

添 付 資 料

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1. 中間評価ミニッツ

Minutes of Meeting
between
The Japanese Mid-Term Evaluation Team
and
The Syrian Mid-Term Evaluation Team
on
Japanese Technical Cooperation
for
The Capacity Development of Environmental Monitoring
at
Directorates for Environmental Affairs in Governorates”

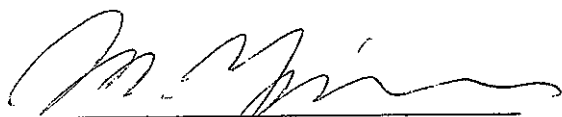
The Japanese Mid-term Evaluation Team (hereinafter referred to as “the Team”), organized by Japan International Cooperation Agency (hereinafter referred to as “JICA”) and headed by Dr. YOSHIDA Mitsuo, visited the Syrian Arab Republic from August 6 to 24, 2006; for the purpose of conducting the joint mid-term evaluation on 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.

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

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

This Minutes of Meeting is prepared in two versions. The main version is written in English and the other version is written in Arabic. In case of any divergence of interpretation, the English version shall prevail.

Damascus, August 21, 2006



Dr. YOSHIDA Mitsuo
Leader
Japanese Mid-term Evaluation Team
Cross-border Expert/ Senior Expert,
Japan International Cooperation Agency
Japan



Dr. Akram S. Al-Khourri
General Director
General Commission for Environmental
Affaires

ANNEX I JOINT EVALUATION REPORT

محضر اجتماع
بين
الفريق الياباني للتقييم نصف المرحلي
و
الفريق السوري للتقييم نصف المرحلي
حول
التعاون الفني الياباني
لتطوير القدرات في المراقبة البيئية
في مديريات شؤون البيئة في المحافظات

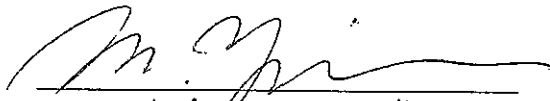
قام الفريق الياباني للتقييم نصف المرحلي (يشار إليه هنا بـ "الفريق") والذي تم تشكيله من قبل الوكالة اليابانية للتعاون الدولي (يشار إليها هنا بـ "جايكا") والذي يترأسه الدكتور ميتسو يوشيدا، بزيارة الجمهورية العربية السورية من 6 - 24 آب 2006 بهدف القيام بالتقييم المشترك نصف المرحلي للتعاون الفني الياباني لتطوير القدرات في المراقبة البيئية في مديريات شؤون البيئة في المحافظات (يشار إليه هنا بـ "المشروع") استنادا إلى سجل المناقشات الموقع في 9 أيلول 2004 .

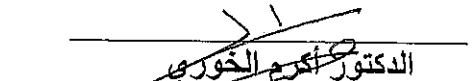
خلال إقامته في الجمهورية العربية السورية قام الفريق بإجراء سلسلة من المناقشات وتبادل الآراء مع الفريق السوري للتقييم نصف المرحلي (المشار إليه هنا بـ "الجانب السوري") برئاسة الدكتور أكرم الخوري.

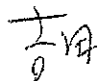
وكنتيجة لهذه المناقشات فقد وافق فريق التقييم المشترك على النقاط المشار إليها في الوثيقة الملحقة (ملحق 1).

تم إعداد محاضر الاجتماع على نسختين. النسخة الأساسية باللغة الانكليزية والأخرى باللغة العلابية. وفي حال أي سوء تفسير ، فالنسخة الانكليزية ستكون هي المعتمدة.

دمشق، 21 آب 2006


الدكتور ميتسو يوشيدا
رئيس الفريق الياباني للتقييم نصف المرحلي


الدكتور أكرم الخوري
المدير العام للهيئة العامة لشؤون البيئة



General Commission for Environmental Affairs (GCEA),
Ministry of Local Administration and Environment
Government of the Syrian Arab Republic

Japan International Cooperation Agency (JICA)

Joint Evaluation Report
of
Mid-Term Evaluation
on
The Capacity Development on Environmental
Monitoring of Directorates for Environmental Affairs
in
Syrian Arab Republic

Damascus
August 2006

Mid-Term Joint Evaluation Team

Handwritten signature and initials in black ink, consisting of a stylized name and a set of initials.

Fiscal year

The Government of Japan: from April to March

The Government of Syria: form January to December

Exchange rate

US\$1.00 = 54.57 SP (03 Aug 2006)

US\$1.00 = 114.5Yen (03 Aug 2006)

(www.oanda.com)

Abbreviations and Acronyms

	English
CCC	Cairo Central Centre, EEAA
DFEAs	Directorate for Environmental Affairs, MOLAE
EEAA	Egyptian Environmental Affairs Agency
EIA	Environmental Impact Assessment
DAC	Development Assistance Committee, OECD
GCEA	General Commission for Environmental Affairs
JET	JICA Expert Team
JICA	Japan International Cooperation Agency
MOIr	Ministry of Irrigation
MOLAE	Ministry of Local Administration and Environment
NGOs	Non Governmental Organization
OECD	Organization for Economic Cooperation and Development
ODA	Official Development Assistance
OM	Operation and Maintenance Manual for laboratory
R/D	Record of Discussion
SERC	Scientific and Environmental Research Centre, MOLAE
SOP	Standard Operation Procedure
SPC	State Planning Commission
WRIC	Water Resource Information Centre, MOIr

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The Capacity Development on Environmental Monitoring
of Directorates for Environmental Affairs
in Syrian Arab Republic

Joint Evaluation Report of the Mid-Term Evaluation

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1. Introduction

1.1 Purpose of the Evaluation

The mid-term evaluation of the Project was conducted with the following purposes.

- To confirm past process and progress of the Project and estimate the feasibility that the Project purpose will be achieved within the executing term of the Project.
- To identify obstacles to efficient implementation and sustainability of the Project, and to develop the solutions.
- To review the framework of the Project to enhance its relevance to the current situation.

In particular, to evaluate the progress of institutional empowerment of target organizations (GCEA and DFEAs) in terms of the rest of the project implementation and further sustainability

1.2 Joint Evaluation Members

The Joint Evaluation Members of the Mid-Term Evaluation is as follows:

Members List:

Syrian Side


Dr. Akram S. Al Khouri	Team Leader of Syrian side	Director General of GCEA, MOLAE
Dr. Yasin Moa'alla	Member	Director of Laboratory, GCEA, MOLAE
Dr. Nader Ghazi	Member	Director of Environmental Awareness, Education, and Training, GCEA, MOLAE
Mr. Shaka Soliman	Member	Information Unit, GCEA, MOLAE
Ms. Reem Sadr Eddin	Member	Damascus DFEA
Mr. Ilya Wasel	Member	Aleppo DFEA

Japanese Side

Dr. YOSHIDA Mitsuo	Leader of Japanese side	Cross-border Expert/ Senior Expert, JICA
Ms. KOJIMA Kojima	Member	Environmental Management Team II, Group II (Environmental Management), Global Environmental Department, JICA
Mr. IIO Akitoshi	Member	Senior Researcher, Mets Research and Planning Inc.
Ms. HONDA Yumiko	Member	JICA Syria Office

1.3 Schedule

The schedule of the Mid-Term Evaluation is as follows:

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Tentative Schedule for the Midterm Evaluation

No	Date	Day	Activities			Venue/Move
			Dr. YOSHIDA	Ms. KOJIMA	Mr. IIO	
1	06 Aug. 2006	Sun			am Damascus arr. pm 15:00 JICA Syria, 16:00 meeting w/JET	Damascus
2	07 Aug. 2006	Mon			-08:30 Sweida DFEA 09:30, 10:30 Dara'a DFEA 11:30, -12:30 Quneitra DFEA 13:30, -15:00..... meeting w/JET	Damascus
3	08 Aug. 2006	Tue			-09:00-12:00: meeting with GCEA -13:00.....preparatory works and meeting w/JET	Damascus
4	09 Aug. 2006	Wed			-08:30 Hama DFEA 09:45, 10:45 Homs DFEA 12:00, -14:00: meeting w/GCEA 15:00, -15:30..... meeting w/JET	Damascus
5	10 Aug. 2006	Thu			-08:00..... preparatory works and meeting w/JET	Damascus
6	11 Aug. 2006	Fri		am DAM arr. pm Inter-meet'g	<<<	Damascus
7	12 Aug. 2006	Sat	am DAM arr. pm Inter-meet'g	<<<	<<<	Damascus
8	13 Aug. 2006	Sun	am 9:30 JICA Syria, Internal meeting w/JICA Syria (Mr. Nagasawa, Ms. Honda) pm EOJ Syria, -12:30-13:00: GCEA greeting (Dr. Yoshida, Ms. Kojima, Mr. Iio, Dr. Akram, Dr. Yasin), 13:00-14:00: regular meeting (JET and GCEA)			Damascus
9	14 Aug. 2006	Mon	am -09:00-11:30: General meeting with all joint evaluation (j-eva) members at GCEA, Explanation about mid-term evaluation, pm -12:00-14:30: GCEA, Interview to CP (Dr. Yasin, Ms. Fathie, Ms. Kozama, Dr. Nader, Mr. Khelali, Mr. Shaka), etc.			Damascus
10	15 Aug. 2006	Tue	am -08:30: visit Damascus DFEA and lab, -09:00-11:30: interview (Mr. Bassam, Ms. Wadia, Ms. Reem, Dr. Muthana, Ms. Rasha, Ms. Silva etc.), pm -12:00-15:00: site survey at monitoring stations, -16:00-20:00: move to Aleppo, on the way checking pollution sources in Homs (Dr. Yasin, Iwai, Mohammed)			Damascus-Aleppo
11	16 Aug. 2006	Wed	am -08:30: visit Aleppo DFEA and lab, -09:00-11:00: interview (Mr. Saeid, Mr. Ahmad, Mr. Ilya, etc.), -11:30-13:30: site survey at monitoring station, pm -14:00: leave Aleppo, -15:30: Idleb DFEA and lab (Ms. Jumana, Mr. Sameer), -16:30-20:00: Lattakia (Dr. Yasin, Iwai, Mohammed)			Aleppo-Idleb-Lattakia
12	17 Aug. 2006	Thu	am -08:30: visit Lattakia DFEA and lab, -09:00-11:30: interview (Ms. Lama, Ms. Amaal, Mr. Senan, PA, etc.), pm -12:00-16:00: Site survey at monitoring stations			Lattakia
13	18 Aug. 2006	Fri	am -08:00 leave hotel, -08:30: pollution sources in Banyas, -09:30: Tartous DFEA and lab (Mr. Hasan, Ms. Lama, if possible), -10:30-16:00: move to Damascus			Lattakia-Tartous-Damascus
14	19 Aug. 2006	Sat	16:00-22:00 Report Preparation			Damascus
15	20 Aug. 2006	Sun	am -09:00-11:00: Joint evaluation at GCEA (all members of j-eva) , pm -11:00-14:00: The 10 th T/C for report by Directors of 14 DFEAs (HSK, DZR, RAK should be the first due to commuter bus availability), 14:00..... continuation of the Joint evaluation at GCEA (all members of j-eva). 16:00-24:00 Report preparation			Damascus
16	21 Aug. 2006	Mon	am 09:00-12:30: Joint evaluation at GCEA (all members of j-eva) , 12:30-15:30: preparation of M/M draft (all members of j-eva), -16:00: translation in Arabic, -18:00-20:00: discussion of M/M (Dr. Akram, Dr. Yasin)			Damascus
17	22 Aug. 2006	Tue	9:00 Damascus Countryside DFEA, Damascus Waste Water Treatment Plant(Iio) and discussion by Dr. Akram, Dr. Yoshida, and Ms.Kojima at GCEA			Damascus
18	23 Aug. 2006	Wed	-11:00-13:00: The 5th St/C for mid-term evaluation , 14:00-15:00: preparation of draft M/M for St/C, translation in Arabic, and sending to Minister's office through Dr. Akram, -16:00-17:00: meeting w/Minister of MOLAE and signing M/M for St/C (Dr. Yoshida, Ms. Kojima, Mr. Iio, Mr. Nagasawa, Ms. Marah, Ms. Honda, Dr. Akram, Mr. Imad, Dr. Yasin, Iwai, Mohammed)			Damascus
19	24 Aug. 2006	Thu	am JICA Syria and EoJ, -11:00-12:00: courtesy call to Mr. Dardari (Chairman of the State Planning Commission (SPC) and Deputy Prime Minister), (Dr. Yoshida, Ms. Kojima, Mr. Iio, Mr. Nagasawa, Ms. Marah, Ms. Honda, Dr. Akram, Dr. Yasin, Iwai, Mohammed) pm Leaving for Tokyo			In flight

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2. Project Outline

2.1 Background

Throughout the 20 years period from the 1980s onwards, the industrialization of Syria has demonstrated moderate yet steady progress. Large scale facilities like thermal power stations, petroleum processing plants, cement factories, and fertilizer plants, as well as medium and small factories, such as metal workshops and dye works, have expanded into the outskirts of large cities. This has subsequently been accompanied by the emergence of environmental issues around urban areas which are caused by wastewater, exhausted gas, particulate matter, and the like which is emitted from these factories.

In response to these circumstances, in 1991 the Government of Syria enacted the Basic Law of Environment (Decree No.11, 1991) and established the Ministry of Environment. In order to cope with the environmental issues which were spreading throughout the country the Syrian Ministry of Environment set up Directorates for Environmental Affairs (DFEAs) in five governorates in 1996. Following this, the network of DFEAs expanded year by year, in addition to which the Ministry of Environment and the Ministry of Local Administration were integrated and the Ministry of Local Administration and Environment (MOLAE) was established in September 2003. In January 2004, the establishment of DFEAs in governorates which had previously lacked them was ordered through a notification by the Minister of Local Administration and Environment, and currently DFEAs are established in all of the 14 governorates. The main function of DFEAs is implementation of environmental administration and environmental monitoring in each governorate. Moreover, the Emission Standard related to Industrial Wastewater and Exhausted Gases 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.

