

**JICA EXPERT TEAM**

The Capacity Development of Environmental Monitoring at Directorates for  
Environmental Affairs in Governorates in the Syrian Arab Republic  
NIPPON KOEI CO., LTD.

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

ANNEX-2

To: Dr. Akram S. Al-Khour  
General Director,  
General Commission of Environmental Affairs  
JICA Syria

CC: Director of DFEA in Damascus,  
Director of DFEA in Homs,  
Director of DFEA in Aleppo  
JICA Syria

Telephone : 963-11-446 4796 (Damascus) 81-3 (5276) 3930 (Tokyo)  
Facsimile: 963-11-446 4796 (Damascus) 81-3 (5276) 2656 (Tokyo)  
E-mail : semp@scs-net.org (Damascus)  
int.e@gx.n-koei.co.jp (Tokyo)

Your ref.

Our ref. EN65 002 Date: August 11, 2005

3

Dear Dr. Al-Khour,

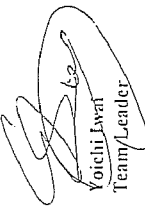
It is our pleasure to inform you the draft specifications for the 2<sup>nd</sup> year's equipment procurement of air and water quality sampling and analysis. The draft specifications attached in this letter are prepared through discussions with the directors and staff members of the Damascus, Homs and Aleppo DFEAs.

In this connection you are kindly requested to check and confirm the draft specifications and please inform us when you have some comments and suggestions in the draft specifications before August 21<sup>st</sup>, 2005.

We would like to have the 4<sup>th</sup> technical committee on August 22<sup>nd</sup>, 2005 at the Damascus DFEA in order to agree and confirm the specifications for the 2<sup>nd</sup> year's equipment procurement.

Thank you for your kind cooperation.

Truly Yours,



Yoichi Lawat  
Team/Leader

JICA Expert Team



**1. Date and Venue:**

- Dec. 13 (Tue), 19:00-20:30: at meeting room in GCEA

**2. Agenda**

- |  |                    |
|--|--------------------|
| <b>1. Opening Statement</b><br>(by Dr. Yasin, Director of Directorate of Laboratories, GCEA) | <b>19:00-19:05</b> |
| <b>2. Presentation</b><br>(by the JICA Expert Team)  | <b>19:05-19:20</b> |
| 1) Training Contents and Schedule up to March 2006   |                    |
| 2) Current Situation of Air and Water Quality Equipment                                      |                    |
| 3) Problems and Difficulties on Monitoring Activities of DFEA                                |                    |
| <b>3. Q and A</b>  | <b>19:20-20:30</b> |
| <b>4. Closing Remarks</b><br>(by Dr. Akram, Director General of GCEA)                        | <b>20:30-20:35</b> |

End



**Minutes of Meeting  
On  
For  
The 7th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 1 March 2006

The 7th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 1 March, 2006 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by an opening statement by Dr. Yasin Moa'alla, Director of the Directorate of Laboratories of GCEA. Then, the following 4 themes were presented;


1. Environmental Monitoring Activities of Hama DFEA: by Mr. Ali Jwaied, Director,
2. Networking between GCEA and DFEAs: by Mr. Shaka Soliman,
3. Results of the Evaluation Survey: by Farouk Adli., EEC, and
4. Summary of the Progress Report 2: by Mr. Yoichi Iwai, the JICA Expert Team.

An attendant list and the agenda of the 7th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

The followings are the issues discussed and commented upon in the 7th T/C meeting.

