p>(b) Laboratory management It is likely that the C/P will be able to operate the provided lab equipment according to the O/M manuals and to manage spare parts and reagents according to the manuals after the end of the Project. It is necessary to pay due attention to handling of toxic reagents. For example, they must be kept in a locker. In addition, it is advisable to place an Electronic Balance in a special chamber in order to mitigate the effects of winds and dusts to the minimum.</p> <p>(c) Data management The C/P has already developed or will be able to develop sufficient capacity to continue the relevant activities by themselves after the end of the Project.</p> <p>(d) Environmental monitoring plan With monitoring guidelines in place, it is expected that the C/P will be able to formulate/update the monitoring plans for their respective labs, regarding the parameters covered by the Project.</p> <p>(e) Public awareness It is likely that staff of public awareness section of the DFEAs will continue their activities after the end of the Project.</p>
(2) Utilization and dissemination of the transferred techniques and the project deliverables	Review of the Strategic Plan, questionnaire and interview with C/P & J/E	<ul style="list-style-type: none"> ➤ Basic techniques for water quality and air quality monitoring have been improved step by steps because of the implementation of the project. Therefore technical cooperation has been contributed to dissemination of basic technique on environmental monitoring in 1laboratory activities of the DFEAs. ➤ The project deliverables, including manuals, SOPs, monitoring plans etc. are essential to implementation of environmental monitoring activities so that they would be utilized fully after the end of the Project. ➤ The C/P who have received training through the Project have transferred their knowledge and skills acquired through the preceding training to the newly assigned staff and/or those who were not able to attend the session. It is highly likely that they will continue to do so after the end of the Project.
(3) Utilization of the provided machinery and equipment	Questionnaire and interview with C/P & J/E	<ul style="list-style-type: none"> ➤ All the equipments for the Project have been procured and installed for the water quality analysis and air quality analysis. The frequency of operation of the equipment especially will be increased subject to the necessity of the analysis in the DAM DFEA. ➤ To carry out better environmental monitoring, both sides recognized that some of the donated machineries, e.g. AAS, Spectrophotometers, portable measuring instrument, may need complicated repair works. So it is essential that a certain reparation system be established for the future through a partnership with related actors such as distributors and other laboratories in Syria.

Appendix A Record of Syrian Inputs

Appendix A Record of Syrian Inputs

A-1 List of C/P as of August 5, 2007 (Source: Japanese Expert Team)

F: Full-time counterpart P: Part-time counterpart T: Temporary

1. Administrative C/P

(1) GCEA

Name; Responsible Fields and Working Pattern	Background	Remarks
1. Mr. Yassin Mochalin *The manager of the Administrative Dep.	* PhD Analytical Chemistry/ Eng.	(Project Manager)
2. Ms. Fadhia Mohammad * Dept. GCEA-Labs Directorate	*Natural Science/ Biochemistry Dept.	-
3. Ms. Khazamin Aho Sheb *GCEA-Labs Directorate	*Petroleum/Chemical/Engr/ Nourishment Dept.	-
4. Mr. Mohamad Younos *GCEA-Labs Directorate	*Chemical/Industrial Institute/Technology	Moved in Jan. 2006
5. Mr. Shakin Soliman *An Official of Data management team	*Applicable Science	-(TC member)
6. Mr. Mian Abbi *Public awareness team	*Agronomist/ Agricultural Economy	
7. Ms. Gharia Mousa *Public awareness team	*Agronomist/Public section	

2) Former C/P

Name; Responsible Fields and Working Pattern	Background	Remarks
1. Ms. Fawzeh Haddad *GCEA-Labs Directorate	*Natural Science/ Biochemistry Dept.	Moved out into planning & sube Dept.

II. Technical C/P
(1) Damascus DFEA

1) Current C/P

No.	Name; Responsible Fields and Working Pattern	Background	Remarks
1	Ms. Reem Sadr Eddin (Lab chief) * Heavy Metal	P (70%) *Natural Science/ Practical Chemistry Dept.	
2	Mr. Samer Mokbel *Basic Water Quality Analysis (Sampling)	P (70%) *Environmental engineer assistant	
3	Mr. Inan Subayman *Basic Water Quality Analysis -Heavy Metal	P (70%) *Natural Science/ Practical Chemistry Dept.	
4	Ms. Layla Al Durra *Basic Water Quality Analysis -Chemical & Biological	P (70%) *Agronomist	
5	Ms. Inas Webby *Chemical & Biological Water Quality Analysis	P (70%) *Natural Science/ Practical Chemistry Dept.	
6	Ms. Ranyasulayman *Chemical & Biological-Water Quality Analysis	P (70%) *Civil engineer/ Environment Dept.	
7	Mr. Monser Moutafa *Air Quality (Sampling)	P (70%) *Environmental engineer assistant	
8	Ms. Fayal Al Iuseyri *Air Quality	P (70%) *Agronomist	
9	Ms. Omama Younes *Air Quality	P (70%) *Civil engineer/ Environment Dept.	
10	Ms. Shah Sida *Heavy metal	P (70%) *Natural Science/ Practical Chemistry Dept.	
11	Mr. Talal Harb *Heavy metal	N/A *Electrical Engineering	
12	Mr. Samer Koun *Heavy metal	N/A *Technical supervisor	
13	Ms. Raha Zaghmout *Air Quality	P (70%) *Chemistry Institute/ Technology Dept.	Moved in Jun. 2006
14	Mr. Mo'azz Abdullah *Air Quality	N/A *Technical Advisor	
15	Mr. Bassam Fares *Air Quality	N/A *Engineer assistant *metrological	
16	Mr. Alimuhanna Ghannem *Data management chief - Heavy metal	P (70%) *Biological Chemistry	
17	Ms. Hanan Saman *Data management	P (70%) *Agronomist assistant	Moved in May, 2007
18	Ms. Yara Ismael *Data management team member	N/A *Engineer assistant	
19	Ms. Halah Khouri *Public awareness team	N/A *Technical Observer Institute Geometric Drawing	
20	Ms. Silva Ardhaljjan *Public awareness team	N/A *Mechanical engineer	

2) Ms. Rasha Mehriz *Public awareness	P (70%)	*Technical Observer Institute/Environment Dept.
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2) Former C/P

1	Mr. Khaleed Kasem *Basic Water Quality Analysis	P (70%)	*Agronomist	Moved out in Nov. 2005
2	Ms. Faten Harmouti *Chemical & Biological Water Quality Analysis	P (70%)	*Petrochemical engineer/ Biology Dept.	Moved in Jun. 2006, and out in Oct. 2006
3	Ms. Amreen Alhamay *Chemical & Biological Water Quality Analysis	P (70%)	*Medical engineer	Moved in Jul. 2005

(2) Damascus Countryside DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Ms. Maha Al Janna *Basic Water Quality Analysis -Chemical & Biological (Lab shift)	*Petrochemical Eng/ Chemistry Dept.	
2	Mr. Malik Suliman *Basic Water Quality Analysis -Data management -Chemical & Biological	Applied Industries Institute/ laboratory Dept.	Moved in Dec. 2005
3	Ms. Lana Yousef *Basic Water Quality Analysis -Chemical & Biological	*Agronomist	Moved in Jun. 2006
4	Ms. Rania Karawi *Basic Water Quality Analysis -Chemical & Biological	*Institute of Nourishment Industries	Moved in Mar. 2006
5	Mr. Ammar Hasan *Basic Water Quality Analysis -Chemical & Biological	*Agronomist	Moved in Sep. 2006
6	Mr. Nader Tayem *Basic Water Quality Analysis -Chemical & Biological	*Petroleum Eng.	Moved in Sep. 2006
7	Ms. Mona Sabrogy *Basic Water Quality Analysis -Chemical & Biological	*Agronomist	Moved in Sep. 2006
8	Ms. Dana Fawzi Alhaban *Data management	*Institute of Applied Industries laboratory Dept.	Moved in Jun. 2006
9	Mr. Ali Kasem Shawees *Data Management assistant		Moved in Nov. 2006

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Muner Sahan *Basic Water Quality Analysis	*Natural sciences / Biological Chemistry	Moved out in Jan. 2005
2	Ms. Aida Halawek *Basic Water Quality Analysis -Data management	*Institute of Applied Industries / laboratory Dept.	Moved out in Oct. 2006 (Homs)
3	Mr. Mostafa Khazma *Basic Water Quality Analysis	*Agronomist	Moved in Dec. 2005, and out in Sep. 2006
4	Mr. Hosam Edin Al-Barodi *Basic water quality analysis	*Chemist	Moved out in Nov. 2005
5	Ms. Shroen Awad *Basic Water Quality Analysis	*Applied Chemistry/ Chemist	Moved in Jul. 2005 and out in Sep. 2005
6	Ms. Nireen Dawoud *Basic Water Quality Analysis	*Environmental engineer	Moved out in Sep. 2005
7	Mr. Ebad Hameyer *Basic Water Quality Analysis	*Petrochemical Nourishment Dept.	Moved in Jun. 2006, and out in Sep. 2006
8	Mr. Mohammed Hassan Diab *Data management	*High school.	Moved out in Aug. 2005

(ii)

(3) Aleppo DFLA
1) Current C/P

Name, Position and Working Pattern	Background	Remarks (Evaluation)
1 Mr. Ahmad Mofida Ahmad *Basic Water Quality Analysis (Lab Chief)	Petrochemical engineering/ Chemical engineer	
2 Mr. Mohammad Hammdah *Basic Water Quality Analysis	Economic/Accounting Dspl.	Moved in Dec. 2005
3 Mr. Mahmoud Hassan Esamah *Air quality Analysis	N/A	
4 Mr. Ihsan Waseel *Air Quality- Data management	Civil Engineer/ Environmental Dept	
5 Ms. Danna Ghiribeh *Air Quality	Civil Engineer/ Environment Dept.	
6 Ms. Khaloud Awayed *Air Quality	Civil engineer/ Environment Dept.	Moved in Jul 2005

2) Former C/P

Name, Position and Working Pattern	Background	Remarks (Evaluation)
1 Mr. Mohammad Rashed *Basic Water Quality Analysis	Mechanical power engineer	Moved in Dec 2005 and will move out 2007-07
2 Ms. Wafiqh Naim *Basic Water Quality Analysis	Electrical engineer	Moved in Jul 2005 and out in Sep 2005