As previously stated, DFEAs have been established in each of the 14 governorates, yet sufficient environmental monitoring techniques and equipment necessary for environmental administration are lacking at these governorates. As for environmental awareness activities for residents which had been initiated by each DFEA, the situation surrounding the initiatives varies by each governorate and satisfactory activities have not yet been achieved.

The Government of Japan had previously dispatched a JICA Expert in environmental administration to MOLAE from January 2002 to January 2003. A report was prepared by the expert on the status of the institutional development and the operational status of DFEAs, and capacity development in environmental monitoring has been confirmed as a pressing need.

In July 2002, the Government of Syria requested a technical assistance to Government of Japan related to guidance on environmental monitoring and analysis for some leading DFEAs (Damascus, Aleppo, Homs, Lattakia, Hama, Tartous, etc.), as well as the provision of equipment for the Damascus DFEA.

In order to review the specific contents of this request JICA implemented a preparatory study from January to April of 2004. Based upon the contents of their findings' a Record of Discussions (R/D) was signed for implementation of a technical cooperation project titled Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates (the Project) in September 2004.

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2.2 Project Summary

The Project is aiming to enhance environmental administration capacity at the General Commission for Environmental Affairs (GCEA), Directorate of Environmental Affairs (DFEAs), and Ministry of Local Administration and Environment (MOLAE) which are responsible for environmental administration in Syria. The Project is focussing on a capacity development of environmental monitoring and its related aspect, and public awareness.

The Project is formed by both Syrian and Japanese sides, which consists of Syrian Counterpart Team and Japanese Expert Team (JET). The principal counterpart agency is General Commission for Environmental Affairs (GCEA) and all DFEAs, so the Project covers entire Syria and organizations in charge to environmental affairs in Syria. On the other side, Japanese International Cooperation Agency (JICA) is an implementation agency of the technical cooperation from Japanese side.

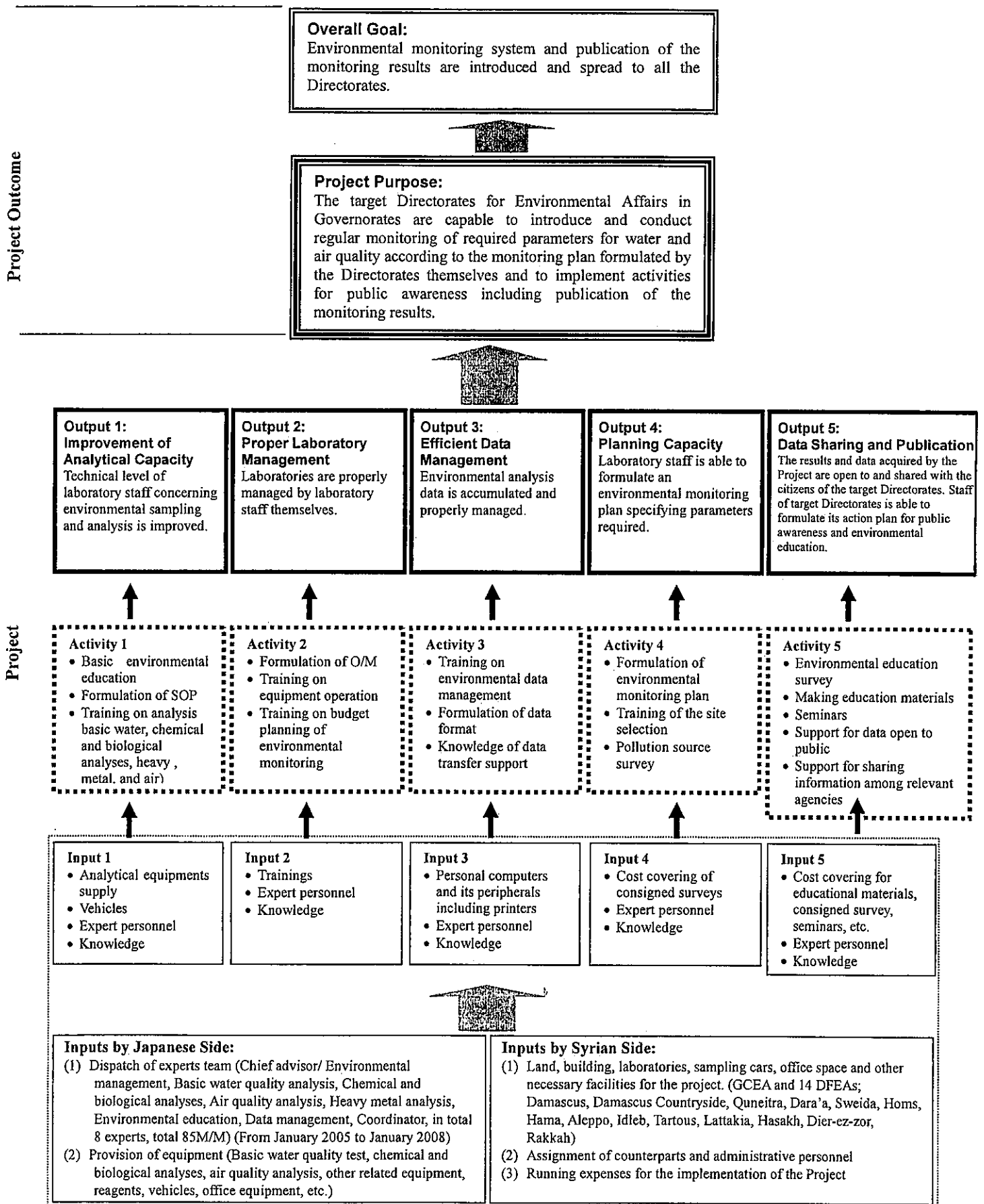
Japanese side provides necessary equipments and expert personnel while Syrian side assigns targeted counterparts and project spaces and sites, consumable chemicals and running cost of the project as Inputs in line with the plan.

The purpose is that to enable the target DFEAs to introduce and conduct regular monitoring of required parameters for water and air quality according to the monitoring plan formulated by the Directorates themselves, as well as to implement activities for public awareness, including publication of the monitoring results.

The project duration is for three years from January 2005 to December 2007, and the table below shows the basic information of the Project.

Project Title	The Capacity Development on Environmental Monitoring of Directorates for Environmental Affairs
Project Site	<ul style="list-style-type: none"> • General Commission for Environmental Affairs (GCEA), Ministry of Local Administration and Environment (MOLAE) • 14 Directorates for Environmental Affairs (DFEAs), MOLAE (Damascus, Damascus Countryside, Aleppo, Homs, Hama, Lattakia, Dier-ez-Zor, Idleb, Hasakeh, Rakka, Sweida, Daraa, Tartous, Quneitra)
Date of signing (R/D)	9th September 2004
Cooperation period	From January 2005 to December 2007 (Three years)
Cooperation scheme	JICA Technical Cooperation Project
Administrative system	Project Director: Dr. Akram S. Al Khouri, Director General of GCEA Project Manager: Dr. Yasin Moalla, Director of Laboratory, GCEA Chief Advisor of JICA Expert Team: Mr. IWAI Yoichi
Target Number of Counterpart	115 counterpart at DFEAs out of approximately 300 staff of DFEAs and GCEA
Related cooperation by JICA	<ul style="list-style-type: none"> • Water Resource Information Centre Project • Japan Overseas Cooperation Volunteer (JOCV) programme in Environmental Education • Training course "Environmental Management"
Other donors and related cooperation	<ul style="list-style-type: none"> • MAM Project by EU • UNEP MAP (for Lattakia DFEA)

The Logical Framework of the Project (Summary)



2.3 Project Design Matrix

PDM indicates the current framework of the Project which was attached on signing of R/D and it is used for analysis on this evaluation study attached in Appendix and the logical framework (the project summary) of the Project is shown in previous page.

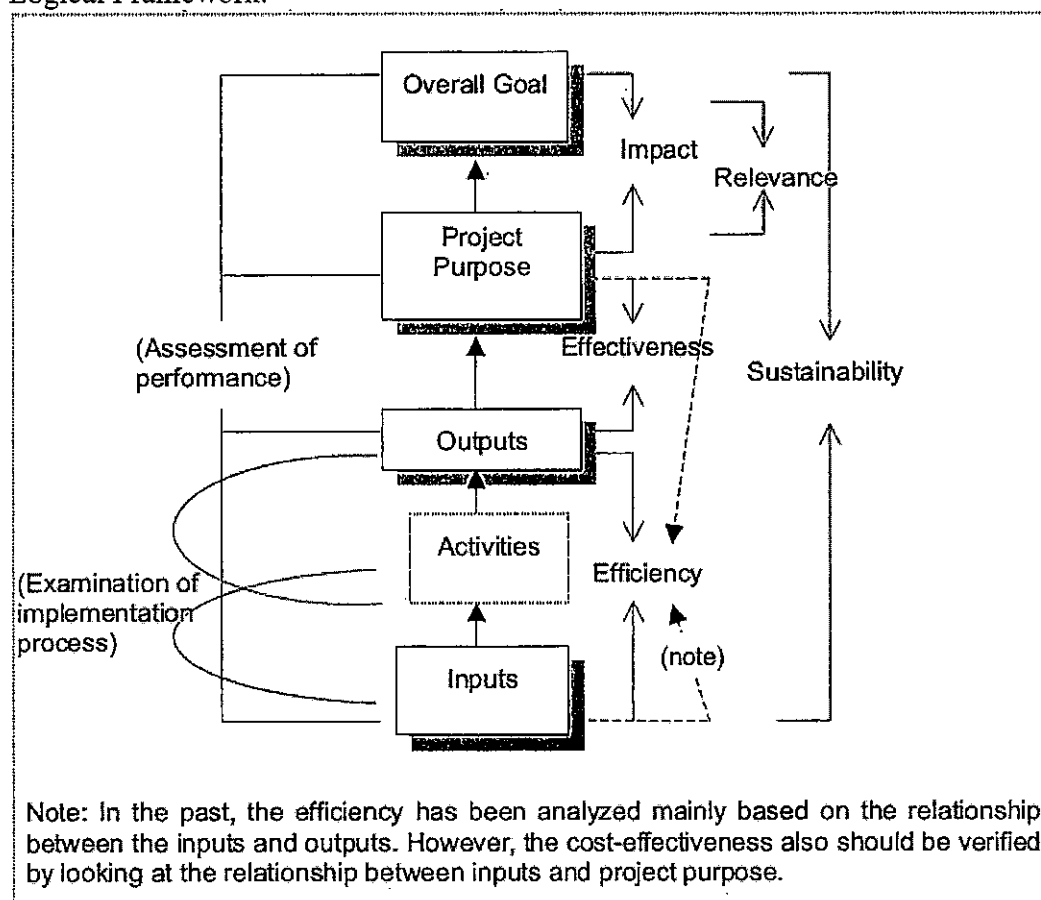
2.4 Method of Evaluation

The method of the evaluation is applied the Five Evaluation Criteria (Relevance, Effectiveness, Efficiency, Impact, and Sustainability) proposed in 1991 by the Development Assistance Committee (DAC) of the Organization for Economic Cooperation and Development (OECD) that JICA has adopted.

This evaluation was conducted in collaboration with Evaluation Team consisting both Syrian and Japanese sides according to an evaluation grid shown in Annex which includes verification of performance and implementation process, and five evaluation criteria (Relevance, Effectiveness, Efficiency, Impact, Sustainability) prepared by the mission.

In order to collect information, the mission makes best use of insight/visions already existing in the relevant documents notably from Annual Completion Report 1 and 2, Progress Reports, and others, prepared by JET so far, and verify them through meetings, interviews, questionnaires to GCEA and JET, site visit, etc.

The following figure shows the relationship between the Five Evaluation Criteria and the Logical Framework.