- (1) Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, commented to the presentation made by the Director of the Directorate for Environmental Affairs (DFEA) in Hama, Mr. Ali Jwaied, that GCEA has planned to provide an oil content meter to all DFEAs, and it is necessary to clarify the key points to be revised on the by-law of Law No. 50. Mr. Ali Jwaied, replied that a matter of revision of the by-law should be discussed in the special committee in detail.
- (2) Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, questioned to the presentation made by the staff of the Directorate of Chemical Safety in the General Commission for Environmental Affairs (GCEA), Mr. Shaka Soliman, about an expected opening date of networking and possibility to prepare a Home Page (HP) of GCEA. Mr. Shaka Soliman answered that its opening date would be the end of March, and the HP could be established and be accessed from DFEAs.
- (3) Director of DFEA in Tartous, Mr. Hasan Marjan, requested to train how to use the air quality equipment to be provided by GCEA and to provide more equipment meeting with regional environmental issues. Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, replied that the training on air quality monitoring is planned only for three DFEAs (Damascus, Homs, and Aleppo), and other DFEAs could be able to participate the training course if they have any intention. Mr. Yoichi Iwai also mentioned that the provision of further equipment for environmental monitoring should be requested to JICA at the termination period of considering achievement results of the current Project.

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

  
Mr. Yoichi Iwai  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

- (4) Director of the Directorate of Public Awareness in GCEA, Dr. Nader Ghazi, questioned about the process of the Project Evaluation Survey. Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, answered that the methodology was discussed with the General Director of GCEA, Dr. Akram S. Al Khouri, in advance, and agreed its questionnaire contents in advance. Mr. Yoichi Iwai mentioned that comments and suggestions on the evaluation activities of the Project are always welcome because all concerned members should know actual results and achievements of the Project.
- (5) General Director of GCEA, Dr. Akram S. Al Khouri, discussed and confirmed with the attendants about the General Results of the Project described in the Project Evaluation Survey. The following results are approved among attendants to the 7<sup>th</sup> T/C.
- There was a noticeable development on the capacity of C/P especially during the first year of the training.
  - Some counterparts moved to work in other governmental agencies which decrease the benefits of the Project.
  - Some counterparts joined the military service, and this also leads to delay the benefits of the project.
  - Some counterparts left to work outside Syria, or they follow long-term training courses outside Syria and this of course affect the benefits of the Project.
  - Some female counterparts used to have motherhood vacation and this is of course leads to delay the Project.
  - All C/Ps showed satisfaction of the Project and they showed interest in continuing the work in this Project
  - All C/Ps need capacity development in English and computer to improve their understanding of the Project.
  - There is shortage in vehicles and drivers for sampling especially at the time before receiving a sampling car from GCEA.
  - Most of C/Ps requested more training regarding data interpretation and laboratory analysis.
  - Some DFEAs showed an interest in having training regarding the treatment of wastes resulting from olive extracting plants.
  - In general, all Directors of DFEAs are cooperative and working to succeed the Project.
  - Some C/Ps complained from that they don't have job description and organization chart.
  - Some C/Ps requested to have more equipment to measure the soil analysis.
  - In general, most DFEAs have a shortage of staff.
  - The meetings with Governors were positive to a wide range because of the interest in the environment protection and the interest in the JICA Project.
- (7) General Director of GCEA, Dr. Akram S. Al Khouri, discussed and confirmed the

Recommendations related to the Project described in the Project Evaluation Survey. The following results are agreed among attendants to the 7<sup>th</sup> T/C.