(4) Homs DFLA
1) Current C/P

Name, Position and Working Pattern	Background	Remarks (Evaluation)
1 Mr. Muhammad Ali Hussein *Basic Water Quality Analysis (Lab Chief)	F *Chemical engineer	
2 Ms. Heba Kasab *Basic Water Quality Analysis - Chemical & Biological	F *Technical industries engineer assistant	
3 Ms. Tidal Awad *Basic Water Quality Analysis - Chemical & Biological (Mobile lab chief)	F *Petrochemical engineer/ Petroleum dept.	
4 Mr. Mahmoud Al Yousef *Air Quality	F *Chemical engineer	Moved in Jun 2006
5 Ms. Rash Rania *Air Quality	F *Chemical engineer	Moved in Jun 2006
6 Ms. Nida Toghaji *Basic Water Quality Analysis - Chemical & Biological	F *Chemical engineer assistant	
7 Ms. Lubna Al Ahmad *Basic Water Quality Analysis - Chemical & Biological	F *Chemical engineer	
8 Ms. Sara Matar *Basic Water Quality Analysis - Chemical & Biological	F *Chemist	
9 Ms. Rania Jabour *Air quality *Data management team	F *Chemical engineer assistant	
10 Mr. Koury Yousef *Air Quality	N/A *Chemical engineer.	
11 Ms. Daid Alhasan *Air quality	N/A Chemical engineer	
12 Ms. Tidal Awad *Air Quality (Mobile lab chief)	N/A *Petrochemical engineer/ Petroleum dept.	
13 Ms. Rasha Jabour *Data management	N/A *Chemical engineer assistant	
14 Ms. Alia Halawek *Data management	N/A *Institute of Applied Industries / Laboratory Dept.	
15 Ms. Hanm Nafrouj *Data management	N/A *Chemical engineer	

2) Former C/P

Name, Position and Working Pattern	Background	Remarks (Evaluation)
1 Ms. Hanm Nafrouj *Basic Water Quality Analysis	F *Chemical engineer	-Moved out in Aug 2005
2 Ms. Alisar Knato *Air quality analysis	F *Chemical engineer	Moved out in Aug 2005

(S) Hama DFLA

1) Current C/P

Name, Responsible Fields and Working Pattern		Background	Remarks (Evaluation)
1	Ms. Hanan Wardah - Basic Water Quality Analysis (Lab Chief)	Petrochemical Engineering / Chemical engineer	
2	Ms. Hebah Khouri - Basic Water Quality Analysis	Petrochemical Engineering / Chemical engineer	
3	Ms. Roem Kimber - Basic Water Quality Analysis	Petrochemical Engineering / Chemical engineer	
4	Ms. Yarem Talfour - Basic Water Quality Analysis	Civil Engineering / Environment Dept.	
5	Ms. Nasser Varna - Basic Water Quality Analysis	Civil Engineer / Environment Dept.	
6	Ms. Yasmin Hakkir - Data Management - Basic Water Quality Analysis	Civil Engineering / Environment Dept.	Moved in Jun. 2006

2) Former C/P

Name, Responsible Fields and Working Pattern		Background	Remarks (Evaluation)
1	Ms. Seham Shaban - Basic Water Quality Analysis	* Civil Engineering / Environment Dept.	Moved in Oct. 2006 and out in Apr. 2007
2	Mr. Wasim A. Ali - Basic Water Quality Analysis	* Agronomist / Environment & Forest	Moved out in Nov. 2006

(6) Lattakia DFLA

1) Current C/P

Name, Responsible Fields and Working Pattern		Background	Evaluation (Remarks)
1	Ms. Anaa Merhij - Basic Water Quality Analysis (Lab Chief)	* Petrochemical engineer.	Will move out in 2007
2	Mr. Sami Deab - Basic Water Quality Analysis	* Agronomist	
3	Ms. Hadeel Wannus - Basic Water Quality Analysis	* Technical industries engineer assistant	
4	Ms. Maya Yasin - Basic Water Quality Analysis		Moved in Jun. 2006
5	Mr. Thar Mohamed - Basic Water Quality Analysis		Moved in Jun. 2006
6	Mr. Yamen Salwan - Basic Water Quality Analysis (Lab Chief)		Moved in Jun. 2006
7	Ms. Rana Soufi - Basic Water Quality Analysis		Moved in Jun. 2006
8	Ms. Rana Soudi - Basic Water Quality Analysis	* Civil Engineer / Environment Dept	
9	Ms. Bana Alund - Basic Water Quality Analysis	Informatics engineer	Moved in Jun and out in Nov. 2006, and in May 2007
10	Mr. Adal Habib - Data management team	* High school	
11	Ms. Ammal Alio - Public Awareness	* Agricultural engineer	Moved in Jan. 2007
12	Ms. Awatef Haddad - Public Awareness	* Civil engineer	Moved in Jan. 2007
13	Ms. Kunda Haddad - Public Awareness	* Electrical engineer	Moved in Jan. 2007
14	Ms. Samah Abbas - Public Awareness	* Civil engineer / Environment	Moved in Jan. 2007

2) Former C/P

Name, Responsible Fields and Working Pattern		Background	Remarks
1	Ms. Suzanne Shodod - Basic Water Quality Analysis	* Technical industries engineer assistant	Moved out in Mar. 2007
2	Mr. Wael Jindad - Basic Water Quality Analysis	* Agronomist	Moved out in Mar. 2006
3	Mr. Rami Ali - Basic Water Quality Analysis		Moved out in Dec. 2005
4	Dr. Ahmad Karah Ali - Basic Water Quality Analysis	* Chemical Engineering	Moved out in Jun. 2005

(iv)

(7) Dir. ex. Zor. DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Sahar Abdullah *Basic Water Quality Analysis- Data management team (Lab chief)	*Agronomist/Planty branch	
2	Mr. Fuhia Moleene *Basic Water Quality Analysis	*Chemical and Physics Science	
3	Ms. Resha Azawi *Basic Water Quality Analysis	*Agronomist	Moved in Jun. 2006
4	Mr. Mohammed Amman *Basic Water Quality Analysis	N/A	DFEA Director

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Mohammed Amman Al Kalaf *Basic Water Quality Analysis		Moved out in Aug. 2005
2	Mrs. Ghazwan Mheroud *Basic Water Quality Analysis		Moved in Jan. 2006 and out in May 2006
3	Ippo Ibrahim *Basic Water Quality Analysis	*Agronomist	Moved in Jun. and out in Nov. 2006
4	Ms. Yama Kalosh *Basic Water Quality Analysis	*Agronomist/Land reclamation	Moved in Jun. and out in July 2006
5	Mr. Omar Khalil Ali *Basic Water Quality Analysis	*Land Reclamation	Moved in Jun. 2006 & moved out July 2007

(8) Idleb DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Sameer Da'ou *Basic Water Quality Analysis (Lab Chief)	*Petrochemical Engineering/Chemical Dept.	
2	Mr. Etad Al-Husein *Basic Water Quality Analysis	*Petrochemical Engineering /Aljimalat Dept.	(Moved in Dec 2005)
3	Mr. Mustafa Al-Dhayanem *Basic Water Quality Analysis	*Petrochemical Engineering /Chemical Dept.	
4	Mr. Khalid Khateeb *Basic Water Quality Analysis	*Chemical Engineering	Moved in Nov 2006, and out in Apr 2007 in May 2007 as parttime
5	Mr. Aiman Kahwaji *Data management	*Agronomist/Aljimalat Dept.	(Moved in Dec. 2005)
6	Mr. Qais Abazi *Data management	*Computer Engineer	(Moved in Nov 2006)

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Suhail Darwish *Basic Water Quality Analysis	*Chemical engineer assistant	Moved out in Nov. 2005
2	Mr. Khalid Fashook *Data management	*Petrochemical Engineering /Aljimalat Dept.	Moved out in Nov. 2005

(V)

(9) Enskely DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Nawaf Odhman *Basic Water Quality Analysis (Lab Chief)	*Chemical engineer	
2	Mr. George Shabo *Basic Water Quality Analysis	*Agronomist/General section	Moved in Dec. 2005
3	Mr. Ayar Boromisan *Basic Water Quality Analysis	*Agronomist/Environment & Woods section	
4	Mr. Abd Elgadir Elmal *Basic Water Quality Analysis	*Agronomist/Environment & Woods section	
5	Mr. Ennad Meral *Data management team	*Agronomist/Environment & Woods section	
6	Ms. Janet Kivorgies *Public awareness team	*Agronomist/Environment & Woods section	

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Saifan Ennad		Moved in Jan. and out in Nov. 2006
2	Mr. Sameer Dabul *Basic Water Quality Analysis (Lab Chief)	*Petrochemical Engineering-Chemical Dept.	
3	Mr. Mustaf Al-Dghyan *Basic Water Quality Analysis	*Petrochemical Engineering-Chemical Dept.	

(10) Rakka DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Ms. Shanaa Al-Jatem *Basic Water Quality Analysis (Lab Chief)	*Agronomist/Soil Reclamation	(Director DFEA) of
2	Mr. Thani Al-Abad *Basic Water Quality Analysis	*Veterinary Institute/General Protection Dept	Moved in Jan 2008
3	Mr. A. Saeb Ammar *Basic Water Quality Analysis	*Chemical engineer	
4	Mr. Abdullatef Ja'loob *Secretary	*High-school.	