Source: JICA (2004), JICA Guideline for Project Evaluation pp59

3. Project Achievements

The project achievements of Overall Goal, Project Purpose, and Outputs are summarized respectively as follows:

3.1 Overall Goal

Narrative Summary	Objectively Verifiable Indicators	Summary of Achievement
<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</p>	<ul style="list-style-type: none"> All DFEAs have more or less capacity to formulate Environmental Monitoring Plan in basic water quality while it is on-going stage to formulate Environment Monitoring Plan in air quality monitoring.
	<p>2. Roles for the national monitoring system are properly allocated among the Directorates. (reference system)</p>	<ul style="list-style-type: none"> Provision of networking among DFEAs and GCEA has launched, which will be an incubator of national environmental monitoring system.
	<p>3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates.</p>	
	<p>4. Results of the monitoring is issued and opened to the public as an annual report at the national level.</p>	<ul style="list-style-type: none"> The policy for information disclosure by GCEA is confirmed. The contents of the GCEA web site is in preparation
<p><u>Outlook of fulfilment of the Important Assumptions in the level of the Project Purpose</u></p>	<p>The Syrian government keeps its policy support for environmental protection.</p>	<p>The supervision and fulfilment of the regulation will be strengthened based on the Law No.50 and the National Environmental Action Plan. The 10th Five-year National Development Plan (2006-2010) has kept the previous plan which enhance environmental protection field.</p>

3.2 Project Purpose

Narrative Summary	Objectively Verifiable Indicators	Summary of Achievement
<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>	<p>1. Analysis technology level to be targeted is as follows: <ul style="list-style-type: none"> ■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>	<ul style="list-style-type: none"> • A total 115 staff of the laboratories at GCEA and DFEAs were assigned by July 2006; Basic water quality and data management: 88, Chemical and biological: 7, Air: 23 (Damascus (11), Homs (9), Aleppo (3)) • The techniques of water quality analysis has been acquired by all DFEAs • Training of air quality monitoring has been implementing for the target DFEAs. • Training of chemical and biological analyses has started since May 2006, however, it is not yet-realized regular basis monitoring. • Laboratory waste water disposal facility will be installed at Damascus DFEA laboratory. • Atomic Absorption Spectrophotometer will be installed by the end of year 2006. • Analytical equipment and related chemicals were introduced at target laboratory where on-the-job and hands-on training was held in accordance with SOP. <ul style="list-style-type: none"> • Basic water quality analysis has been able to carry out according to the environmental monitoring plan formulated by each DFEA. • Training of air quality monitoring using simple sampler was launched in May 2006, and necessary instruments are being installed. • Chemical and biological analysis training has started at the targeted DFEA since May 2006. • Operation and Maintenance (O/M) manuals and Standard Operation Procedures (SOP) for all analyses were formulated. <ul style="list-style-type: none"> • The priority Directorates (Damascus, Homs, Aleppo and Lattakia) was selected. • Environmental public awareness linked to the Project is underway. • Demonstration of environmental education has done using a simple water test kit in collaboration with DFEA at a primary school in Damascus; environmental education materials called Eco-Plant game and Kids Eco Club were introduced at the Flower Festival in Damascus. • Public awareness activities have been implemented in coordination with The National Committee for Public Awareness and Environmental Media. <ul style="list-style-type: none"> • The policy for the environmental monitoring data disclosure is confirmed by GCEA. • The monitoring results from DFEAs will be disclosed on the GCEA web site and/or report. • The format of an annual report of the monitoring results at each DFEA is in preparation. • Networking among GCEA and DFEAs are in progress.
<p><u>General Achievement of Project Purpose</u></p>	<p>In terms of mid-point of the Project, the indicators are suggested that it is gradually achieving the project purpose. However, further efforts are necessary to improve enhancing knowledge of technical and management aspects of DFEAs and GCEA such as and quality control on the analytical process, enhanced interpretation and appropriate evaluation of data based on step-by-step strategy.</p>	
<p><u>Outlook of fulfilment of the Important Assumptions in the level of the level of the Outputs</u></p>	<p>The Syrian Government keeps its policy support to provide staff, equipment and budget to the rest of the Directorates</p>	<p>The Syrian Government has allocated 115 counterparts in total as the staff in GCEA and DFEAs, and it also allocated equipment which will enhance environmental monitoring activities in Syria.</p>

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3.3 Outputs

Narrative Summary	Objectively Verifiable Indicators	Summary of Achievement
<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 conducts environmental monitoring according to the SOP compiled by the project by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Training for basic water quality analysis including data management was held and SOP for basic water quality analysis was formulated in each DFEA. • In the case of chemical and biological analysis (Damascus) and air quality monitoring (Damascus, Homs, Aleppo), individual trainings have recently launched. • Practical environmental monitoring of the basic water quality has been carried out in accordance with Environmental Monitoring Plan prepared by each DFEA and total 529 samples (by the end of July 2006) were analyzed at DFEAs. • SOPs for basic water quality, chemical and biological analyses, and air quality monitoring are going to be formulated in each DFEA.
	<p>1.2 All laboratory staff reach the grade B* level on monitoring items in charge by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Most of permanent lab staffs (basic water quality analysis and data management 61/88) have reached Grade B level in target DFEAs, except newly joined staff. • Training for chemical and biological analyses (Damascus: 3), and air quality monitoring (Damascus, Homs, Aleppo; 16) has recently started in basic water quality analysis. • Dier-ez-Zor DFEA is a little behind of the achievement.
	<p>1.3 50% of laboratory staff reaches the Grade A level on monitoring items in charge by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Laboratory chief level staffs (14/88) in all DFEAs have reached at Grade A level in basic water quality analysis.
<p><u>General Achievement 1</u></p>	<p>Most laboratory staff at all DFEAs has archived the target level of environmental sampling and analysis in the basic water quality, while chemical and biological and air quality analyses have recently launched training and in on-going stage. In this regard, both chemical and biological analyses and air sampling and analysis will reach the target level in coming period of the Project.</p>	
<p>2. Laboratories are properly managed by laboratory staff themselves..</p>	<p>2.1 Equipment in laboratories are properly operated and maintained according to the o/m manual compiled by the laboratory staff by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Operation Manuals (O/M) manual for laboratories were formulated at the first phase and the laboratories are properly managed by the staff. • Updating O/M manuals and SOPs can be made by the staff • Calibration of analytical instruments has been successfully conducted by lab staff at DFEAs. • Appropriate budget for maintenance and operation of proposal were allocated for the fiscal year 2006 by the Syrian side.
	<p>2.2 Spare parts and consumable materials management system is established by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • O/M records at DFEAs have formulated and updated. • Inventory of reagents, chemicals, spare parts have been updating by the staff. • Procurement process and procedure of reagents, spare parts, consumables have been shared with each DFEA
	<p>2.3 Chemical reagents are properly stored and cared according to the o/m manual by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Chemical reagents have been managed in accordance with compiled O/M manuals in DFEAs. • Staff training for maintenance based on O/M manuals has done by the lab chief.
	<p>2.4 Liquid and solid wastes from laboratory are properly treated according to the o/m manual by three years after the commencement of the project.</p>	<ul style="list-style-type: none"> • Hazardous/toxic waste water treatment plant has planed to procure, and it will be installed in Damascus DFEA. • Knowledge of disposal methods including liquid and solid wastes from laboratories are formulated in the O/M manuals. Lab solid waste is papery managed. • Liquid wastes of laboratory at DFEAs have been stored,

Narrative Summary	Objectively Verifiable Indicators	Summary of Achievement
	2.5 Each Directorate prepares its budget plan for regular monitoring.	<p>which will be transported to Damascus DFEA and treated after installation of the plant.</p> <ul style="list-style-type: none"> • DFEAs proposed and obtained the monitoring budget for fiscal year 2006 from MOLEA. • Damascus DFEA proposed and obtained budget to the Governor and obtained it.
General Achievement 2	Laboratory at each DFEA is more or less managed based on the O/M manuals formulated by each DFEA. Inventory of reagents and consumable products including consumed, expired, procured products have been updating by lab staff. The budget of each DFEA has been properly allocated.	
3. Environmental analysis data is accumulated and properly managed.	Monitoring data collected and analyzed are accumulated in the monitoring records by three years after the commencement of the project.	<ul style="list-style-type: none"> • Data management of environmental monitoring and interpretation skills are upgraded by the trainings. • Environmental monitoring data (basic water quality) has been inputted and accumulated in each DFEA using a unified format. • Environmental monitoring reports are under preparation. • Disclosure of all environmental monitoring results on the web is under consideration.
General Achievement of Output 3	Environmental monitoring data analyzed by each DFEA has been properly managed and accumulated using a unified format. (environmental monitoring data of basic water quality).	
4. Laboratory staff is able to formulate an environmental monitoring plan specifying parameters required.	4.1 Environmental monitoring plan specifying parameters and monitoring sites is formulated in respective laboratory by one year after the commencement of the project.	<ul style="list-style-type: none"> • Environmental parameters and monitoring sites which represent local environmental conditions were specified in each DFEA • Environmental Monitoring Plans were properly formulated.
	4.2 Existing environmental monitoring guideline is integrated into a standard for all laboratories by three years after the commencement of the project.	<ul style="list-style-type: none"> • Draft Environmental Monitoring Guideline was prepared by JET and it will be considered by GCEA
General Achievement of Output 4	Draft Environmental Monitoring Plans for basic water quality analysis have been formulated by laboratory staffs in each DFEA.	
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.	5.1 Preliminary condition on public awareness is comprehended by each governorate and shared among the organizations concerned.	<ul style="list-style-type: none"> • Environmental Consciousness Survey for seven governorates was consigned and the results were presented in the National Committee for Public Awareness and Environmental Media • Policy and strategy of environmental education and the action plan were discussed in the Committee
	5.2 Materials for activities for public awareness, such as textbooks, manuals, and pamphlets are prepared.	<ul style="list-style-type: none"> • Materials such as a video of Japan's experience in environmental pollution, news letters, Eco-plant game, Kids Eco-Club were prepared and provided by JET.
	5.3 Seminars and workshops targeted for educational institutions and so forth.	<ul style="list-style-type: none"> • Environmental awareness seminar was held • Establishment of networking with the industry sector, NGOs and citizens was done. • In corporation with JOCV, communications with Ministry of industry and following up of JOCV activity at DFEAs, NGO, Unions were made.
	5.4 Periodical network meeting among organization and/or institutions regarding to environmental education in each governorate are organized.	<ul style="list-style-type: none"> • Syrian Environmental Forum was established which involves NGOs, citizens, chamber of industries, etc. Later, the forum was functionally replaced and developed the National Committee for Public Awareness and Environmental Media. • Department of Environmental Education and Public Awareness at each DFEA was established in Aug 2005
General Achievement of Output 5	GCEA has a policy to disclose all monitoring data to the public through the annual report and on the web site, however, DFEA laboratories are not yet authorized laboratories so that	

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Narrative Summary	Objectively Verifiable Indicators	Summary of Achievement
	no legal validity can be recognized. In addition, infrastructure of data management such as internet connection, connection between GCEA and DFEAs are in progress, and GCEA web page is in draft stage.	
<u>Outlook of fulfilment of the Important Assumptions in the level of the Activities</u>	Execution instructions are promulgated.	<ul style="list-style-type: none"> • An Executive Instructions for Law No.50 (2002) was released in December 2004 in addition to existing nine executive instructions for Law No.50. • The Article Seven describes environmental inspection system staff for environmental monitoring.
	Laboratory staffs trained by the project stay in laboratories and keep working on the environmental monitoring.	<ul style="list-style-type: none"> • A total 115 which is more than two times larger than initial number, however, approximately 20% of staff of the laboratories has been changed since the project launched.
	Agents and manufactures timely provide spare parts for the equipments.	<ul style="list-style-type: none"> • It did not meet the timing between JET assignment and equipment supply, so that project implementation had been facing some difficulties and limitations.
<u>Fulfilment of the Preconditions</u>	1. Appropriate number of laboratory staff who have background are assigned in the target Directorates for Environmental Affairs in Governorate	<ul style="list-style-type: none"> • Number of counterparts is fulfilled, while quality and background of the counterparts are rather different.
	2. Laboratory space is prepared in the target DFEAs.	<ul style="list-style-type: none"> • Laboratory space at each DFEA has provided • Most of laboratories except Damascus and Dier-ez-Zor are planed to move to new premises in future.
	3. Adequate waste water treatment plans shall be prepared before starting laboratory chemical analysis training in the target DFEAs.	<ul style="list-style-type: none"> • The laboratory waste water disposal plant was not installed before starting the training of chemical analysis. The plant will be installed in the next period.

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4. Evaluation Results

The summary of the Mid-Term Evaluation is described on the basis of the Five Criteria.

4.1 Implementation Process

Communication among project members

Various kinds of communication tools have been applied in the first half period of the Project. The first, Steering Committee and Technical Committee are key coordination bodies which are responsible for administrative and technical coordination respectively between the Japanese and Syrian sides. Second, weekly regular meeting between GCEA and JET introduced since June 2006 chaired by General Director of GCEA is a crucial communication tool. The meeting provide opportunities for keeping in mind of the project progress and for mutual coordination. There are some others such as Project News Letter named Humat Beia and networking among GCEA and DFEAs. The networking is in progress and some has done.

Counterpart assignment

A total number of counterparts are now 115 (staffs for basic water quality analysis; 88), which is more than two times larger than initial stage, however, approximately 20% of laboratory staff has been changed since the Project commenced, and their background and quality are rather unpractical for application of chemical analysis. In Aleppo DFEA, a lack of laboratory staff is still major obstacle to operate regular environmental monitoring activity.

Language problem was found in the communication between JET and the counterparts. In particular, in the case of the Damascus DFEA, Arabic-English interpretation was rather poor for good understanding of technical matters by counterparts. In addition, English language skill of the counterparts has been gradually improving during the first half period of the Project, but it is still insufficient for technical communication in the course of training by JET.

4.2 Relevance

Conformity with Syrian National Policy, Legal System, and Needs

National Development Policy:

In terms of Syrian national policy represented by the Five-Year National Development Plan currently issued 10th version (2006-2010); environmental sector is described in Chapter 18 Environment and Disaster Management. For the Environmental sector plans that 1) consistency of implementation of environmental policy, 2) capacity development of environmental sector, 3) understanding of environmental conditions in Syria are stipulated as the target. An enhancement of environmental institutional setup, organizational strengthening and establishment of national environmental monitoring network are measures to be taken for the achievement of the plan which are partly proposed outputs and purpose of the project. Hence, the Project contributes for implementing the National Development Policy in different manners.

Legal Framework:

The legal framework for environmental management in Syria is as follows:

- 1987, the State Ministry of Environmental Affairs was established.
- 1991, the General Commission for Environmental Affairs (GCEA) was established.
- 2002, the Environmental Protection Law (No.50) was issued.

- 2003, the GCEA merged with the Ministry of Local Administration.
- 2004, the Executive Instructions for Environmental Protection Law (No.50, 2002) were enacted, which include inspection system based on monitoring data.

Accordingly, the Project does not contradict with the legal framework but it has conformity especially in regards to establishing functional environmental monitoring system.

Local needs:

Environmental conditions were unclear due to a lack of environmental monitoring system even after Directorate for Environmental Affairs (DFEA) were established in each governorate. All 14 directorates were set in the beginning of 2004 while in Governorates environmental awareness were arose only in line with numbers of claims by citizens, thus it had been strong needs to have appropriate measures to monitor the environment. The Project is catering to the needs through the capacity development of environmental monitoring.

Conformity with Japan's ODA (Official Development Assistance) Policy

Four major fields of cooperation in Syria which are 1) modernization of socio-economic system, 2) water resource management and effective utilizations, 3) improvement of social services, 4) environmental protection are important measures by Japan's ODA policy. The Project belongs to the environmental protection and Japan's has accumulated past experiences in environmental management.