- Setting administrative organization chart for all DFEAs at Governorates.
  - Acceleration completion of the new building construction for DFEAs.
  - Giving the directors of DFEAs more authorities related to the work flow in DFEA.
  - Supporting DFEAs by engineers from all specializations
  - Qualifying C/Ps of DFEAs in English and computer.
  - Supporting DFEAs by more vehicles, drivers, and petrol.
  - Solving all related administrative obstacles.
  - Demanding DFEAs to present their annual action plan.
  - Continuation in qualification of C/Ps.
  - Increasing the number of training courses.
  - More OJT at each DFEA.
  - Supplying requirements of DFEAs such as reagents, equipment, etc.
  - More specialized training courses according to the needs of DFEAs.
  - Shifting the staff from the military service to continue the rest of their military service at the DFEAs.
  - Activate the relation among the staff of GCEA and DFEA staffs.
  - Adoption of new standards for all kinds of pollutants
  - Concentration on public awareness activities especially regarding school kids, industrial activities, farmers, youth and women organization and NGOs in the next stage of the Project.
- (8) General Director of GCEA, Dr. Akram S. Al Khouri, questioned to all attendants of T/C whether they agreed to report the results of the Project Evaluation Survey to S/C to be held on 5 March, 2006. Through discussions on this matter, all attendants mostly agreed to report its results to S/C.
- (9) The Director of DFEA in Rakka, Ms. Shamsa Aljaseem, requested a dryer for glassware equipment because it is necessary to obtain accurate values of BOD. The JICA Expert Team, Mr. Shunsuke Sato and Dr. Ryunan Matue, answered that there can not be any relation between a dryer and an accurate BOD value, and the JICA Expert Team will conduct further instructions related to the BOD analysis method to C/Ps.

List of Attendants  
The 7th Technical Committee

Syrian Side

| Name                   | Position                                | Organization              |
|------------------------|---|---------------------------|
| Dr. Akram S. Al Khouri | General Director                        | GCEA                      |
| Dr. Yasin Mout'illa    | Director of Directorate of Laboratories | GCEA                      |
| Ms. Wadiea' Jaha       | Deputy Director                         | DFEA Damascus             |
| Mr. Suleiman Kalo      | Director                                | DFEA Homs                 |
| Mr. Saeid Naiffous     | Director                                | DFEA Aleppo               |
| Ms. Mona Joma          | Laboratory Chief                        | DFEA Damascus Countryside |
| Mr. Ali Jwated         | Director                                | DFEA Hama                 |
| Mr. Mahmoud Taleb      | Director                                | DFEA Idleb                |
| Ms. Raoufa Esper       | Director                                | DFEA Hasakeh              |
| Ms. Shamsa Aljaseem    | Director                                | DFEA Rakka                |
| Mr. Ref'at Khodr       | Deputy Director                         | DFEA Sweida               |
| Ms. Lama Harfoush      | Staff                                   | DFEA Tartous              |
| Mr. Ali Ramadan        | Staff                                   | DFEA Tartus               |
| Ms. Lama Ahmad         | Director                                | DFEA Lattakia             |
| Eng. Reham Agha        | Director                                | DFEA Deir ez Zor          |
| Mr. Hamzeh Soliman     | Director                                | DFEA Qunaitra             |

Japanese Side

| Name                 | Position    | Organization     |
|----------------------|-------------|------------------|
| Mr. Yoichi IWAI      | Leader      | JICA Expert Team |
| Mr. Shunsuke Sato    | Member      | JICA Expert Team |
| Dr. Rynan Matsue     | Member      | JICA Expert Team |
| Mr. Mohammed Doubosh | Interpreter | JICA Expert Team |
| Ms. Nada Kat         | Interpreter | JICA Expert Team |

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

Agenda for the 7th Technical Committee**1. Date and Venue:**

- March 1 (Wed), 11:00-13:50: at meeting room in GCEA

**2. Agenda**

- 1. Opening Statement**  
(by Dr. Akram, General Director, GCEA) 11:00-11:05
- 2. Presentation** (by the DFEAs of Hama) 11:05-11:35
  - 1) Summary of Monitoring Activities up to March 2006
  - 2) Problems and Difficulties on Monitoring Activities
- 3. Presentation: Networking between GCEA and DFEAs**  
(by Mr. Shaka) 11:35-11:50
- 4. Presentation** (by Dr. Adli) 11:45-12:00
  - 1) Results of Evaluation Survey
  - 2) Discussion 12:00-13:00
- 5. Presentation** (by the JICA Expert Team) 13:00-13:30
  - 1) Summary of the Progress Report-2
  - 2) Plan of Operation of the Project
- 6. Q and A** 13:30-13:50