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Mustafa Al-Abu *Basic Water Quality Analysis	*Agronomist/Environment & Woods section	Moved out in Oct 2006
2	Mr. Nizam Al Ahmad *Basic Water Quality Analysis	*Petrochemical engineering/Petroleum engineer	Moved in Jul 2005 and out in Apr 2006
3	Mr. Mohammed Al-Husain *Basic Water Quality Analysis	*Petrochemical engineer	Moved out in Mar 2006
4	Mr. Inad Al-Luwayyed *Data management	*Chemical engineer	Moved in Jan. and out in Oct. 2006

(14) Sweida DPLA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Ms. Omayyah Al-Sharar *Basic Water Quality Analysis	*Agronomist *Chemical engineer assistant	Moved in Aug 2006
2	Mr. Samar Al Msari *Basic Water Quality Analysis	*Chemical engineer assistant	
3	Mr. Amal Swaidan *Basic Water Quality Analysis	*Chemical engineer assistant	
4	Mr. Thier Hamzah *Basic Water Quality Analysis	*Agronomist/Animal production *Chemist	
5	Ms. Raghaf Abu Hassan *Basic Water Quality Analysis	*Chemical engineer assistant	
6	Mr. Hana Abu Zaiden *Basic Water Quality Analysis	*Food Processing Eng. *Food processing engineer	Moved in Jun. 2006
7	Mr. Humam Abu Rind *Basic Water Quality Analysis	*Food processing engineer	Moved in Dec. 2006
8	Mr. Bashir Al Jarmakani *Basic water quality	*Informatics Engineering *Chemistry institute	Moved in Jul. 2006
9	Mr. Wasal Abo Gannam *Data management		Moved in Mar. 2006
10	Mr. Wafiq Alsham *Data management		

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Mervat Al Safadi *Data management team	*Chemical engineer assistant	Moved out in Oct. 2006

(12) Dara'a DFLA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Mohammed Alhariri *Basic Water Quality Analysis. (Lab Chief)	*Diploma in Chemical engineering	
2	Mr. Dina Shabai *Basic Water Quality Analysis	*Agronomist	
3	Mr. Yousef Shaididh *Basic Water Quality Analysis	*Civil engineer /Environmental Dept.	Moved in Jun 2006
4	Mr. Mahmud Abu Zeed *Basic Water Quality Analysis	*Petrochemical engineer	
5	Mr. Ateea Zwayda *Data management team	*Electrical engineer	
6	Ms. Fadiyah Ahmad *Data management team	*Chemical engineer assistant	(Maternity leave)

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	Mr. Ahmad Kablawi *Basic Water Quality Analysis	*Petrochemical engineer	Moved out in Apr 2007 (New Director)

(13) Tartous DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Ms. Rawdiana Al-Ali *Basic Water Quality Analysis (Lab. Chief)	* Petrochemical engineer.	
2	Ms. Dalal Ibrahim * Basic Water Quality Analysis	* Biologist	
3	Ms. Lama Harfoush *Basic Water Quality Analysis	* Petrochemical engineer/Chemistry Dspl	(Maternity leave)
4	Ms. Samirah Abdal Rahman * Basic Water Quality Analysis	* Applied industries engineer assistant	
5	Ms. Amrour Omran *Basic Water Quality Analysis- Data management.	* Biologist	
6	Ms. Sobila Betros Basic Water Quality Analysis		
7	*Mr. Aliam Ibrahim * Public awareness team	* Agronomist	
8	*Mr. Karam Ahmad *Public awareness team	* Agronomist	
9	*Ms. Rania Kaddour *Public awareness team	* Agronomist	

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(14) Quneitra DFEA

1) Current C/P

	Name, Responsible Fields and Working Pattern	Background	Evaluation (Remarks)
1	Mr. Hamzah Soliman *Basic Water Quality Analysis (Director of DFEA)	*Geography expert	
2	Mr. Majeed Zaitoun *Basic Water Quality Analysis- Data management team (Lab. Chief)	*Chemical engineer assistant	
3	Mr. Ali Ibrahim *Basic Water Quality Analysis	* Agronomist	

2) Former C/P

	Name, Responsible Fields and Working Pattern	Background	Remarks
1	*Mr. Bassam Orabi *Data management	*High school	Moved out in May 2005

Appendix B Record of Japanese Inputs

Appendix B Record of Japanese Inputs
B-1 List of Japanese Experts

Technical Fields	JFY 2004 (Jan-Mar.2005)	JFY 2005	JFY 2006	JFY 2007 (plan: Apr-Dec)	Total (m/m)
1 Iwai Yoichi Chief Advisor/ Environmental management	1.67 (including 0.30 for Home assign)	8.00	4.87	3.00	17.54
2 Matsue Ryunan Water quality (Basic analysis)	2.30 (including 0.30 for Home assign)	6.00	4.50	2.50	15.30
3 Sato Shinsuke Water quality (Chemical and biological analysis-1)	0.00	7.40	7.00	5.60	20.00
4 Sakae Kazuki Water quality (Chemical and biological analysis-2)	0.00	0.00	0.00	4.50	4.50
5 Kimura Koji Water quality (Heavy metal)	0.00	1.50	4.00	4.80	10.30
6 Hirao Minoru Air quality analysis	0.00	3.50	3.63	2.90	10.03
7 Aoki Tomoo/Sato Koichi Environmental education	1.00 (including 0.30 for Home assign)	2.50	1.50	1.50	6.50
8 Takahashi Keiichi /Matsumoto Hanae Data management	0.00	2.00	2.00	2.00	6.00
9 Takahashi Keiichi /Kamishita Takahiro Coordinator/Procur ement management	1.00	2.00	2.00	0.00	5.00
Total (M/M) (Including coordinator 5.00)	6.27	32.90	29.50	26.80	95.47

Appendix B Record of Japanese Inputs
B-2 List of Major Equipment

Japanese Fiscal Year (Apr-Mar)	2004	2005	2006
Total Value (1,000JPY)	58,705	59,660	20,897
Items (number)	<p>Package 1</p> <p>1) Portable colorimeter kit (HACH CEL/890) pH, Temp., SS, Color, NO3--N, PO43--NH3-N <14></p> <p>2) Portable EC and TDS meter (sensION 5) EC, TDS <14></p> <p>3) Portable DO meter (sensION 6) DO <14></p> <p>4) Portable turbidity meter (HACH 2100P) Turbidity <14></p> <p>5) COD reactor (HACH DRB 200) CODCr <14></p> <p>6) Digital titrator (HACH 16900) Cl- <14></p> <p>7) Reagents for basic water quality analysis (HACH) pH, EC, TDS, Turbidity, COD, Cl-, NO3-N, PO43-, NH3-N <14></p> <p>Package 2</p> <p>1) Analytical balance (Sartorius CP324S) Reagents preparation <14></p> <p>2) Table for balance (Sartorius YWT03) Balance <14></p> <p>3) Incubator (WTW TS606/2i) BOD5 <14></p> <p>4) Equipments for BOD5 analysis (WTW OxiTop IS 12) BOD5 <14></p> <p>5) Distilled water maker set (GFL 2001/4) All parameters <14></p> <p>6) Special pipette containers Pipette handing <14></p> <p>7) Tank for waste liquid (2 tanks/set) For transport and storage of hazardous liquid <14></p> <p>8) Ice box (2 boxes/set) Preservation of samples <14></p> <p>9) Reagents for BOD5 analysis BOD5 <14></p> <p>Package 3</p> <p>1) Glassware (Pipettes, beakers, flasks, cylinders, funnels, bottles etc.)</p>	<p>-UV/VIS spectrophotometer<1></p> <p>-Micro analysis balance<1></p> <p>-Balance (6kg) <1></p> <p>-Water Quality Analyzer<1></p> <p>-Electrode for pH <1></p> <p>-Electrode for EC <1></p> <p>-Electrode for NO3- <1></p> <p>-Electrode for Cl- <1></p> <p>-Electrode for F- <1></p> <p>-Electrode for S2- <1></p> <p>-Electrode for CN- <1></p> <p>-Electrode for DO <1></p> <p>-Turbidimeter <1></p> <p>-Draft chamber with water/gas cleaning device <1></p> <p>-Water Purifier (Ion exchanger + Still) <1></p> <p>-Ultrasonic cleaner<1></p> <p>-Middle temperature oven<1></p> <p>-Muffle furnace<1></p> <p>-Autoclave (vertical type) <1></p> <p>-Water sampler <1></p> <p>-Colony counter <1></p> <p>-Oil content analyzer <1></p> <p>- High volume air sampler for TSP<12></p> <p>- High volume air sampler for PM10. <12></p> <p>-Low volume air sampler<12></p> <p>-Handy sampler<12></p> <p>-Wind Direction & Speed Meter<9></p> <p>-Thermometer& Hygrometer<9></p> <p>-Solar radiation meter<9></p> <p>-Photovoltaic generation system <9></p> <p>- UV/VIS Spectrometer<3></p> <p>- Auto-dry desiccators<3></p> <p>-Glassware and Reagents</p>	<p>-Sample cell for Spectrophotometer/with stopper, square <1></p> <p>-Drying oven/Temp.: - 250<1></p> <p>-Desiccator/Glass made, 30cm dia <1></p> <p>-Micropipette/Up to 300µl, adjustable <1></p> <p>-Atomic Absorption Spectrophotometer set <1></p> <p>-Auto sampler <1></p> <p>-Equipment for As, Sb and Hg <1></p> <p>-Air compressor<1></p> <p>-Glassware and Reagents</p>

(X)

Appendix B Record of Japanese Inputs

	<p>Package 4</p> <ol style="list-style-type: none">1) Desktop computer for Data management and reporting etc. <14>2) Monochromic printer for Reporting etc. <14>3) Digital camera for Sampling record and reporting <14>4) Desk top computer for GCEA Data management and reporting etc. <3>5) Monochromic printer for GCEA Reporting etc. <2>6) Color printer for GCEA Reporting etc. <2>7) Projector for GCEA Seminar and training etc. <1>8) Note computer for the projector for GCEA Seminar and training etc. <1> <p>Package 5</p> <ol style="list-style-type: none">1) Vehicles for the JICA Expert Team Guidance and field training etc. <2>		
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(xi)



Appendix C-1.1: (Detailed Table for Indicator 1.1 of Output 1)

prepared by Japanese Expert Team 07 Aug. 2007

Number of staff who are able to conduct environmental monitoring (EMO) according to Standard Operation Procedure (SOP) as of * Aug. 2007