Appropriateness of Target Group

All DFEAs (14) were targeted in different monitoring levels and parameters. There were no DFEA which could carry out regular environmental monitoring. Only the Homs DFEA had processed on their way and Lattakia DFEA had not functional before the commencement of the Project. In this regard, it was appropriate measure to facilitate environmental monitoring system in all DFEAs in order to extent effective environmental administration in all over Syria.

4.3 Effectiveness

Establishment of Laboratories at DFEAs

Under the efforts by both sides, laboratory in each DFEA has established with necessary analytical equipments and environmental sampling in basic water quality has been carried out by themselves based on Environmental Monitoring Plan, then the samples were analyzed in accordance with SOP. The establishment of functional laboratories, one of the most important outputs in the first half period of the term, has created the effective grounds to achieve the Project purpose in the mid point of the Project.

Authorization of Laboratory

In order to publish the environmental monitoring data analyzed at DFEAs laboratories, GCEA has a policy to disclose them to the public through the annual report and the GCEA web site. However, DFEA laboratories have not yet authorized laboratories so that the monitoring data could not be published.

4.4 Efficiency

Timing, Quantity, and Quality of Inputs

Syrian side made larger efforts to provide laboratory space, counterpart personnel, on the other, Japanese side supplied necessary equipment and assigned JET.

Equipment:

It did not meet the timing between JET assignment and equipment supply at beginning stage, so that the project implementation had been facing some difficulties and limitations. However, currently equipment supply is smooth even it takes time to procure them.

Concerning the chemical waste water disposal plant, it was not installed before starting the training of chemical analysis. The plant will be installed in coming last half period.

Target Group (14 DFEAs were targeted)

All DFEAs (14) were selected for the target group and training for basics water quality analysis covers all DFEAs. On-site training at each DFEA was quite effective for achieving good technology transfer rather than a group training at a certain DFEA such as Damascus.

Third-country training (Training in Egypt)

In cooperation with JICA's project in Egypt, a study tour to EEAA and CCC in Egypt was done for showing an example of established environmental monitoring system to Syrian counterpart in the first half period. The study tour was efficient because it was designed for Arabic language spoken country where similar project is implemented by JICA.

4.5 Impact

Mobile Laboratory provided by GCEA

GCEA has procured six (6) mobile laboratories including analytical equipments which cover air and water quality analyses (Oil Content Meter, UV/VIS Spectrophotometer, VOC measurement tool, Dust/Aerosol measurement tool, working environmental measurement equipment) by own budget. It is great efforts for enhancing monitoring capacity of DFEAs, however, it is undefined purposes. It is necessary to clarify the purpose of procurements in accordance with environmental monitoring plan and existing capacity in DFEAs.

Reference Laboratory System

A reference laboratory system is becoming realistic needs for GCEA and DFEAs in order to secure their monitoring quality. There are two ways for having reference system; one is to develop one of DFEA as a central laboratory, which may play a leading role in analysis.

The other is quality control management using standard samples supplied by third party. GCEA has been trying to have authorization of laboratory and coordinated with Atomic Energy Commission (AEC). In this regards, DFEA laboratories would be better to attend and to follow up the National Programme for Chemical Analysis and Quality Control by AEC.

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4.6 Sustainability

Environmental Institutional Aspect

Executive Instruction for Law No.50 (2002), Dec. 2004 which described Environmental Inspection System in the Article Seven. However, the contents of the Executive Instruction can be considered as a legal framework of the environmental management in Syria. The implementation of the Project leads to strengthening of the institutional framework and organizations in charge.

Organizational Aspect

Communication among GCEA and DFEAs were accelerated by the project implementation. Series of meeting such as Steering Committee, Technical Committee which consist of directors of DFEA and GCEA officials contributed to mutual communication. As the result, organizational capacity was more or less enhanced at GCEA and DFEAs by the Project as a catalyst.

Human Resources Aspect

In most DFEAs, the laboratory staff number has increased past 18 months to secure the sustainability of their laboratories.

Financial Aspect

Economic tools, e.g. Environmental Fund shall be considered for financial stability for environmental monitoring in accordance with legal instruments. Currently some DFEAs have faced difficulties to get fuel for sampling car due to a lack of budget.

National Committee for Public Awareness and Environmental Media

The Committee chaired by GCEA was established after the project commencement and environmental monitoring information from DFEA laboratories would be utilized for arising public awareness especially in industrial sector.

Water Quality Information

Based on legal framework, GCEA manages discharge water quality standard and Environmental Inspection as Executive Instruction of Law No.50 (2002). In this regard, GCEA could improve their administrative capacity using basic water quality monitoring data.

5. Conclusions

- (1) Activities of the Project in past 18 months greatly enhanced the capacity in environmental monitoring of Syria. Nationwide 14 DFEAs have successfully established their own laboratories having analytical instruments, facilities, and technical staffs. All laboratories have successfully acquired the capacity to implement basic water quality analysis as well as water sampling skill. Based on acquired capacity, the laboratories have already collected and analyzed a total of 529 water samples by the end of July 2006, of which data have been accumulated in the data management system using a unified format among the DFEA and GCEA. The water sampling and basic water quality analysis have been

made under individual environmental monitoring plan formulated by each DFEA in cooperation with JET. Therefore, the technical cooperation activities, Activities 1, 2, 3, and 4 defined by the PDM, especially on basic water quality monitoring can be evaluated very successful in the first half period of the project term. Technical cooperation activities about ambient air quality monitoring and chemical & biological analyses are, however, in the beginning stage of training by JET. The trainings must be focused as major activities of the project in coming last half period.

- (2) GCEA has a policy to disclose all the environmental monitoring data obtained from DFEA laboratories to the public through the annual report and the Web site. However, the DFEA laboratories have not yet authorized by the Syrian Government, which is an obstacle to use the monitoring data for controlling, enforcing and punishing polluters. In this regards, it is proposed that selected laboratories which can be assessed to possess a reliable analytical capacity will apply the authorization through a third laboratory such as AEC. GCEA is expecting to use the monitoring data not only for publication but for enforcement for polluters when such laboratories will be authorized in coming last half period, which is the output of Component 5 defined by the PDM.
- (3) At mid-point of the Project performance for achieving Project Purpose and Outputs in Components 1, 2, 3 and 4 defined by the PDM is fairly appropriate progress based the activities contributed by both Syrian and Japanese sides. The performance of the project is almost in line with the plan and the Project will reach to the target described in the PDM by the end of the project term.

6. Recommendations

- (1) Environmental monitoring data should be utilized for effective environmental management, such as characterization, assessment and enforcement. As mentioned above, it is rather limited for GCEA and DFEAs before the lab authorization. However, it is possible to use the monitored data for the risk communication with the industrial firm (polluters) as a kind of public awareness activity. It is recommended to intensify such public awareness activities in selected DFEAs having industrial pollution sources. It may contribute to establish an effective environmental protection based on environmental monitoring data.
- (2) Safety management of DFEA laboratory in one of the important issues to be consider in coming last half period of the project term. There are various types of chemicals including toxic and hazardous materials in DFEA laboratories. The laboratory manager should pay enough attention to the toxic and hazardous chemicals and strictly control them using locking cabinet and log book/inventory.
- (3) It is indispensable to assess the development of individual capacity in the course of project implementation. The directors of DFEAs and GCEA are recommended to make personnel evaluation of their laboratory staffs in cooperation with JET.
- (4) The total number of DFEAs and GCEA staffs are now 115, which is more than two times larger than initial stage, however, approximately 20% of laboratory staffs has been replaced since the Project commenced. It is strongly recommended to bring up new lab staffs through internal training and technology transfer programme by experienced staffs in each DFEA. Such internal efforts by Syrian side secure the sustainable operation and

maintenance of DFEA laboratories.

- (5) In the first half period of the Project term, GCEA introduced a variety of analytical instruments for DFEAs as mobile lab which involves several water and air monitoring tools. It was indeed great self-efforts for developing the monitoring capacity of DFEAs by the Syrian side, which is closely related for accessing to the Project Overall Goal. It is recommended to make necessary communication between GCEA and JET on such matters prior to introduce equipment in order to coordinate current capacity development activities by DFEAs and JET. It is also emphasized that JET cannot afford to accommodate sudden request operation training for such equipment which has not been agreed in advance between Syrian and Japanese sides.
- (6) From the view point of public awareness in environment, the results of environmental monitoring acquired by the Project should be shared with the public. The Project shall focus the public awareness activities on industrial sector in coming last half period. It is recommended to formulate an action plan on public awareness activities for industrial sector in target DFEAs, at least 4 DFEAs out of 14 DFEAs.
- (7) It is recommended to accelerate the authorization process of the DFEA laboratory in order to activate legal inspection and enforcement to polluters. The authorization also makes possible to publish all environmental monitoring data analyzed by the laboratory for the public. It is recommended for the JET to make a preliminary assessment of the analytical capacity of each DFEA laboratory for the authorization during the quality control training given in coming period.
- (8) A smooth communication among project members, in particular among GCEA, DFEAs and JET, is a key factor for successful implementation of the Project. It is highly recommended to organize weekly Regular Meeting as held since June 2006. Periodical meeting of the Technical Committee is also very important opportunity to exchange the idea among GCEA, DFEAs and JET. In order to share actual project implementation, more frequent distribution of internal circular such as Project Newsletter is recommended.
- (9) It is recommended to intensify mutual consultation and coordination prior to plan an activity by Syrian and Japanese sides respectively. The Project shall be implemented in bilateral manner under mutual understanding.
- (10) It is recommended to correct the following part of the Project Design Matrix (PDM) agreed by R/D, September 2004. Because the word 'Existing' Environmental Monitoring Guideline is not correct, the Environmental Monitoring Guideline shall be prepared and introduced. The underlined parts are proposed words for revisions;

1) "Objectively Verifiable Indicator" 4.2

Environmental monitoring guideline is introduced into a standard for all laboratories by three years after the commencement of the Project.

2) "Narrative Summary" 4.5

Provide necessary advice and guidance to introduce environmental monitoring guideline into a standard for all laboratories.



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APPENDIX VI Evaluation Grid



I Revised Project Design Matrices

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

Date of Issu: 22 August 2006

-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)

Version No.: for Mid-term Evaluation

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</p> <p>2. Roles for the national monitoring system are properly allocated among the Directorates. (reference system)</p> <p>3. Results of the monitoring is continuously issued and opened to the public as an annual report at all Governorates.</p> <p>4. Results of the monitoring is issued and opened to the public as an annual report at the national level.</p>	<p>1. Monitoring records kept by the GCEA, MOLAE.</p> <p>2. Annual report issued by all Directorates.</p> <p>3. Annual report issued by the GCEA, MOLAE.</p>	<p>The Syrian government keeps it's 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 to the project</p> <p>2. The target Directorates conduct monitoring of water and air on regular basis according to the monitoring plan formulated by themselves</p> <p>3. Activities for public awareness are implemented in four (4) Directorates at least out of fourteen (14) Directorates.</p> <p>4. Monitoring results are issued and continuously opened to the public as an annual report at Governorate level.</p>	<p>1. Monitoring records kept by the target Directorates and GCEA.</p> <p>2. Annual report issued by the target Directorates.</p>	<p>The Syrian government keeps it's policy support to provide staff, equipment and budget to the rest of the Directorates</p>
<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.</p> <p>1-2 All laboratory staff reach the grade B* level on monitoring items in charge by three years after the commencement of the project.</p> <p>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</p> <p>1-2 Training record</p> <p>1-3 Training record</p>	<p>Execution instructions are promulgated.</p>

<p>2. Laboratories are properly managed by laboratory staff themselves.</p>	<p>2-1 Equipment in laboratories are properly operated and maintained according to the o/m manual compiled by the laboratory staff by three years after the commencement of the project.</p> <p>2-2 Spare parts and consumable materials management system is established by three years after the commencement of the project.</p> <p>2-3 Chemical reagents are properly stored and cared according to the o/m manual by three years after the commencement of the project.</p> <p>2-4 Liquid and solid wastes from laboratory are properly treated according to the o/m manual by three years after the commencement of the project.</p> <p>2-5 Each Directorate prepares it's budget plan for regular monitoring.</p>	<p>2-1 O/m record</p> <p>2-2 Spare parts & suppliers list</p> <p>2-3 O/m record</p> <p>2-4 O/m record</p> <p>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>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>4.1 Environmental monitoring plan specifying parameters and monitoring sites is formulated in respective laboratory by one year after the commencement of the project.</p> <p>4.2 Environmental monitoring guideline is introduced into a standard for all laboratories by three years after the commencement of the project.</p> <p>5.1 Preliminary condition on public awareness is comprehended by each governorates and shared among the organizations concerned.</p> <p>5.2 Materials for activities for public awareness, such as textbooks, manuals, and pamphlets are prepared.</p> <p>5.3 Seminars and workshops targeted for educational institutions and so forth are conducted.</p> <p>5.4 Periodical network meeting among organization and/or institutions regarding to environmental education in each governorate are organized.</p>	<p>4-1 Monitoring guideline</p> <p>4-2 Laboratory operation and maintenance manual (o/m manual)</p> <p>5-1 Report of preliminary survey at each governorate</p> <p>5-2 List of activity materials</p> <p>5-3 Report of seminars and workshops</p> <p>5-4 Report or minutes of meeting</p>	

Narrative Summary	Inputs	Important Assumptions
<p>Activities</p> <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><u>Syrian Side Inputs</u></p> <p>(1) Land, building, laboratories, office space and other necessary facilities for the project.</p> <p>(2) Assignment of counterparts and administrative personnel.</p> <p>(3) Running expenses for the implementation of the project.</p> <p><u>Japanese Side Inputs</u></p> <p>(1) Dispatch of experts team</p> <p>(2) Provision of equipment</p>	<p>Laboratory staffs trained by the project stay in laboratories and keep working on the environmental monitoring.</p> <p>Agents/manufactures timely provide spare parts for the equipment.</p>