End

**Minutes of Meeting**  
**On**  
**The 8th Technical Committee**  
**For**  
**The Capacity Development of Environmental Monitoring at Directorates**  
**For**  
**Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 18 May 2006

The 8th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 18 May, 2006 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by an opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri. Then, the following 5 themes were presented;

1. Summary of Environmental Monitoring Activities of DFEAs: by the JICA Expert Team,
2. Networking between GCEA and DFEAs: by Mr. Shaka Al-Soleman GCEA,
3. Plan of Operation of the Project up to September 2006: by the JICA Expert Team,
4. Mid-term Evaluation: by the JICA Expert Team, and
5. Confirmation Issues on the Operation of the Project: by the JICA Expert Team.

An attendant list and the agenda of the 8th T/C are attached per ANNEX-1 and ANNEX-2, respectively.


The followings are the issues discussed and commented upon in the 8th T/C meeting.

- (1) The General Director of GCEA, Dr. Akram S. Al Khouri, reminded to all attendants that the Project is substantial for MOLAE in the field of environmental monitoring, that the aggressive attitude of the attendants should give high incentives to the counterparts (C/P), and that all attendants in this meeting should commit to make the frontline staff achieve the target technical level. Dr. Akram S. Al Khouri also informed to the attendants that the National Committee of Public Awareness and Environmental Education has been preparing a national strategy and action plan of public awareness to be authorized by the Environmental Protection Council in Syria in May or June 2006, and MOLAE plans to demonstrate its activities including this Project in the Event for the International Environment Day (5 June, 2006) to be held in Dier ez Zor.

- (2) The Director of the Directorate for Environmental Affaires (DFEA) in Hama, Mr. Ali Jwaied, questioned how to deal with reagents expired, and when a wastewater treatment plant will be installed in the Damascus DFEA. The General Director of GCEA, Dr. Akram S. Al Khouri, replied that DFEA should replace the reagents expired using the budget provided, and DFEA is required to conduct proper reagent management to avoid such wastes. Dr. Akram S. Al Khouri also answered that GCEA currently proposed to the Minister of MOLAE and the Governor of Damascus to install the wastewater treatment plant as soon as possible by using a special fund allocated to the Damascus Governorate.

- (3) The Laboratory Chief of DFEA in Sweida, Ms. Omayma Al-Shaar, questioned how to deal with solid wastes of the laboratory such as capsules of reagents. The General Director of GCEA, Dr. Akram S. Al Khouri, replied that such solid wastes should be collected and stored in DFEA,

Dr. Akram S. Al Khouri  
General Director  
General Commission for Environmental  
Affaires

  
Mr. Yoichi Iwai  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

and should be dumped to a managed public dumping site.

- (4) The Laboratory Chief of DFEA in Aleppo, Mr. Ahmad Ahmad questioned about a possibility of preparation of standard solution by the lab staff themselves, more training for a mobile lab provided by GCEA, and a supplement of lab staff. The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, replied that the preparation of standard solution could be possible and the JICA Expert Team will train it to the lab staff for saving expenses. Mr. Yoichi Iwai, also answered that the JICA Expert Team will train the mobile lab and other equipment provided by GCEA apart from the Project, but there could be some limitation because of relatively high priority to fulfill TOR given by the JICA Headquarters. The General Director of GCEA, Dr. Akram S. Al Khouri, answered that the DFEA in Aleppo has received more five staff and it would be enough for the time being.
- (5) In line with the questions related to the shortage DFEA staff, the Director of DFEA in Hasakel, Ms. Raafia Esper, and the Laboratory Chief of DFEA in Quneitra, Mr. Majed Zeton, requested to GCEA to supplement enough number of staff with chemical background. The General Director of GCEA, Dr. Akram S. Al Khouri, explained GCEA's effort to satisfy such requests from DFEAs.
- (6) The Director of DFEA in Idleb, Ms. Jomana Hasan, requested the JICA Expert Team to cover expenses for lab equipment O/M and to advise her how to use the annual budget for the environmental monitoring. The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, replied that the expenses for lab equipment O/M should be covered by the Syrian side, so JICA can not cover them, and that the JICA Expert Team will advise how to use the annual budget.
- (7) The Director of DFEA in Hama, Mr. Ali Jwaied, and the Laboratory Chief of DFEA in Lattakia, Ms. Amal Merhge, requested to the JICA Expert Team to check conditions of equipment provided by JICA such as pH meter. The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, answered to dispatch a member of the Team or our local expert to check the equipment having troubles.
- (8) The Laboratory Chief of DFEA in Sweida, Ms. Omayna Al-Shaar, asked GCEA about a possibility to issue the analysis data of springs requested by the Water Establishment in Sweida. The General Director of GCEA, Dr. Akram S. Al Khouri, replied that it is possible to send the analysis data to the Water Establishment in Sweida with a letter.
- (9) The staff of the Directorate of Laboratories in GCEA, Ms. Kozama Abo Saab, questioned about roles of GCEA to the Project. The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, explained that the concerned departments of the Project widely range for Directorate of