	Directorates	Field	# of target lab staff =(a)	# of staff who conduct EMO according SOP=(b)	Ratio of (b) to (a)	Remarks
1	Damascus	Water (overall)	14	13	92.9	
		1 Basic Water	4	4	100.0	
		2 Chem & Bio	4	4	100.0	
		3 Heavy Metal	6	5	83.3	One of them (Ms. Laila) is also CP for Basic Water Quality.
		4 Air Quality	3	3	100.0	One CP has never attended, and one has attended another OJT usually. Dr. Mubanna is for data management.
		Water + Air	17	16	94.1	Five CPs are listed, but 2 of them are conducting only labour works. So, these 2 CPs are omitted in this table.
2	Damascus countryside	Water (overall)	14	12	85.7	
		1 Basic Water	7	7	100.0	
		2 Chem & Bio	7	5	71.4	All of them are also CPs for Basic Water Quality.
3	Aleppo	Water (overall)	4	3	75.0	
		1 Basic Water	2	2	100.0	
		2 Chem & Bio	2	1	50.0	All of them are also CPs for Basic Water Quality.
		3				
		4 Air Quality	4	4	100.0	
		Water + Air	8	7	87.5	
4	Homs	Water (overall)	10	9	8.9	
		1 Basic Water	6	6	100.0	
		2 Chem & Bio	4	3	75.0	All of them are also CPs for Basic Water Quality.
		3				
		4 Air Quality	6	6	100.0	
		Water + Air	16	15	93.8	
5	Hama	Water (overall)	6	6	100.0	
		1 Basic Water	6	6	100.0	
		2				
3						
6	Lattakia	Water (overall)	8	8	100.0	
		1 Basic Water	8	8	100.0	
		2				
3						
7	Dei-ez-Zor	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
3						
8	Idlib	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
3						
9	Hasakeh	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
3						
10	Rakka	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
3						
11	Sweida	Water (overall)	8	8	100.0	
		1 Basic Water	8	8	100.0	
		2				
3						
12	Dara'a	Water (overall)	5	5	100.0	
		1 Basic Water	5	5	100.0	
		2				
3						
13	Tartous	Water (overall)	6	6	100.0	
		1 Basic Water	6	6	100.0	
		2				
3						
14	Quneitra	Water (overall)	3	2	66.7	
		1 Basic Water	3	2	66.7	Director (Mr. Hamzoh Soliman) is assigned as C/P. Actually, the director could not conduct EMO.
		2				
3						
TOTAL		Water (overall)	92	68	73.9	
		Air Quality	13	13	100.0	
		Water + Air	105	81	77.1	

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Number of lab staff who have reached Grade B level as of * Aug. 2007

	Directorates	Field	# of target lab staff =(a)	# of staff who have reached Grade B level	Ratio of (b) to (a)	Remarks
1	Damascus	Water (overall)	14	7	50.0	
		1 Basic Water	4	3	75.0	One staff (Mr. Samer Mokbel) is assigned only for sampling. Therefore, he can not analyze samples by using SOPs.
		2 Chem & Bio	4	3	75.0	One of them (Ms. Laila) is also CP for Basic Water Quality.
		3 Heavy Metal	6	1	16.7	The rest of them are going to reach level B in a month.
		4 Air Quality	3	3	100.0	
		Water + Air	17	10	58.8	
2	Damascus countryside	Water (overall)	14	12	85.7	
		1 Basic Water	7	7	100.0	
		2 Chem & Bio	7	5	71.4	All of them are also CPs for Basic Water Quality.
		3				
3	Aleppo	Water (overall)	4	4	100.0	
		1 Basic Water	2	3	150.0	
		2 Chem & Bio	2	1	50.0	All of them are also CPs for Basic Water Quality.
		3				
		4 Air Quality	4	4	100.0	
		Water + Air	8	8	100.0	
4	Homs	Water (overall)	10	9	90.0	
		1 Basic Water	6	6	100.0	
		2 Chem & Bio	4	3	75.0	All of them are also CPs for Basic Water Quality.
		3				
		4 Air Quality	6	6	100.0	-One CP (Ms. Nesreen Toameh) did not attend most training activities. So she can not analyze air quality samples.
		Water + Air	16	15	93.8	
5	Hama	Water (overall)	6	6	100.0	
		1 Basic Water	6	6	100.0	
		2				
		3				
6	Lattakia	Water (overall)	8	8	100.0	
		1 Basic Water	8	8	100.0	
		2				
		3				
7	Deir-ez-Zor	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
		3				
8	Idlib	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
		3				
9	Hasakeh	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
		3				
10	Rakka	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
		3				
11	Sweida	Water (overall)	8	7	87.5	
		1 Basic Water	8	7	87.5	One staff (Ms. Fathiya Ahmad) could not attend most training activities and she could not analyze samples by using SOPs.
		2				
		3				
12	Dara'a	Water (overall)	5	4	80.0	
		1 Basic Water	5	4	80.0	One staff (Mr. Bashar Al Jarmakani) just moved in the laboratory in Apr. 2007. He is trained by skilled CPs.
		2				
		3				
13	Tartous	Water (overall)	6	5	83.3	
		1 Basic Water	6	5	83.3	One staff (Ms. Sohila Botros) moved in the laboratory in Oct. 2006. She is trained by skilled CPs.
		2				
		3				
14	Quneitra	Water (overall)	3	2	66.7	
		1 Basic Water	3	2	66.7	
		2				
		3				
TOTAL		Water (overall)	92	78	84.8	
		Air Quality	13	13	100.0	
		Water + Air	105	91	86.7	

Appendix C-1.3: (Detailed Table for Indicator 1.3 of Output 1)

prepared by Japanese Expert Team 07 Aug. 2007

Number of lab staff who have reached Grade A level as of * Aug. 2007

	Directorates	Field	# of target lab staff =(a)	# of staff who have reached Grade A level	Ratio of (b) to (a)	Remarks
1	Damascus	Water (overall)	14	1	7.1	
		1 Basic Water	4	1	25.0	Almost C/Ps could not evaluate analysis results.
		2 Chem & Bio	4	0	0.0	
		3 Heavy Metal	6	0	0.0	
		4 Air Quality	3	0	0.0	
Water + Air	17	1	5.9			
2	Damascus countryside	Water (overall)	14	2	14.3	
		1 Basic Water	7	2	28.6	Almost C/Ps could not evaluate analysis results.
		2 Chem & Bio	7	0	0.0	
		3				
Water + Air						
3	Aleppo	Water (overall)	4	1	25.0	
		1 Basic Water	2	1	50.0	Almost C/Ps could not evaluate analysis results.
		2 Chem & Bio	2	0	0.0	
		3				
		4 Air Quality	4	1	25.0	
Water + Air	8	2	25.0			
4	Homs	Water (overall)	10	2	20.0	
		1 Basic Water	6	2	33.3	Almost C/Ps could not evaluate analysis results.
		2 Chem & Bio	4	0	0.0	
		3				
		4 Air Quality	6	2	33.3	
Water + Air	16	4	25.0			
5	Hama	Water (overall)	6	2	33.3	
		1 Basic Water	6	2	33.3	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
6	Latakia	Water (overall)	8	1	12.5	
		1 Basic Water	8	1	12.5	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
7	Dei-uz-Zor	Water (overall)	4	2	50.0	
		1 Basic Water	4	2	50.0	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
8	Idlib	Water (overall)	4	1	25.0	
		1 Basic Water	4	1	25.0	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
9	Hasakeh	Water (overall)	3	1	33.3	
		1 Basic Water	3	1	33.3	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
10	Rakku	Water (overall)	3	0	0.0	
		1 Basic Water	3	0	0.0	No C/Ps can evaluate analysis results.
		2				
		3				
Water + Air						
11	Sweida	Water (overall)	8	2	25.0	
		1 Basic Water	8	2	25.0	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
12	Dara'a	Water (overall)	5	1	20.0	
		1 Basic Water	5	1	20.0	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
13	Tartous	Water (overall)	6	1	16.7	
		1 Basic Water	6	1	16.7	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
14	Quneitra	Water (overall)	3	1	33.3	
		1 Basic Water	3	1	33.3	Almost C/Ps could not evaluate analysis results.
		2				
		3				
Water + Air						
TOTAL		Water (overall)	92	18	19.6	
		Air Quality	13	3	23.1	
		Water + Air	105	21	20.0	

(xiv)

Number of lab staff who can operate and maintain equipment in accordance with the manual (as of * Aug. 2007)

	Directorates	Field	# of target lab staff =(a)	# of staff who have can operate and maintain equipment according to the manual	Ratio of (b) to (a)	Remarks
1	Damascus	Water (overall)	14	6	42.9	One staff (Mr. Samer Mokbel) is assigned only for sampling. Therefore, he can not operate and maintain equipment. -2nd OJT of O/M will be conducted at the end of Aug and examination will take place.
		1 Basic Water	4	3	75.0	
		2 Chem & Bio	4	3	75.0	
		3 Heavy Metal	6	0	0.0	
		4 Air Quality	3	3	100.0	
		Water + Air	17	9	52.9	
2	Damascus countryside	Water (overall)	14	9	64.3	
		1 Basic Water	7	7	100.0	
		2 Chem & Bio	7	2	28.6	
		3				
		4 Air Quality				
3	Aleppo	Water (overall)	4	4	100.0	
		1 Basic Water	2	3	150.0	
		2 Chem & Bio	2	1	50.0	
		3				
		4 Air Quality	4	4	100.0	
		Water + Air	8	8	100.0	
4	Homs	Water (overall)	10	9	90.0	
		1 Basic Water	6	6	100.0	
		2 Chem & Bio	4	3	75.0	
		3				
		4 Air Quality	6	6	100.0	
		Water + Air	16	15	93.8	
5	Hama	Water (overall)	6	6	100.0	
		1 Basic Water	6	6	100.0	
		2				
		3				
6	Latakia	Water (overall)	8	8	100.0	
		1 Basic Water	8	8	100.0	
		2				
		3				
7	Dei-ez-Zor	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
		3				
8	Idlib	Water (overall)	4	4	100.0	
		1 Basic Water	4	4	100.0	
		2				
		3				
9	Hasakeh	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
		3				
10	Rakka	Water (overall)	3	3	100.0	
		1 Basic Water	3	3	100.0	
		2				
		3				
11	Sweida	Water (overall)	8	7	87.5	One staff (Ms. Fathiya Ahmad) could not attend most training activities and she could not operate and maintain equipment.
		1 Basic Water	8	7	87.5	
		2				
		3				
12	Dara'a	Water (overall)	5	4	80.0	One staff (Mr. Bashar Al Jamakani) just moved in the laboratory in Apr. 2007. He could not operate and maintain equipment.
		1 Basic Water	5	4	80.0	
		2				
		3				
13	Tartous	Water (overall)	6	5	83.3	One staff (Ms. Sohila Botros) moved in the laboratory in Oct. 2006. She could not operate and maintain equipment.
		1 Basic Water	6	5	83.3	
		2				
		3				
14	Quneitra	Water (overall)	3	2	66.7	
		1 Basic Water	3	2	66.7	
		2				
		3				
TOTAL		Water (overall)	92	74	80.4	
		Air Quality	13	13	100.0	
		Water+Air	105	87	82.9	