<p>2.1 <u>Compilation of the laboratory o/m manual for equipment operation and maintenance, spare parts preparation, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</u></p> <p>2.2 <u>Hands-on trainings at equipment operation and maintenance, reagents storage and treatment, liquid and solid laboratory wastes treatment and others.</u></p> <p>2.3 <u>Provide necessary assistance and guidance to prepare Directorates' budget plan for regular monitoring.</u></p>	<p>Pre-conditions</p> <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>
<p>3.1 <u>Design the monitoring record formats for laboratories and for the GCEA in the MOLAE.</u></p> <p>3.2 <u>Compile monitoring records in each Directorate.</u></p> <p>3.3 <u>Send the monitoring records from Directorates to the GCEA in the MOLAE.</u></p>	
<p>4.1 <u>Conduct preliminary pollution source inventory surveys.</u></p> <p>4.2 <u>Specify monitoring sites and their parameters.</u></p> <p>4.3 <u>Formulate the <u>environmental monitoring plan</u> specifying parameters and monitoring sites in respective laboratory.</u></p> <p>4.4 <u>Provide necessary assistance and guidance to introduce the <u>environmental monitoring guideline</u> into a standard for all laboratories.</u></p>	
<p>5.1 <u>To conduct preliminary survey on activities regarding to environmental education and public awareness in each governorate</u></p> <p>5.2 <u>To formulate textbooks, manuals, and pamphlets for environmental education.</u></p> <p>5.3 <u>To implement seminars and workshops targeted for educational institutions and NGOs and so forth.</u></p> <p>5.4 <u>To enhance the cooperation among organizations and/or institutions regarding to environmental education in each governorate (ex. to implement periodical meeting)</u></p>	

Note:

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

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

II Plan of Operations

Component-1: Development of Sampling and Analysis Ability

Activity	2005				2006				2007				JICA expert in charge
	3	6	9	12	3	6	9	12	3	6	9	12	
(1) Advice to establishment plan of a laboratory of Damascus DFEA	—												Chief Advisor/ Env'tal management (CA), Water quality analysis, Air quality analysis, Data management
(2) Basic training of environmental management for personnel of DFEAs		▲ (1st)			▲ (2nd)								All experts
(3) Preparation of "the standard work procedure"		—	—	—									Water quality analysis, Air quality analysis, Data management
(4) Training on practical skill and planning and of environmental monitoring			▲		▲								ditto
(5) Round inspection and OJT at DFEAs		—	—	—	—	—	—	—					Water quality analysis
(6) Training for data analysis and interpretation					▲								CA, Water quality analysis, Air quality analysis, Data management
(7) Training on for air quality analysis of DFEAs in Damascus, Aleppo, and Homs			▲										Air quality analysis
(8) Discussion and instruction on the basic analysis of water quality at DFEAs						—	—	—	—	—	—	—	Water quality analysis
(9) OJT on the analysis of ambient air of DFEAs in Damascus, Aleppo, and Homs				—		—		—		—		—	Air quality analysis
(10) Establishment of sample transport system to DFEA in Damascus from other DFEAs						—	—	—	—	—	—	—	Water quality analysis
(11) Recommendations for the training system about environmental management.												—	CA

— Joint implementation of the JICA expert team and Syrian counterpart
 ... Continuous implementation by Syrian side
 ▲ Spot activity by the JICA expert team

Component-2: Management and Operation of Laboratory

Activity	2005				2006				2007				JICA expert in charge
	3	6	9	12	3	6	9	12	3	6	9	12	
(1) Preparation of a laboratory operation and maintenance (O/M) manual		—	—	—	—	—	(revision)	—	—	—	(revision)	—	Water quality analysis
(2) Establishment of laboratory of Damascus DFEA, and training on the equipment of chemical and biological analysis and heavy metal analysis of water quality		—	—	—	—	—	—	—	—	—	—	—	Water quality analysis
(3) Support of budgetary planning of regular periodical environmental monitoring of DFEAs						—	—	—	—	—	—	—	Chief Advisor/ Environmental management (CA), Water quality analysis, Air quality analysis

— Joint implementation of JICA Expert Team and Syrian counterpart
 ... Continuous implementation by Syrian side

Component-3: Data Management of Environmental Monitoring

Activity	2005				2006				2007				JICA Expert in charge
	3	6	9	12	3	6	9	12	3	6	9	12	
(1) Situation of data management in MOLAE <small>(Preparatory)</small>	—		—	—									Data management (supported by 3 experts of water quality analysis)
(2) Preparation of format for environmental monitoring record		—	—										Water quality analysis, air quality analysis, data management
(3) Record of environmental monitoring in DFEAs			—	—	—	—	—	—	—	—	—	—	Water quality analysis, Air quality analysis, Data management
(4) Set up of data concentrating system in MOLAE regarding environmental monitoring					—	—	—	—	—	—	—	—	Data management
(5) Support for the preparation and publish of environmental annual report by each DFEA						—	—	—			—	—	Chief Advisor/ Environmental management (CA), Data management, Environmental education

— Joint implementation of JICA Expert Team and Syrian counterpart

... Continuous implementation by Syrian side

Component-4: Planning and Implementation of Environmental Monitoring

Activity	2005				2006				2007				JICA Expert in charge
	3	6	9	12	3	6	9	12	3	6	9	12	
(1) Preparatory survey of pollution source each prefecture in each governorate		—	—										Chief Advisor/ Environmental management (CA), Water quality analysis, Air quality analysis
(2) Support for preparation of "environmental monitoring plan" of DFEAs		—	—	—	—								CA, Water quality analysis, Air quality analysis
(3) Guidance of enforcement of "environmental monitoring plan"						—	—	—		—	—	—	CA, Water quality analysis, Air quality analysis
(4) Comprehensive evaluation of implementation of environmental monitoring in DFEAs												—	CA, Water quality analysis, Air quality analysis

— Joint implementation of JICA Expert Team and Syrian counterpart

... Continuous implementation by Syrian side

Component-5: Data Publication and Environmental Education

Activity	2005				2006				2007				JICA Expert in charge
	3	6	9	12	3	6	9	12	3	6	9	12	
(1) Public awareness survey in governorates	—	—											Chief Advisor/ Environmental management (CA), Environmental education
(2) Grasp of the current situation of environmental education and public awareness in Syria	—												CA, Environmental education
(3) Organizing periodical network meetings among organizations and/or institutions regarding to environmental education		—	—	—	—	—	—	—	—	—	—	—	Environmental education
(4) Preparation of materials for activities for environmental education in Arabic					—				—	—			Environmental education
(5) Conduction of seminars and workshops for environmental education		—	—	—	—	—	—	—	—	—			CA, Environmental education

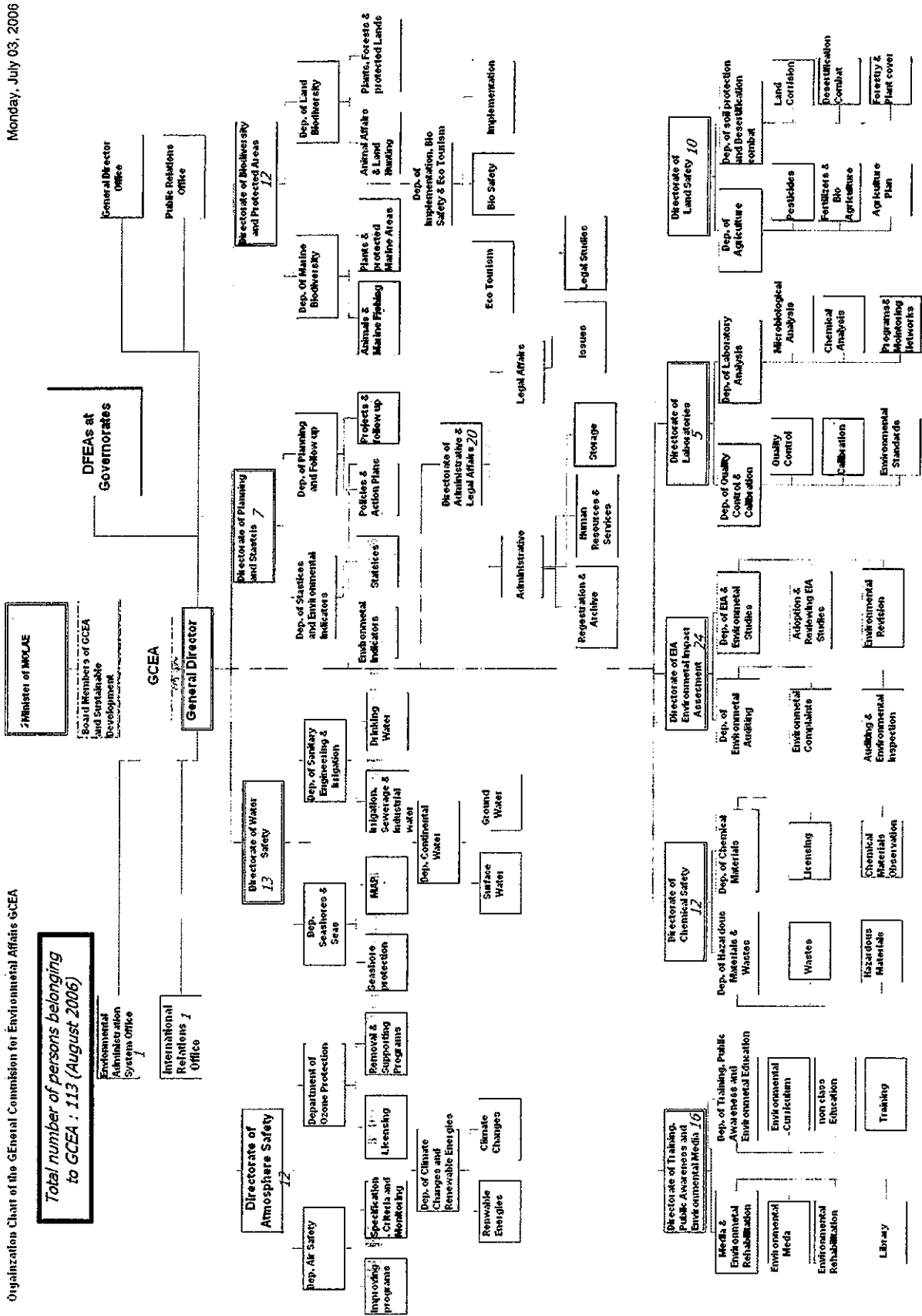
— Joint implementation of JICA Expert Team and Syrian counterpart ... Continuous implementation by Syrian side

III-1 Organization Chart of GCEA

Organization Chart of the General Commission for Environmental Affairs GCEA

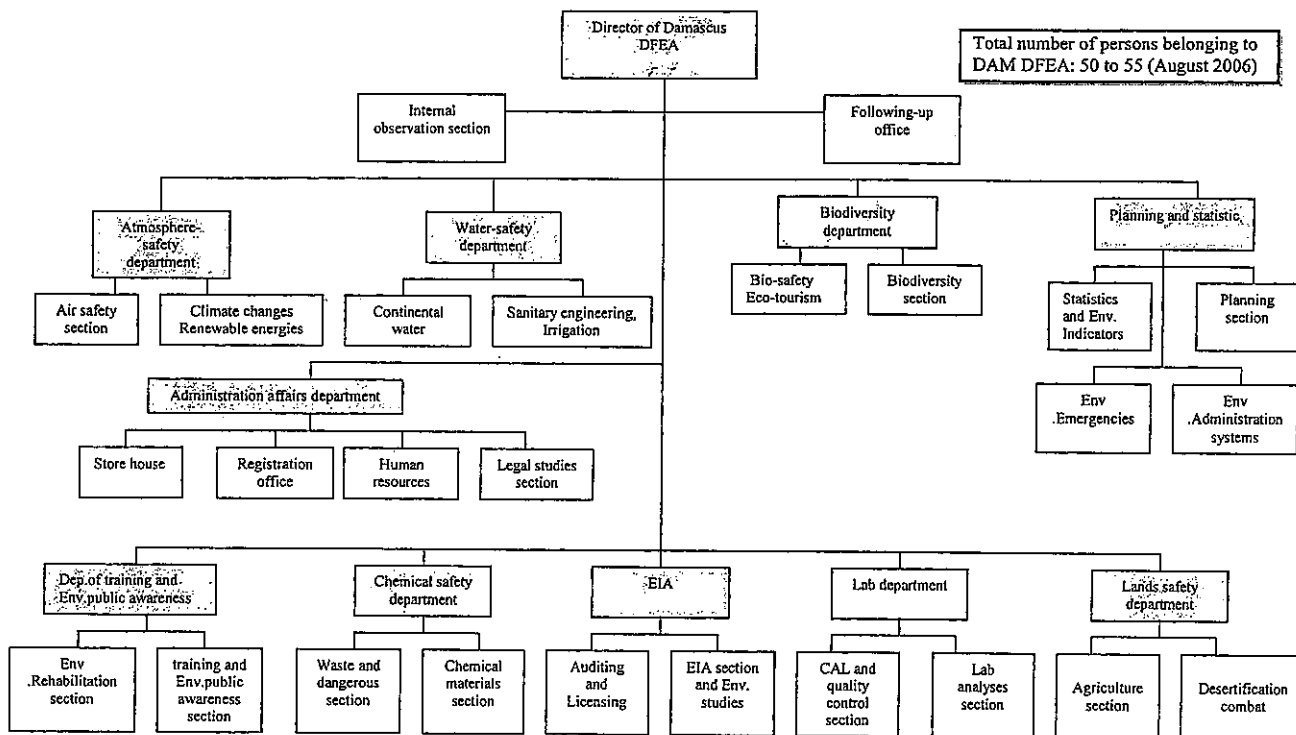
Monday, July 03, 2006

Total number of persons belonging to GCEA : 113 (August 2006)