Laboratories, Directorate of Air Safety, Directorate of Water Safety, Directorate of Public Awareness, and Information Unit in GCEA, so the General Director of GCEA is appointed as the Project Director. Mr. Yoichi Iwai also presented the following roles of GCEA to the Project showing an additional slide.

- 1) Coordinating activities of the Project for DFEAs,
- 2) Check and management of the Project (Progress and Achievement),
- 3) Solutions of difficulties confronted to C/P, lab O/M, and budget in DFEAs,
- 4) Data management and Communication with DFEAs, and
- 5) Data Compilation and publication, and sharing among stakeholders.

- (10) The Deputy Director of DFEA in Damascus, Ms. Wadiea Joha, requested to the JICA Expert Team a support for preparation of detail specification of the wastewater treatment plant, and for activation of public awareness and environmental education. The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, agreed to conduct further supports requested. Mr. Yoichi Iwai proposed Ms. Wadiea Joha to share the experiences of the Damascus DFEA related to public awareness and environmental education including a study tour to Jordan among GCEA and DFEAs. Ms. Wadiea Joha agreed with this proposal.

List of Attendants  
The 8th Technical Committee

Syrian Side

| Name                    | Position                                    | Organization              |
|-------------------------|---|---------------------------|
| Dr. Akram S. Al-Khourri | General Director                            | GCEA                      |
| Dr. Yasin Mostafa       | Director of Directorate of Laboratories,    | GCEA                      |
| Dr. Nader Ghazi         | Director of Directorate of Public Awareness | GCEA                      |
| Ms. Reem Abed Rabbooh   | Director of Directorate of Water Safety     | GCEA                      |
| Mr. Shaka Alsoleman     | Head of information unit                    | GCEA                      |
| Mr. Fadi Alawad         | Staff of information unit                   | GCEA                      |
| Ms. Najah Alhamwvi      | Staff of Air Safety Directorate             | GCEA                      |
| Ms. Fathia Mohammed     | Staff of Directorate of Laboratories        | GCEA                      |
| Ms. Kholzama Abo Saab   | Staff of Directorate of Laboratories        | GCEA                      |
| Mr. Mohammad Younes     | Staff of Directorate of Laboratories        | GCEA                      |
| Ms. Wadiah John         | Deputy Director                             | DFEA Damascus             |
| Ms. Reem Sadder Aldeen  | Laboratory chief                            | DFEA Damascus             |
| Mr. Ahmad Ahmad         | Laboratory chief                            | DFEA Aleppo               |
| Ms. Mouna Al-Jomaa      | Laboratory Chief                            | DFEA Damascus Countryside |
| Mr. Ali Jwated          | Director                                    | DFEA Hama                 |
| Ms. Jomana Hasan        | Director                                    | DFEA Idlib                |
| Ms. Raefifa Esper       | Director                                    | DFEA Hasakeh              |
| Ms. Shamsa Aljaseem     | Director                                    | DFEA Rakka                |
| Ms. Omayma Al-shaar     | Laboratory Chief                            | DFEA Sweida               |
| Mr. Zead Sakr           | Staff in laboratory                         | DFEA Tartus               |
| Ms. Fatma Al-hariri     | Director                                    | DFEA Dara'a               |
| Ms. Amal Merhige        | Laboratory Chief                            | DFEA Latakia              |
| Eng. Reham Aga          | Director                                    | DFEA Deir ez Zor          |
| Mr. Majed Zeton         | Laboratory Chief                            | DFEA Qunaitra             |