Appendix C-3.1 (Detailed Table for Indicator 3.1 of Output 3)

prepared by Japanese Expert Team 07 Aug. 2007

Number of monitoring data accumulated in the database (as of 31 Aug. 2007)

	Directorates	Field	# of monitoring data (samples) collected	# of data analyzed (A)	# of data accumulated in the database (B)	Remarks
1	Damascus	Water (overall)	197	6,520	2,324	
		1 Basic Water	168	6,440	2,324	From Jan. 2006 to Jun. 2007.
		2 Chem & Bio	9	36	0	No systematic data (samples) have been collected due to on the way of training. Parameters analyzed are mostly 4 in each sample.
		3 Heavy Metal	22	44	0	
		4 Air Quality	192	192	154	The number of data is end of July. It is assumed that 80% of analyzed data was accumulated in PC.
		Water + Air	389	6,712	2,478	
2	Damascus countryside	Water (overall)	257	6,770	3,570	
		1 Basic Water	255	6,762	3,570	From Jan. 2006 to Jun. 2007.
		2 Chem & Bio	2	8	0	Training was just started from June 2007. No systematic data have been accumulated yet.
		3				
3	Aleppo	Water (overall)	71	2,682	854	
		1 Basic Water	69	2,674	854	From Jan. 2006 to Jun. 2007. Data in 2007 is not recorded in database.
		2 Chem & Bio	2	8	0	Training was just started from June 2007. No systematic data have been accumulated yet.
		3				
		4 Air Quality	115	115	92	The number of data is end of July. It is assumed that 80% of analyzed data was accumulated in PC.
		Water + Air	186	2,797	946	
4	Homs	Water (overall)	129	4,316	1,792	
		1 Basic Water	128	4,312	1,792	From Jan. 2006 to Jun. 2007.
		2 Chem & Bio	1	4	0	Training was just started from June 2007. No systematic data have been accumulated yet.
		3				
		4 Air Quality	100	100	80	The number of data is end of July. It is assumed that 80% of analyzed data was accumulated in PC.
5	Hama	Water (overall)	124	4,004	1,736	
		1 Basic Water	124	4,004	1,736	From Jan. 2006 to Jun. 2007.
		2				
		3				
6	Latakia	Water (overall)	179	5,698	2,506	
		1 Basic Water	179	5,698	2,506	From Jan. 2006 to Jun. 2007.
		2				
7	Deir-ez-Zor	Water (overall)	62	2,268	868	
		1 Basic Water	62	2,268	868	From Jan. 2006 to Jun. 2007.
		2				
8	Idlib	Water (overall)	67	2,338	938	
		1 Basic Water	67	2,338	938	From Jan. 2006 to Jun. 2007.
		2				
9	Hasakeh	Water (overall)	71	2,282	994	
		1 Basic Water	71	2,282	994	From Jan. 2006 to Jun. 2007.
		2				
10	Rakka	Water (overall)	60	1,960	560	
		1 Basic Water	60	1,960	560	From Jan. 2006 to Jun. 2007. Data in 2007 is not recorded in database.
		2				
11	Sweida	Water (overall)	125	4,298	1,750	
		1 Basic Water	125	4,298	1,750	From Jan. 2006 to Jun. 2007.
		2				
12	Dara'a	Water (overall)	75	2,366	1,050	
		1 Basic Water	75	2,366	1,050	From Jan. 2006 to Jun. 2007.
		2				
13	Tartous	Water (overall)	89	2,758	1,246	
		1 Basic Water	89	2,758	1,246	From Jan. 2006 to Jun. 2007.
		2				
14	Quneitra	Water (overall)	53	1,890	742	
		1 Basic Water	53	1,890	742	From Jan. 2006 to Jun. 2007.
		2				
TOTAL		Water (overall)	1,559	50,150	20,930	
		Air Quality	407	407	326	
		Water+Air	1,966	50,557	21,256	

note: (A) is calculated that (# of samples in 2006 x 14 parameters x 3 times analysis in each sample) + (# in 2007 x 14 parameters). 3 times analysis is adopted for QC purpose.
 (B) is calculated that (# of samples in 2006 and 2007 x 14 parameters)

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Appendix D-1 Detailed Table for Indicator 1 of the Project Purpose

Achievement of Target Analysis Technology Level

prepared by Japanese Expert Team, 22 July

Directorates	Field	Achievement	Remarks
1	Damascus	Water (overall)	
	1 Basic Water	○	Based on the results of internal QC (50% acceptance rate) and the number of samples analyzed etc
	2 Chem & Bio	○	Analysis training of target parameters will be finished in the middle of July 2007 except for Total Coliform. The training will be continued mostly to improve the capacity of monitoring and Q/C.
	3 Heavy Metals	△	Five CPs attend the training. 1 reached level B, and the rest of them are going to reach level B.
	Air	○	CPs are capable to sample, analyze, arrange data, and O/M of equip and reagents. The correlation coefficient of calibration curve of SO ₂ , NO _x and O ₃ can secure more than 0.98. However, they are mostly not enough level on planning and data evaluation.
2	Damascus countryside	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (83% acceptance rate) and the number of samples analyzed etc.
	2 Chem & Bio	△	Training was started from June 2007, and it will be continued by the middle of December 2007.
	3		
	Air		
3	Allepo	Water (overall)	
	1 Basic Water	○	Based on the results of internal QC (64% acceptance rate) and the number of samples analyzed etc.
	2 Chem & Bio	△	Training was started from June 2007, and it will be continued by the middle of December 2007.
	3		
	Air	○	CPs are capable to sample, analyze, arrange data, and O/M of equip and reagents. The correlation coefficient of calibration curve of SO ₂ , NO _x and O ₃ can secure more than 0.98. However, they are mostly not enough level on planning and data evaluation.
4	Homs	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (75% acceptance rate) and the number of samples analyzed etc.
	2 Chem & Bio	△	Training was started from June 2007, and it will be continued by the middle of December 2007.
	3		
	Air	○	CPs are capable to sample, analyze, arrange data, and O/M of equip and reagents. The correlation coefficient of calibration curve of SO ₂ , NO _x and O ₃ can secure more than 0.98. However, they are mostly not enough level on planning and data evaluation.
5	Hama	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (75% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
6	Lattakia	Water (overall)	
	1 Basic Water	○	Based on the results of internal QC (75% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
7	Dei-ez-Zor	Water (overall)	
	1 Basic Water	○	Based on the results of internal QC (33% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
8	Idlib	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (91% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
9	Hasakeh	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (90% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
10	Rakka	Water (overall)	
	1 Basic Water	△	Based on the results of internal QC (33% acceptance rate) and the number of samples analyzed. Change and lack of CPs are serious problem for achievement.
	2		
	3		
	Air		
11	Sweida	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (75% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
12	Dara'a	Water (overall)	
	1 Basic Water	○	Based on the results of internal QC (75% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
13	Tartous	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (83% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
14	Quneitra	Water (overall)	
	1 Basic Water	⊙	Based on the results of internal QC (92% acceptance rate) and the number of samples analyzed etc.
	2		
	3		
	Air		
TOTAL	Water (overall)		
	Air		
	Water+Air		

note: ⊙=to be surely achieved, ○=will be achieved, △=will be achieved with some delay or uncertainty, X=not to be achieved

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Appendix D-2 Detailed Table for Indicator 2 of the Project Purpose

Number of sampling data to be collected as per the plan and number of data actually collected

prepared by Japanese Expert Team, 22 July

Directorates	Field	2005			2006			2007			Remarks (Major reasons for the gap of the number of samples between plan and actually collected)
		# of monitoring data to be collected as per the plan (=a)	# of monitoring data actually collected (=b)	Ratio (%) (b) to (a)	# of monitoring data to be collected as per the plan (=a)	# of monitoring data actually collected (=b)	Ratio (%) (b) to (a)	# of monitoring data to be collected as per the plan (=a)	# of monitoring data actually collected (=b)	Ratio (%) (b) to (a)	
1	Damasus	Water (overall)		143	154	107.7		208	43	20.7	
		1 Basic Water		138	147	106.5		126	19	15.1	No time due to receiving Chem. and Bio. training
		2 Chem & Bio		5	7	120		5	2	40	Training was started from the beginning of July 2006, and CPs are not accumulated yet. Number of monitoring data shows the number of samples collected and analyzed for the training
		3 Heavy Metals						77	22	0.29	Since June, 2007
		Air		0	29			544	192	35.3	The training of the main equipment had to start in November 2006. The monitoring plan was reconsidered several times, and decided this time. The monitoring plan is carried out from this time.
	Water + Air										
2	Damasus countryside	Water (overall)		127	114	89.8		172	143	83.1	Receiving other training for AAS and GC provided by GCEA in 2007.
		1 Basic Water		127	114	89.8		170	141	82.9	
		2 Chem & Bio						2	2	100	The training began from the beginning of June 2007. The staffs are now in the middle of the training. No systematic data have not accumulated yet. Number of monitoring data mentioned left shows the number of samples collected and analyzed for the training.
		3									
3	Aleppo	Water (overall)		77	61	79.2		38	10	26.3	Receiving other training for AAS and GC provided by GCEA in 2007.
		1 Basic Water		77	61	79.2		36	8	22.2	
		2 Chem & Bio						2	2	100	The training began from the beginning of June 2007. The staffs are now in the middle of the training. No systematic data have not accumulated yet. Number of monitoring data mentioned left shows the number of samples collected and analyzed for the training.
		3									
		Air		0	133			444	100	22.5	The training of the main equipments had to start in November 2006. The monitoring plan was reconsidered several times, and decided this time. The monitoring plan is carried out from this time.
	Water + Air										
4	Homs	Water (overall)		216	98	41.7		120	61	50.8	Receiving other training for AAS and GC provided by GCEA in 2007.
		1 Basic Water		216	90	41.7		42	38	90.5	
		2 Chem & Bio						1	1	100	The training began from the beginning of June 2007. The staffs are now in the middle of the training. No systematic data have not accumulated yet. Number of monitoring data mentioned left shows the number of samples collected and analyzed for the training.
		3						77	22	0.29	Since June, 2007
		Air		0	98			584	115	19.7	The training of the main equipments had to start in January 2007. The monitoring plan was reconsidered several times, and decided this time. The monitoring plan is carried out from this time.
	Water + Air										
5	Hama	Water (overall)		185	81	43.8		129	43	24.0	Relocation of the laboratory in 2007.
		1 Basic Water		185	81	43.8		129	43	24.0	
		2									
		3									
6	Lattakia	Water (overall)		198	114	57.6		128	65	50.8	
		1 Basic Water		198	114	57.6		128	65	50.8	
		2									
		3									
7	Deir-ze-Zor	Water (overall)		71	50	70.4		77	12	15.6	Part-time working.
		1 Basic Water		71	50	70.4		77	12	15.6	
		2									
		3									
8	Idlib	Water (overall)		55	50	90.9		50	17	34.0	Part-time working.
		1 Basic Water		55	50	90.9		50	17	34.0	
		2									
		3									
9	Hama	Water (overall)		176	46	26.1		69	25	36.2	Part-time working, and the plan of 2006 was modified
		1 Basic Water		176	46	26.1		69	25	36.2	
		2									
		3									
10	Rakka	Water (overall)		38	40	105.3		44	20	45.5	Storage of CPs and part-time working.
		1 Basic Water		38	40	105.3		44	20	45.5	
		2									
		3									
11	Swaida	Water (overall)		94	91	96.8		74	34	45.9	
		1 Basic Water		94	91	96.8		74	34	45.9	
		2									
		3									
12	Dara	Water (overall)		55	47	85.3		51	28	54.9	Relocation of the laboratory in 2007
		1 Basic Water		55	47	85.3		51	28	54.9	Part-time working.
		2									
		3									
13	Tanous	Water (overall)		42	54	128.6		69	35	50.7	
		1 Basic Water		42	54	128.6		69	35	50.7	
		2									
		3									
14	Quneitra	Water (overall)		36	41	113.9		39	12	30.8	Relocation of the laboratory in 2007
		1 Basic Water		36	41	113.9		39	12	30.8	Part-time working.
		2									
		3									
TOTAL		Water (overall)	0	0	1,513	1,033	68.3	1,318	548	41.6	
		Air	0	0	0	260		1,572	407	25.9	
		Water+Air									