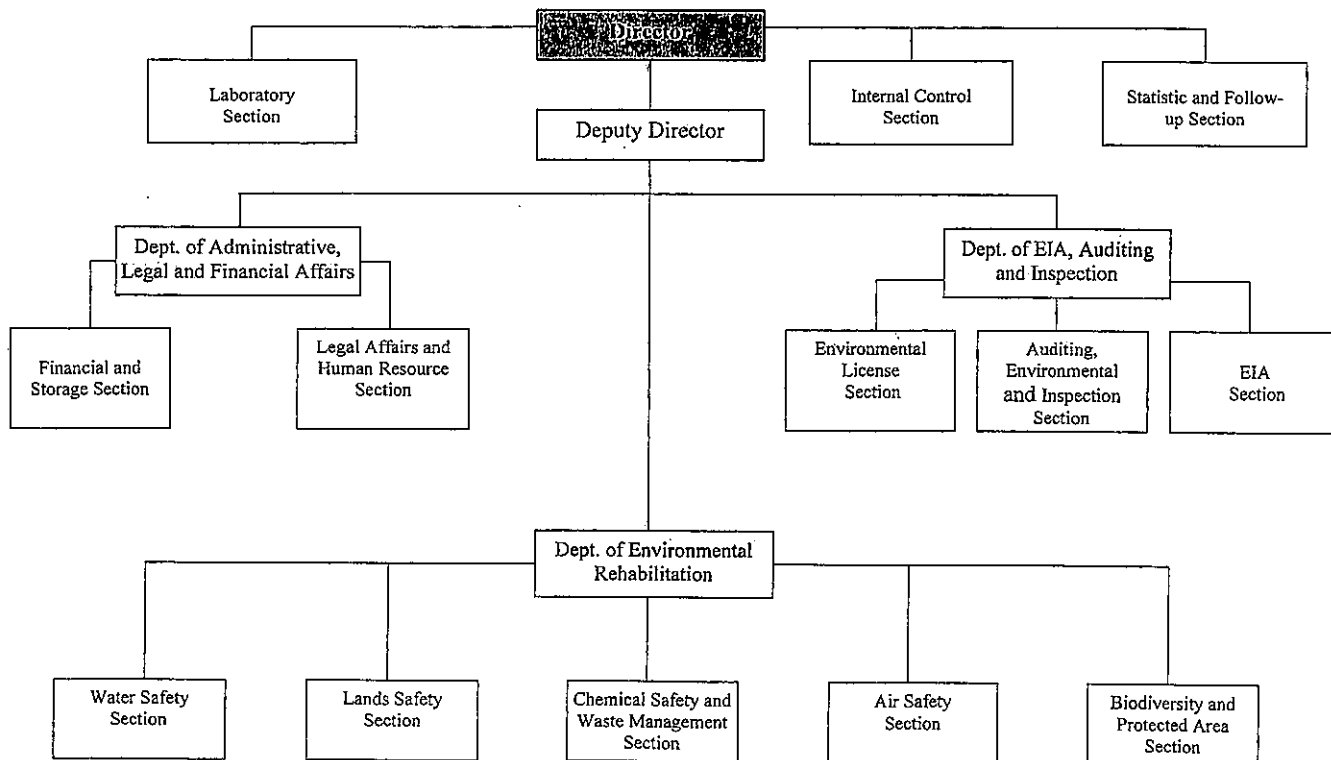
III-2 Organization Chart of DFEAs

III-2-1 Organization Chart of Damascus DFEA



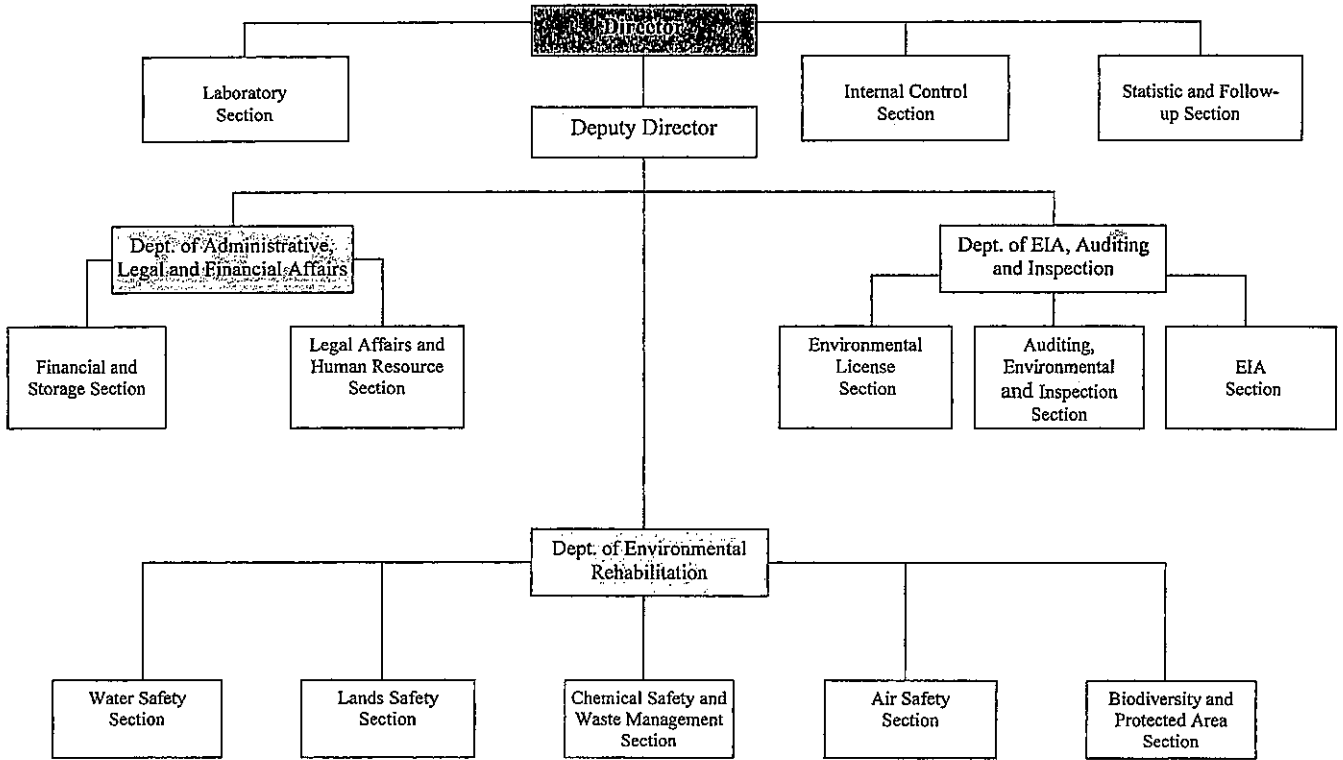
III-2-2 Organization Chart in Damascus Countryside DFEA (July 2006)

Total number of staff is: 14



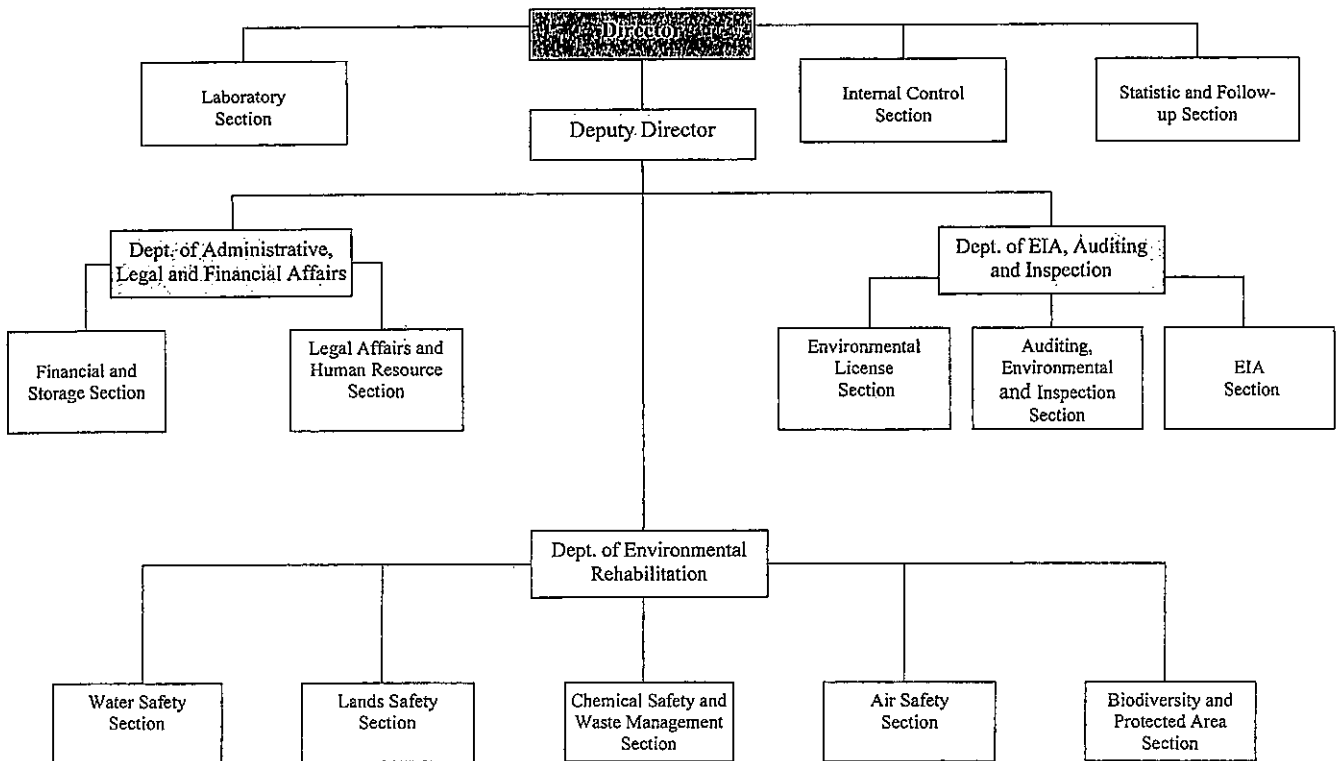
III-2-3 Organization Chart of Aleppo DFEA (July 2006)

Total number of staff is: 31



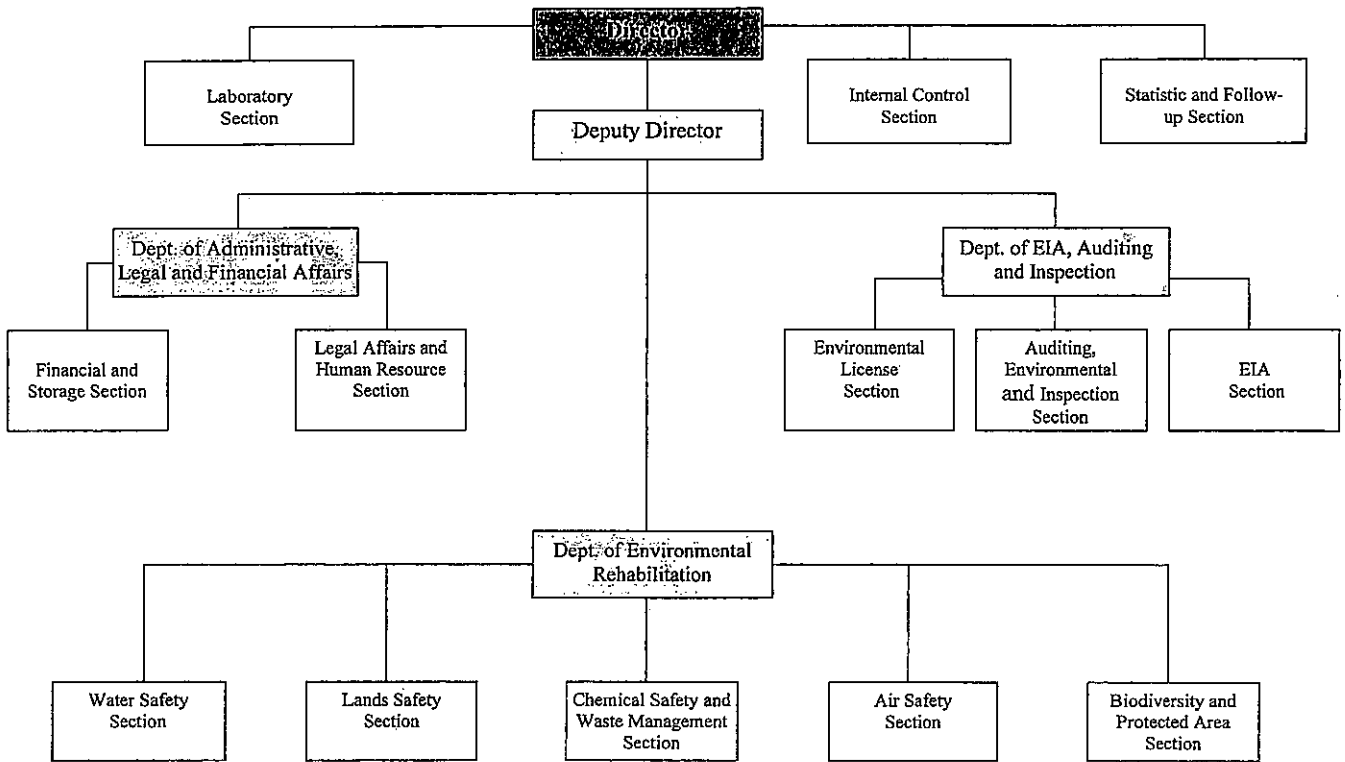
III-2-4 Organization Chart of Homs DFEA (July 2006)

Total number of staff is: 78



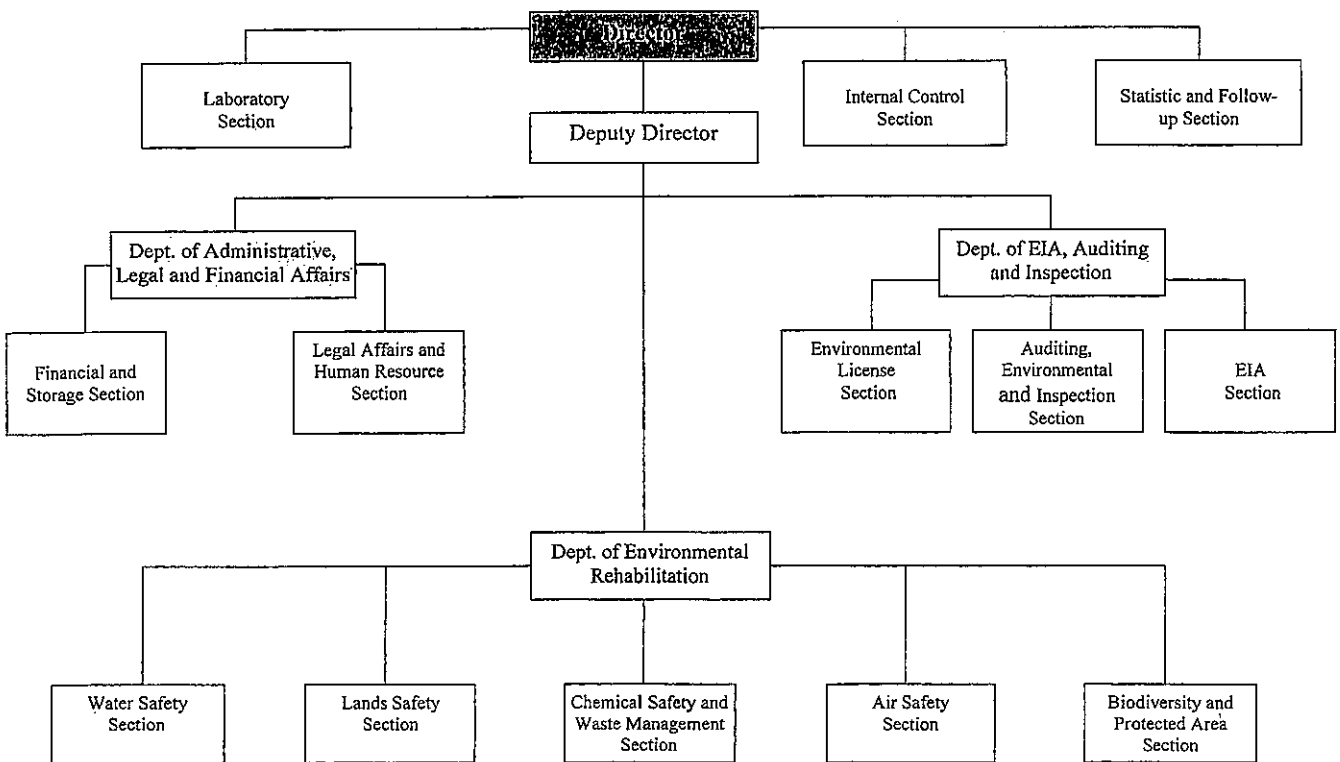
III-2-5 Organization Chart of Hama DFEA (July 2006)

Total number of staff is: 30



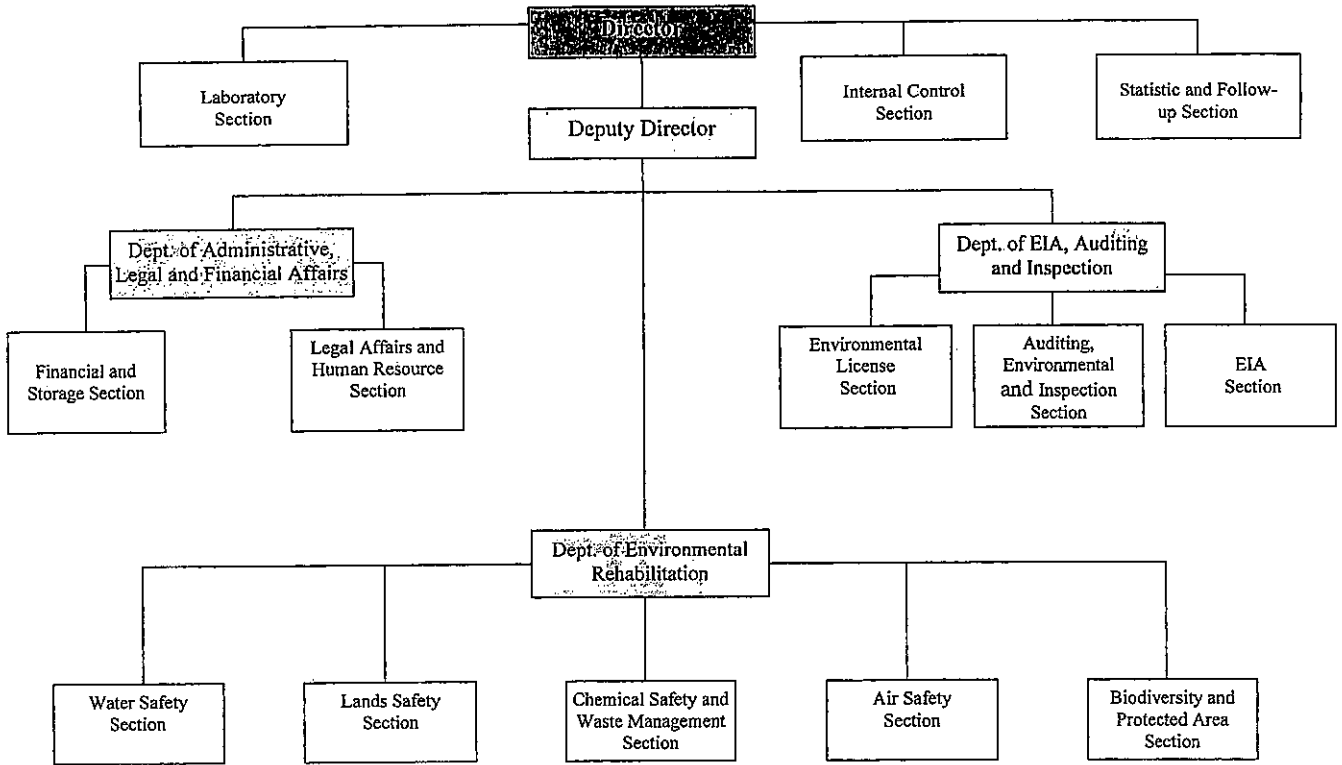
III-2-6 Organization Chart of Lattakia DFEA (July 2006)

Total number of staff is: 44



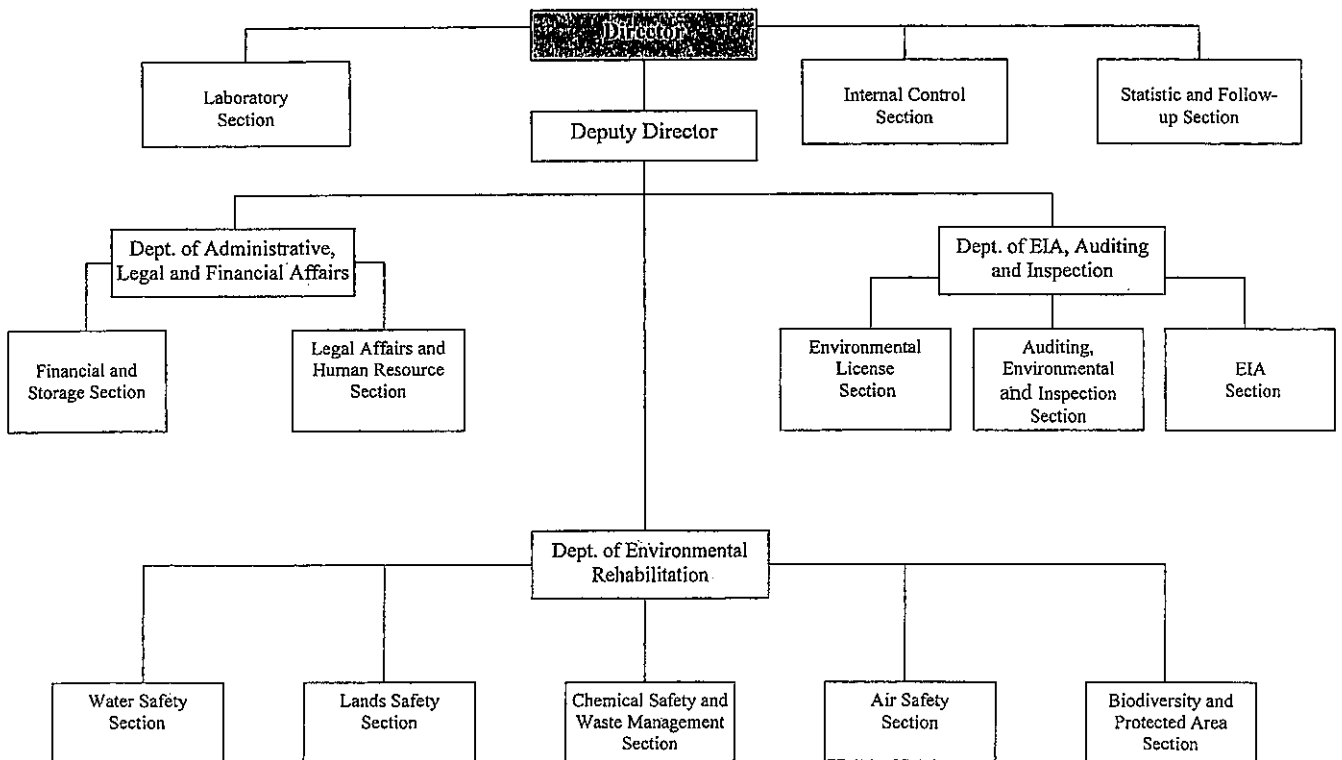
III-2-7 Organization Chart of Deir Zor DFEA (July 2006)

Total number of staff is: 10



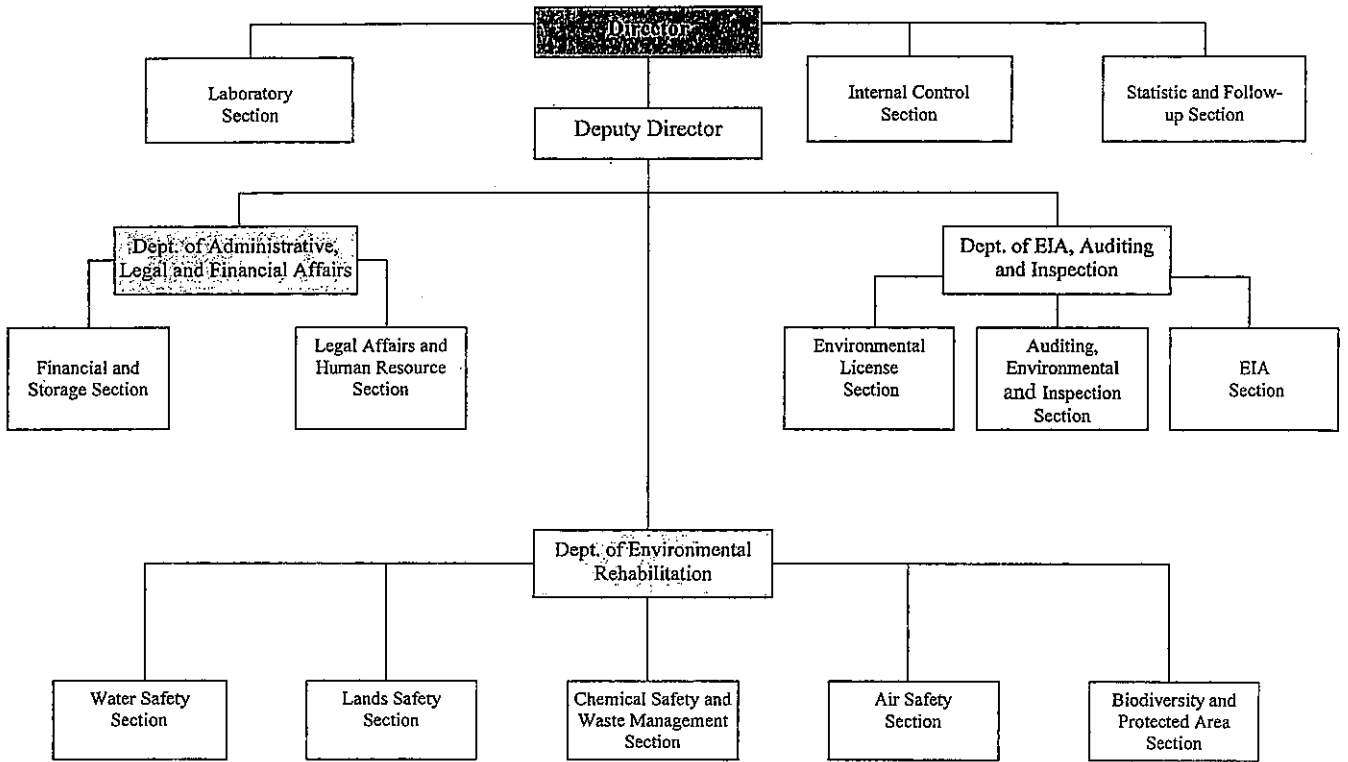
III-2-8 Organization Chart of Idleb DFEA (July 2006)