Note: Meteorological data obtained in Damasus, Homs and Aleppo DFEAs are not included in the table. (24hr x 365 days x 5 items x 3 stations = 131,400 data/hr/DFEA)

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Appendix E: Activity Chart (1/5)

24 July 2007 prepared by the Japanese Expert Team

Activity as per PDM	Expected Results (as per PO of R/D)	Corresponding Activity of PO as per Progress Reports	JET	Syrian CP	Progress & Remarks (Con=completed, Ope=on-going, N=Not yet)
1.1 Completion of the SOP for samplings, analysis, interpretation, evaluation, data filing and reporting.	<p>Standard Operation Procedure(SOP)</p> <p>*Number of training conducted</p> <p>*Number of participants</p>	<p>1(3) Preparation of the SOP (BW, CB, HM, AIR)</p>	<p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p> <p>4)AIR=Hirao</p>	<p>1)4 DFEA=lab chief and staff</p> <p>2)4 DFEA=DAM, DAMC, HOM, ALP: ditto</p> <p>3)1 DFEA=DAM: ditto</p> <p>4)3 DFEA=DAM, HOM, ALP: ditto</p>	<p>1)BW=Cm</p> <p>2)CB=Og</p> <p>3)HM=Og</p> <p>4)AIR=Og</p>
1.2 Training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.	<p>*Training materials</p> <p>*Number of training conducted</p> <p>*Number of participants</p>	<p>1(2) Basic (group) training of environmental management for personnel of DFEAs</p> <p>1(6) Training on data analysis and interpretation (BW, CB, HM, AIR)</p> <p>1(5) Round instruction training and OJT at DFEA, including 1-(6) Training on data analysis and interpretation & 1-(8) Discussion and instruction on the basic analysis of water quality at DFEA (BW, CB, HM)</p> <p>1(7) Training on air quality analysis of DFEAs in DAM, ALP, HOM, including 1-(6) Training on data analysis and interpretation & 1-(8) Discussion and instruction at DFEA(AIR)</p>	<p>all members (7 experts in JET)</p> <p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p> <p>4)AIR=Hirao</p> <p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p> <p>4)AIR=Hirao</p> <p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p> <p>1)AIR=Hirao</p>	<p>all CPs in June 2006</p> <p>1)4 DFEA=lab chief and staff in each DFEA</p> <p>2)4 DFEA=DAM, DAMC, HOM, ALP: ditto</p> <p>3)1 DFEA=DAM: ditto</p> <p>4)3 DFEA=DAM, HOM, ALP: ditto</p> <p>1)4 DFEA=lab chief and staff</p> <p>2)4 DFEA=DAM, DAMC, HOM, ALP: ditto</p> <p>3)1 DFEA=DAM: ditto</p> <p>1)3 DFEA=DAM, HOM, ALP: lab chief and staff</p>	<p>Cm</p> <p>1)BW=Cm</p> <p>2)CB=Og</p> <p>3)HM=Og</p> <p>4)AIR=Og</p> <p>1)BW=Cm</p> <p>2)CB=Og</p> <p>3)HM=Og</p> <p>1)AIR=Og</p>
1.3 Hands-on trainings in samplings, analysis, interpretation, evaluation, data filing and reporting.	<p>*Training materials</p> <p>*Number of training conducted</p> <p>*Number of participants</p>	<p>1(1) Advice to establish plan of a laboratory of Damascus DFEA and other 13 DFEAs</p> <p>1(5) Round instruction training and OJT at DFEA, including 1-(6) Training on data analysis and interpretation & 1-(8) Discussion and instruction at DFEA (BW, CB, HM)</p>	<p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p> <p>4)AIR=Hirao</p> <p>1)BW=Maue</p> <p>2)CB=Sato, Sakae</p> <p>3)HM=Kimura</p>	<p>1)4 DFEA=lab chief and staff</p> <p>2)4 DFEA=DAM, DAMC, HOM, ALP: ditto</p> <p>3)1 DFEA=DAM: ditto</p> <p>4)3 DFEA=DAM, HOM, ALP: ditto</p> <p>1)4 DFEA=lab chief and staff</p> <p>2)4 DFEA=DAM, DAMC, HOM, ALP: ditto</p> <p>3)1 DFEA=DAM: ditto</p>	<p>1)Prepared in 2004 for 14 DFEAs. Additional advice is conducted to DFEAs to be moved (HOM, ALP, DAR, QNT, HAM, TAR), if any</p> <p>2)Prepared in 2004. Additional advice is conducted due to lab extension</p> <p>3)ditto</p> <p>4)Prepared in 2004 for 3 DFEAs</p> <p>1)9 times round training conducted in 2005-2007 for each, so far CPs in each DFEA.</p> <p>2)DAM=training parameter by parameter almost every day in 2006-2007.</p> <p>Other 3 DFEAs=2 times round training so far from 2007.</p> <p>3)training parameter by parameter almost every day in 2006-2007</p>

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Appendix E: Activity Chart (2/5)

Activity as per PDM	Expected Results (as per PO of R/D)	Corresponding Activity of PO as per Progress Reports	JET	Syrian CP	Progress & Remarks (Can=completed, Ogr=on-going, Ny=Not yet)
		(7) Training on air quality analysis of DFEAs in DAM, ALP, HOM, including 1- (6) Training on data analysis and interpretation & 1-8 (8) Discussion and instruction at DFEA(AIR)	1)AIR=Hirao	1)3 DFEA=DAM, HOM, ALP: lab chief and staff	1)6 times round training conducted in 2006-2007 to CPs in each DFEA, so far.
		(10) Establishment of sample transport system to DFEA in Damascas from others	1)BW=Matue 2)CB=Sato 3)HM=Kimura	1)14 DFEA=lab chief and staff 2)1 DFEA=DAM: ditto 3)1 DFEA=DAM: ditto	1)4 times training are conducted for preserving samples and preparation of monitoring plan during round training in 2006-2007 to CPs in each DFEA 2)DAM=training for receiving samples and preparation of monitoring plan in 2006-2007. Demonstration is conducted in ALP DFEA in 2006 3)1 time training is conducted preserving samples and preparation of monitoring plan during round training in 2007 to CPs in each DFEA
1.4 On-site OJT in sampling, analysis, interpretation, evaluation, data filling and reporting	*Number of training conducted *Number of participants	(5) Round instruction training and OJT at DFEA, including 1-(6) & 1-(8) Discussion and instruction on the basic analysis of water quality at DFEA (BW, CB, HM)	1)BW=Matue 2)CB=Sato, Sakae 3)HM=Kimura 1)AIR=Hirao	1)14 DFEA=lab chief and staff 2)4 DFEA=DAM, DAMC, HOM, ALP: ditto 3)1 DFEA=DAM: ditto 1)3 DFEA=DAM, HOM, ALP: lab chief and staff	1)9 times round training conducted in 2005-2007 to CPs in each DFEA, so far. 2)DAM=training conducted almost every day in 2006-2007 Other 3 DFEAs=2 times round training so far from 2007 3)1 training conducted almost every day in 2006-2007
?		(11) Recommendations for the training system about environmental management	1)CA=Iwai	1)CCEA and 14 DFEA=director and lab chief	1)1 to be planned from Aug 2007.
Output 2: Laboratories are properly managed by laboratory staff themselves.					
2.1 Completion 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.	*O/M manual	(1) Preparation of a laboratory O/M manual (BW, CB, HM, AIR)	1)BW=Matue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)14 DFEA=lab chief and staff in each DFEA 2)4 DFEA=DAM, DAMC, HOM, ALP: ditto 3)1 DFEA=DAM: ditto 4)3 DFEA=DAM, HOM, ALP: ditto	1)Prepared in June 2006. 2)DAM=Prepared in June 2006. Other 3 DFEAs=Prepared in June 2006, but it should be revised including CB in 2007. 3)Prepared in June 2006. 4)Prepared in June 2006.
2.2 Hands-on trainings at maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.	*Number of trainings conducted *Number of participants	(2) Establishment of laboratory of Damascas DFEA and other 13 DFEAs and training on the equipment of chemical and biological analysis of water quality at DFEAs-BW, CB, HM, AIR	1)BW=Matue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)14 DFEA=lab chief and staff in each DFEA 2)4 DFEA=DAM, DAMC, HOM, ALP: ditto 3)1 DFEA=DAM: ditto 4)3 DFEA=DAM, HOM, ALP: ditto	1)Lab and equip O/M manual is prepared in 2005, and hands-on training has conducted in 2006-2007. 2)DAM=Lab and equip O/M manual is prepared in 2006, and hands-on training has conducted in 2006-2007. Other 3 DFEAs=Equip O/M manual is prepared in 2007, and it should be revised, if any. 3)Lab and equip O/M manual is prepared in 2006, and hands-on training has conducted in 2006-2007. 4)Lab and equip O/M manual is prepared in 2006, and hands-on training has conducted in 2006-2007.

(X X)

Appendix E: Activity Chart (3/5)

Activity as per PDM	Expected Results (as per PO or R/D)	Corresponding Activity of PO as per Progress Reports	JET	Syrian CP	Progress & Remarks (Cm=Completed, Og=on-going, Ny=Not yet)
2.1 Provide necessary assistance and guidance in prepare Directorates' budget plan for regular monitoring	n/a	2(3) Support of budgetary planning of regular periodical environmental monitoring of DFEAs	1) BW=Matue 2) CB=Sato, Sakae 3) HM=Kimura 4) AIR=Hirao	1) 14 DFEA=lab chief and staff in each DFEA 2) 4 DFEA=DAM, DAMC, HOM, ALP, ditto 3) 1 HM=DAM: ditto 4) 1 AIR=DAM, HOM, ALP, ditto	1) Budget plan is proposed in 2005, and DFEAs have own prepared budget plan in accordance with the proposed plan from 2006. It should be revised considering # of samples to be sent to DAM DFEA for analysis 2) Budget plan will be proposed in 2007. 4 DFEAs should be prepared their own budget plan based on their monitoring plan in accordance with the proposed plan prepared by JET 3) ditto 4) ditto
Output 3: Environmental analysis data is accumulated and properly managed.					
3.1 Design the monitoring record formats for laboratories and for the GCEA in the MOLAE.	*Monitoring report format for Directorates *Monitoring report for GCEA	3(1) Situation of data management (DM) in MOLAE (DFEA) 3(2) Preparation of format for environmental monitoring record	1) CA=Iwai and DM=Takahashi 1) DM=Takahashi	1) GCEA=project director and project manager 1) GCEA and 14 DFEA=director, lab chief and staff	1) Completed in 2004. No systematic data accumulation system is existed in GCEA. 1) Completed in 2005 for BW, and in 2007 for CB, HM, and AIR. Format is prepared for GCEA in 2007. These should be revised, if any. 2) All DFEAs prepared an annual report to GCEA in 2006. This should be continued in 2007
3.2 Compile monitoring records in each Directorate.	*Environmental monitoring records	3(3) Record of environmental monitoring in DFEAs	1) DM=Takahashi	1) 14 DFEA=director, lab chief and staff	1) All DFEAs prepared an annual report to GCEA in 2006. This should be continued in 2007.
3.3 Send the monitoring records from Directorates to file GCEA in the MOLAE.	n/a	3(4) Set-up data concentrating system in MOLAE regarding environmental monitoring	1) DM=Takahashi	1) GCEA=project manager and director of information	1) GCEA developed its DB for data processing. GCEA is ready for accumulating monitoring data, if DFEAs send data by the Intranet system (GS-HDSL). 2) AI present, only 3 DFEAs (DAR, SWD, and IDL) are available the Intranet system. The 4 DFEAs (DAM, HSK, DZR, and RAK) are out of order due to out side of service area of STE. The 3 DFEAs (HOM, ALP, and QNT) are not available due to movement of DFEA office. The rest of 4 DFEAs (DAMC, HAM, LTK, and TAX) are not available mainly due to a system problem of STE. 3) Data from DFEAs which are not available the Intranet system should be reinput in DB in GCEA for the time being.
3.4 Publish environmental annual report in each Directorates	(additional activity of PDMc)	3(5) Support for the preparation and publication of annual environmental reports by each DFEA	1) CA=Iwai and DM=Takahashi	1) Annual report preparation=14 DFEA, director and lab chief 2) Publication of the annual report=GCEA and 14 DFEAs	1) All DFEAs prepared an annual report to GCEA in 2006. This should be continued in 2007. 2) DFEA does not have any light to publish the annual report, and MOLAE has a power to publish the data, but an accreditation of DFEA lab from authorized lab such as ABC is a pre-condition for publication 3) Getting accreditation should be the first obstacle in order to achieve publication of monitoring data.
Output 4: Laboratory inventory and pollution source inventory					
4.1 Conduct preliminary pollution source inventory surveys	*Report of surveys conducted	4(1) Preparatory survey for pollution source in each governorate	1) CA=Iwai	1) GCEA and 14 DFEA=director, lab chief, and staff	1) Completed in 2005 by a sub-contract work. The reports are distributed to all DFEAs through GCEA

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Appendix E: Activity Chart (4/5)

Activity as per PDM	Expected Results (as per PO of R/D)	Corresponding Activity of PO as per Progress Reports	JET	Syrian CP	Progress & Remarks (Cm=completed, Og=on-going, Ny=Not yet)
4.2 Specify monitoring sites and their parameters	*Number of monitoring sites *Number of monitoring parameters	1(4) Training on practical skill and environmental monitoring plan (BW, CB, HM, AIR) 4(2) Support for preparation of "environmental monitoring plan" (BW, CB, HM, AIR)	1)BW=Maue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)4 DFEA=lab chief and staff in each DFEA 2)4 DFEA=DAM, DAMC, HOM, ALP, ditto 3)1 DFEA=DAM, ditto 4)3 DFEA=DAM, ditto	1)BW=Cm 2)CB=Cm 3)HM=Cm 4)AIR=Cm 1)Each DFEA prepared a monitoring plan in 2006, and conducted actual monitoring in accordance with the plan. 2)4 DFEAs are preparing a monitoring plan for 2008 based on the training results. 3)ditto 4)ditto
4.3 Formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory.	*Environmental monitoring plan for each Directorate	1(4) Training on practical skill and environmental monitoring plan (BW, CB, HM, AIR)	1)BW=Maue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)4 DFEA=lab chief and staff in each DFEA 2)4 DFEA=DAM, DAMC, HOM, ALP, ditto 3)1 DFEA=DAM, ditto 4)3 DFEA=DAM, HOM, ALP, ditto	1)In 2006, each DFEA conducted monitoring based on the plan as follows: DAM (# of sampling station 13, # of samples planned 1437 # of actual 154), DAMC (52/127/114), ALP (2777/61), HOM (73/216/90), HAM (28/183/81), LTK (18/198/114), DZR (97/150), IDL (43/55/30), HSK (6/176/46), RAK (163/8/40), SWD (44/94/91), DAR (31/55/47), TAR (16/42/54), QNT (10/36/41). Parameters analysed are 14 substances. 2)In 2006, DAM planned 5 samples and did actual 7 samples. No samples in other 3 DFEAs. 3)No samples in 2006. 4)In 2006, sampling is not planned, but DAM conducted 29 samples, HOM 98, and ALP 133.
4.4 Provide necessary assistance and guidance to	na	4(2) Support for preparation of "environmental monitoring plan" (BW, CB, HM, AIR) 4(3) Guidance of enforcement of "environmental monitoring guidelines"	1)BW=Maue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)4 DFEA=lab chief and staff in each DFEA 2)4 DFEA=DAM, DAMC, HOM, ALP, ditto 3)1 DFEA=DAM, ditto 4)3 DFEA=DAM, HOM, ALP, ditto	1)Each DFEA prepared a monitoring plan in 2007, and conducting actual monitoring in accordance with the plan. 2)4 DFEAs are preparing a monitoring plan for 2008 based on the training results. 3)ditto 4)ditto
		4(3) Guidance of enforcement of "environmental monitoring guidelines"	1)CA=Iwai	1)GCEA and 14 DFEA=director and lab chief	1)to be planned from Aug 2007
		4(4) Comprehensive evaluation of environmental monitoring in DFEAs	1)BW=Maue 2)CB=Sato, Sakae 3)HM=Kimura 4)AIR=Hirao	1)4 DFEA=lab chief and staff 2)4 DFEA=DAM, DAMC, HOM, ALP, ditto 3)1 DFEA=DAM, ditto 4)3 DFEA=DAM, HOM, ALP, ditto	1)On-going based on results in 2006 and 2007 2)to be conducted in November 2007. 3)ditto 4)ditto

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Appendix E: Activity Chart (5/5)

Activity as per PDM	Expected Results (as per PO or R/D)	Corresponding Activity of PO as per Progress Reports	JET	Syrian CP	Progress & Remarks (Cm=completed, Og=on-going, Ny=Not yet)
5.1 To conduct preliminary survey on activities regarding to environmental education and public awareness in each governorate	*Report of preliminary surveys conducted	Public awareness (PA) survey in governorate	1) PA=Aoki	1) GCEA and 7 DFEAs=staff in charge	1) DAM, DAMC, and ALP are conducted in 2004. HOM, HAK, SWD, and TAR are conducted in 2005. 2) Reports are available.
5.2 To formulate textbooks, manuals, and pamphlets for environmental education.	*Textbooks, manuals and pamphlets made by the Project	Preparation of materials for environmental education (E&E) in Arabic	1) PA=Aoki	1) GCEA and 14 DFEAs=staff in charge	1) In 2005, Textbook (Eco-plant game and its instruction manual) prepared 300 sets, CD (Video program) 2,000 sets, and Newsletter 3,000 sets. 2) In 2006, Manual (Environmental work manual) prepared 2,000 sets, CD (Two video program) 300 sets in each, and Newsletter No.4 2,000 sets and special edition 200 sets.
5.3 To implement seminars and workshops targeted for seminars and educational institutions and NGOs and so forth.	*Report of seminars and workshops implemented	Conduction of seminars and workshops for environmental education (E&E)	1) PA=Aoki	1) GCEA and 14 DFEAs=staff in charge 2) 4 priority DFEAs (DAM, HOM, ALP, and LTK)=ditto	1) In June 2005, E&E seminar is held at GCEA with 21 attendants. In January 2006, E&E WS (media event) is held in DAM with attendants 36 In February 2006, WS for E&E/PA lecture is held at GCEA with attendants 22. In May 2006, WS is held at GCEA for E&E/PA at GCEA with attendants 3. 2) The following seminar and WS is held. a) DAM: May 2006 (# of participants=10), Feb 2007 (3 of staff), Feb 2007 (30 of COI) b) HOM: May 2006 (50 of COI), Feb 2007 (3 of staff) c) ALP: May 2006 (30 of COI), Jan 2007 (9 of staff), Jan 2007 (30 of COI) d) LTK: May 2006 (3 of staff), June 2006 (6 in the company), Jan 2007 (12 of staff), Jan 2007 (20 of COI)
5.4 To enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorate (ex. to implement periodical meeting)	*Report of Meetings	Grasp of the current situation of environmental education (E&E) and public awareness (PA) in each governorate	1) PA=Aoki	1) GCEA	1) Conducted in 2004-2005 through seminars and workshops
5.5 To formulate an action plan on public awareness activities for industrial sector in target Directorates	*Report of Action Plan	Organizing periodical network meetings among organizations and/or institutions regarding to environmental education (E&E)	1) PA=Aoki	1) GCEA	1) Conducted seminar for establishing Syrian Environmental Forum in June 2005 involving NGOs and other stakeholders. 2) In accordance with the Minister's Decision No. 2051 dated 3 October 2005, GCEA established the National Committee for Public Awareness (NCPA) with line ministries and NGOs. Thus, NCPA succeeds the function of the Syrian Environmental Forum. NCPA meeting has been held 5 times (1st Nov. 2005, 2nd Feb. 2006, 3rd Apr. 2006, 4th May 2006, and 5th Oct. 2006) so far. 3) Based on the series of discussion with 4 DFEAs, each DFEA should prepare an action plan how to use the monitoring plan effectively in accordance with the strategies given by NCPA.