Total number of staff is: 17



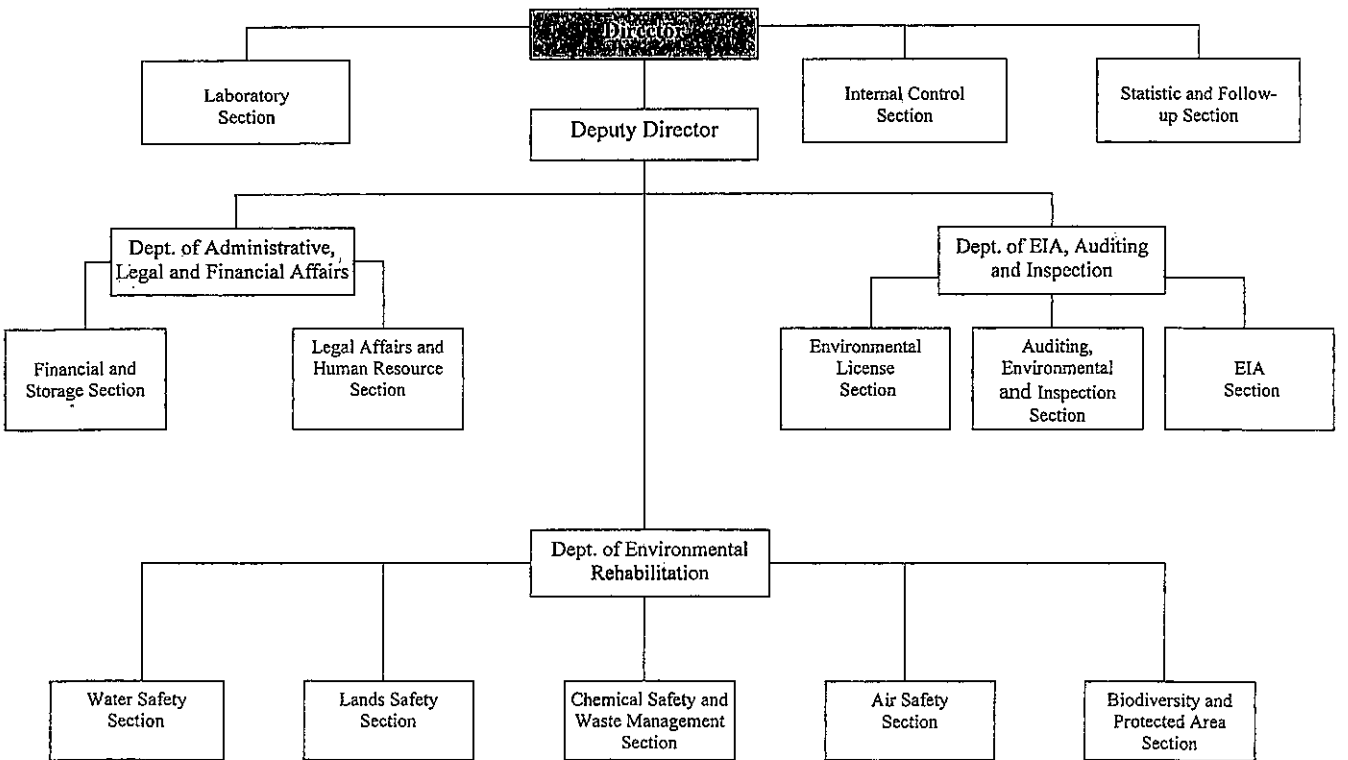
III-2-9 Organization Chart of Hasakeh DFEA (July 2006)

Total number of staff is: 13



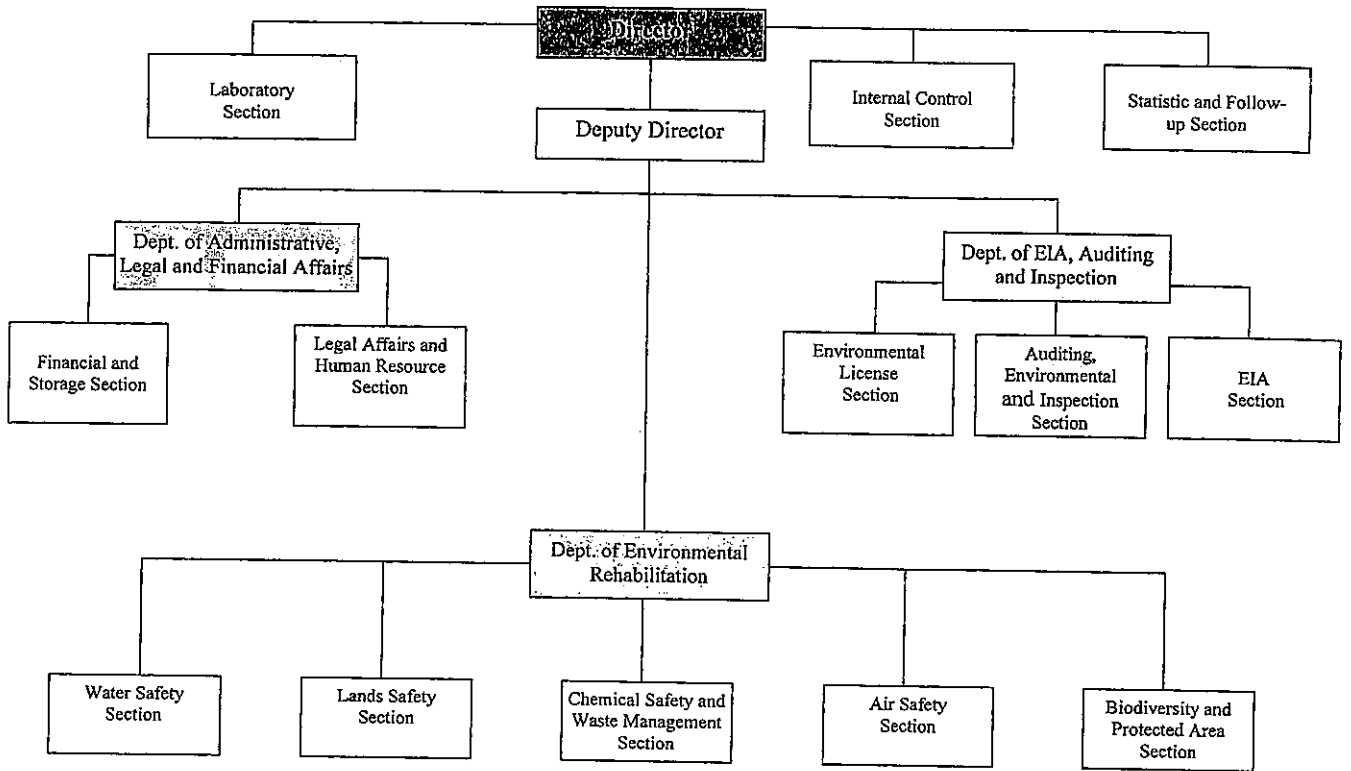
III-2-10 Organization Chart of Rakka DFEA (July 2006)

Total number of staff is: 3



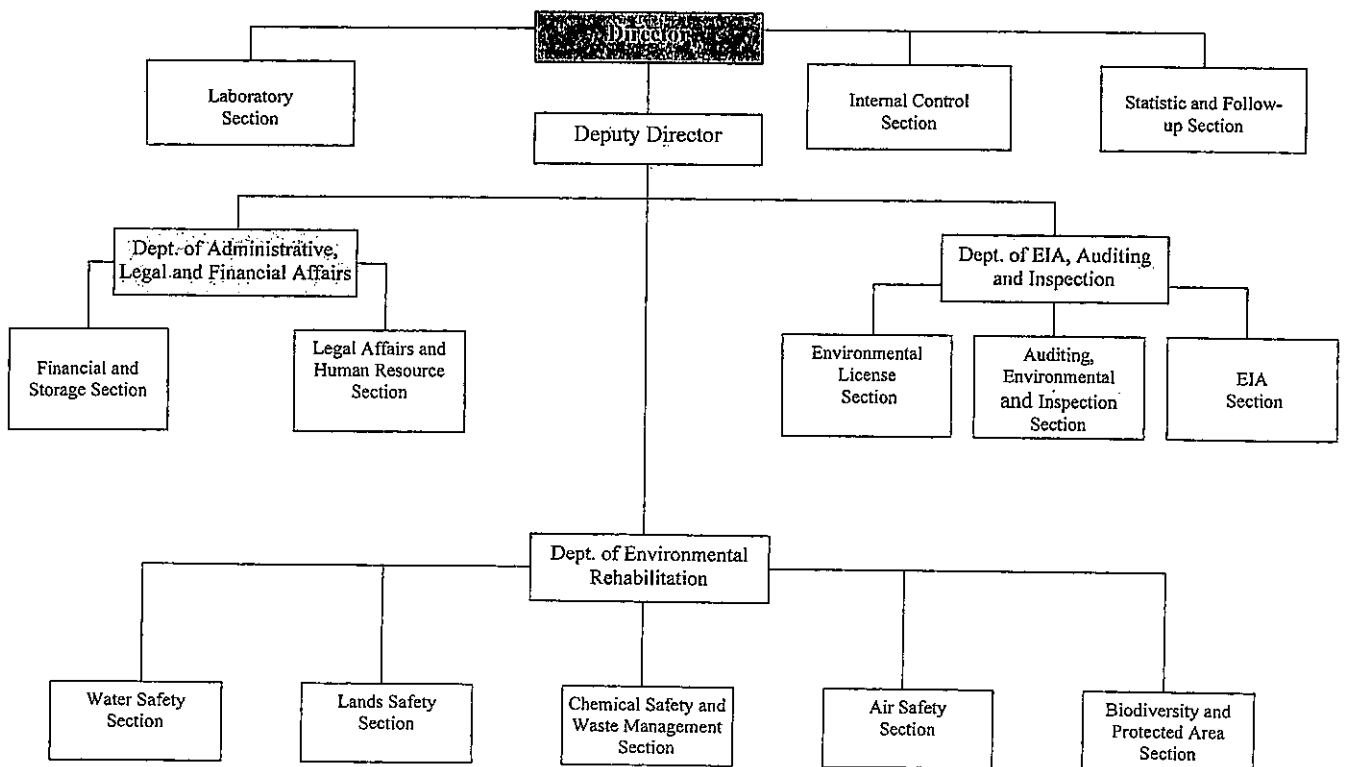
III-2-11 Organization Chart of Sweida DFEA (July 2006)

Total number of staff is: 24



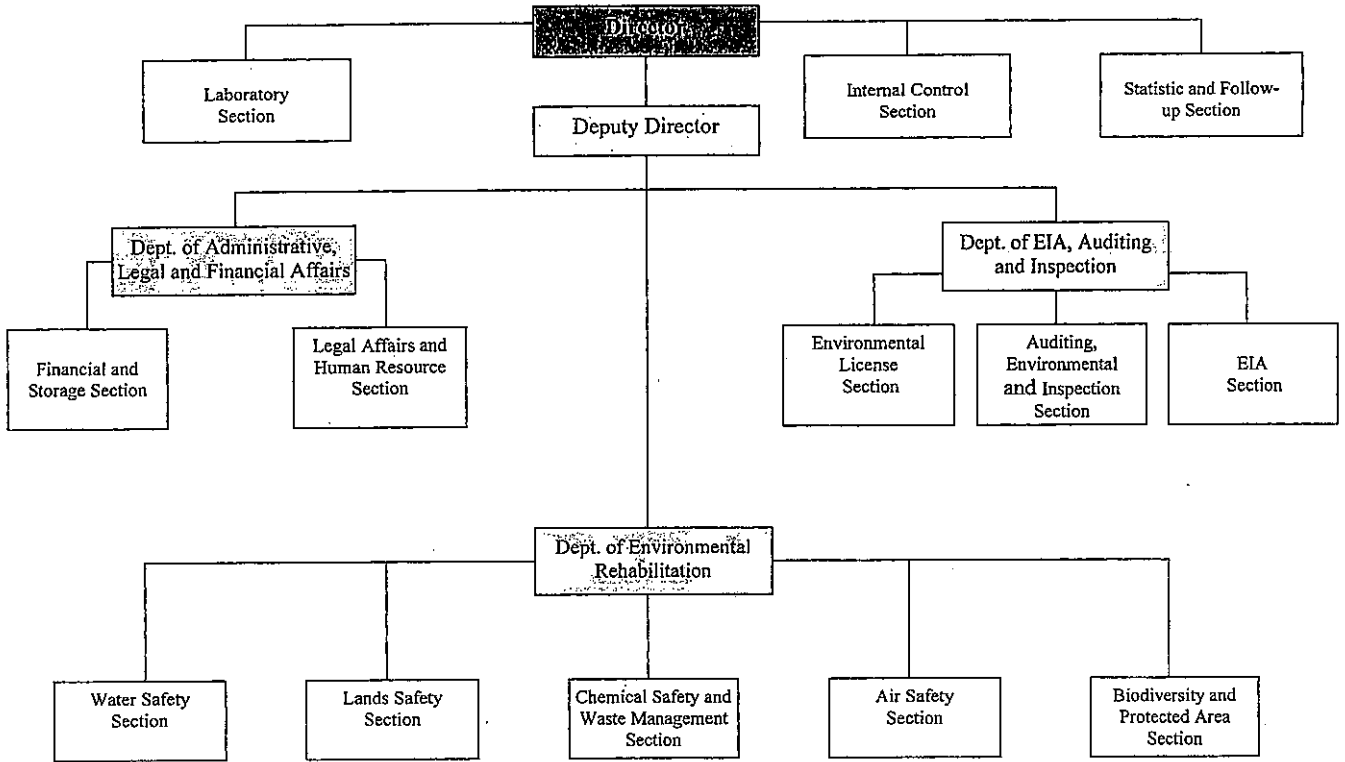
III-2-12 Organization Chart of Dara DFEA (July 2006)

Total number of staff is: 22



III-2-13 Organization Chart of Tartous DFEA (July 2006)

Total number of staff is: 54



III-2-14 Organization Chart of Quneitra DFEA (July 2006)

Total number of staff is: 1