note: JET(JICA Expert Team, CA:Chief Advisor, BW:Basic Water Quality, CB:Chemical & Biological Analysis, HR:Heavy Metal Analysis, ALR:Air Quality Analysis, DM:Data Management, PA:Public Awareness

Appendix F List of Abbreviation

The name of target DFEAs

DAM	Damascus
DAMC	Damascus Countryside
ALP	Aleppo
HOM	Homs
HAM	Hama
LTk	Lattakia
DZR	Deir-es-Zor
LDL	Idlib
HSK	Hasakeh
RAK	Rakka
SWD	Sweida
DAR	Dara'a
TAR	Tartous
QNT	Quneitra

Others

AAS	Atomic Absorption Spectrophotometer
BOD	Biochemical Oxygen Demand
COD	Chemical Oxygen Demand
DO	Dissolved Oxygen
EC Meter	Electrical Conductivity Meter
PM10	Particulate Matter 10
SS	Suspended Solids
TDS	Total Dissolved Solid
UV/VIS (Spectrophotometer)	Ultraviolet Visible (Spectrophotometer)

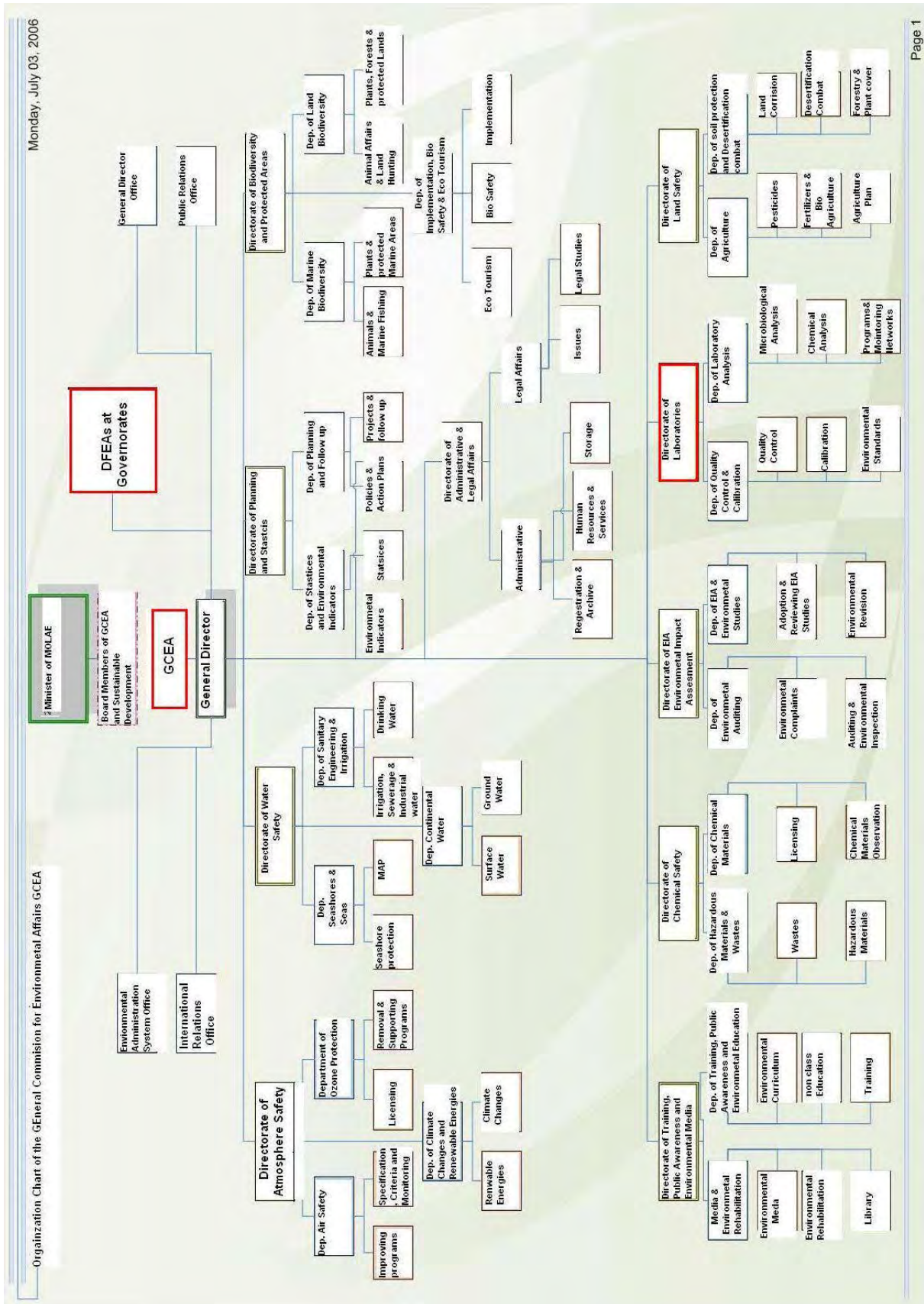
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3. 地方行政・環境省環境総局組織図

3 地方行政・環境省環境総局組織図



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: -115 staffs of the Directorates and MOLAE
 -all 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

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

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Environmental monitoring system and publication of the monitoring results are introduced at and spread 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 2. Roles for the national monitoring system are properly allocated among the Directorates. (reference system) 3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates. 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>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.</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 in the project Note: Targeted level is regarded to be achieved when all the relevant indicators of Output1~3 are satisfied 2. The target Directorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves 3. Activities for public awareness are implemented in four (4) Directorates at least out of fourteen (14) Directorates. 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>

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

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<p>Outputs 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. 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.</p>	<p>2-1 O/m record 2-2 Spare parts & 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. 4.2 Environmental monitoring guideline is introduced into a standard for all laboratories by three years 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 entire public of the target Directorates, focusing on industrial sector. Staff of target Directorates is able to formulate its environmental education activities for industrial sector (中間評価の提言(6)より)</p>	<p>5.1 Preliminary condition on public awareness is comprehended by each governorates (at least 4 governorates) and shared among the organizations concerned. (プロパ目的指標3より) 5.2 Materials for activities for public awareness, such as textbooks, manuals, and pamphlets are prepared by at least 4 DFEAs 5.3 Seminars and workshops targeted for educational institutions and so forth are conducted by at least 4 DFEAs (プロパ目的指標3より) 5.4 Periodical network meeting among organization and/or institutions regarding to environmental education in each governorate (at least 4 governorates) are organized. (プロパ目的指標3より) 5.5 An action plan for public awareness activities for industrial sector prepared by at least 4 DFEAs (中間評価の提言(6)より)</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 5-5 Action plans (中間評価の提言(6)より)</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.

Activities	Narrative Summary	Inputs	Important Assumptions
1.1	Compilation of the SOP for samplings, analysis, interpretation, evaluation, data filing and reporting.	Syrian Side Inputs (1) Land, building, laboratories, office space and other necessary facilities for the project.	Laboratory staffs trained by the project stay in laboratories and keep working on the environmental monitoring.
1.2	Training in theory for making monitoring plans, samplings, analysis, interpretation, evaluation, data filing and reporting.	(2) Assignment of counterparts and administrative personnel.	Agents/manufactures timely provide spare parts for the equipment.
1.3	Hands-on trainings in sampling, pretreatment, analysis, interpretation, evaluation, data filing and reporting.	(3) Running expenses for the implementation of the project.	
1.4	On-site OJT in sampling, analysis, interpretation, evaluation, data filing and reporting.		
2.1	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>Japanese Side Inputs</u> (1) Dispatch of experts team (2) Provision of equipment	
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 GCEA in the MOLAE.		
3.2	Compile monitoring records in each Directorate.		
3.3	Send the monitoring records from Directorates to the GCEA in the MOLAE.		
3.4	Publish environmental annual report in each Directorates (プロジェクト毎の目標に合わせた対応する活動がPDMにかかるとして、POには含まれていない)		
4.1	Conduct preliminary pollution source inventory surveys.		<u>Pre-conditions</u> 1. Appropriate number of laboratory staff who have chemical background are assigned in the target Directorates for Environmental Affairs in Governorates.
4.2	Specify monitoring sites and their parameters.		2. Laboratory spaces are prepared in the target Directorates for Environmental Affairs in Governorates.
4.3	Formulate the environmental monitoring plan specifying parameters and monitoring sites in respective laboratory.		3. Adequate waste water treatment plants shall be prepared before starting laboratory chemical analysis training in the target Directorates for Environmental Affairs in Governorates.
4.4	Provide necessary assistance and guidance to introduce the environmental monitoring guideline 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)		
5.5	To formulate an action plan on public awareness activities for industrial sector in target Directorates (中間評価の報告(6)より)		