Japanese Side

| Name                  | Position                                       | Organization      |
|-----------------------|--|-------------------|
| Ms. Yomiko Honda      | Project formulation Advisor                    | JICA Syria Office |
| Ms. Marah Morad       | Program officer, Health and Environment Sector | JICA Syria Office |
| Mr. Yoichi IWAI       | Leader   | JICA Expert Team  |
| Mr. Shunsuke Sato     | Member   | JICA Expert Team  |
| Mr. Keiichi Takahashi | Member   | JICA Expert Team  |
| Mr. Mohammed Douboosh | Interpreter                                    | JICA Expert Team  |
| Mr. Wasim Kabbesh     | Interpreter                                    | JICA Expert Team  |

**The Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates**

Agenda for the 8th Technical Committee

1. Date and Venue:  
- May 18(Thr), 11:30-13:30: at meeting room in GCEA
2. Agenda
  1. Opening Statement  
(by Dr. Akram, General Director, GCEA) 11:30-11:35
  2. Presentation (by the JICA Expert Team) 11:35-11:45
    - 1) Summary of Monitoring Activities up to May 2006
    - 2) Problems and Difficulties on Monitoring Activities
  3. Presentation: Networking between GCEA and DFEAs  
(by Mr. Shaka, GCEA) 11:45-12:00
  4. Presentation (by the JICA Expert Team) 12:00-12:30
    - 1) Training Schedule up to Sept. 2006
      - Follow-up of the basic analysis
      - Chemical and biological analysis
      - Air quality analysis
      - Data management
      - Public awareness
    - 2) Equipment Procurement
      - Air quality equip
      - Atomic Absorption Spectrophotometer
    - 3) Mid-term Evaluation
      - Date and mission members
      - Purpose and evaluation points
      - Major activities of the mission
    - 4) Confirmation
      - Lab wastewater treatment plant
      - Syrian side responsibility of consumables and Lab O/M
      - Responsibility of DAM DFEA as the central lab to other DFEAs
5. Q and A 12:30-13:20
6. Closing Remarks  
(by Dr. Akram, Director General, GCEA) 13:20-13:30

End

**Minutes of Meeting  
On  
The 9th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 22 June 2006

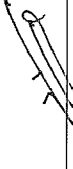
The 9th Technical Committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 22nd June, 2006 at the Director Room in the Directorate for Environmental Affairs (DFEA) in Damascus. The principal objective of the 9th T/C is to discuss the draft technical specifications for the atomic absorption spectrophotometer (AAS) to be procured by JICA in 2006 and to get agreement with the General Commission for Environmental Affairs (GCEA), the Damascus DFEA and the JICA Expert Team (JET).

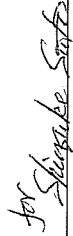
After the opening statement by the Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'lla, the JET, Mr. Koji Kimura, explained the outline of the draft specifications of the AAS. After the series of discussion, the GCEA, the DFEA and the JET attended to the 9th T/C reached to the agreement on the draft technical specifications.

An attendant list of the 9th T/C and the technical specifications prepared by the JICA Expert Team are attached per ANNEX-1 and ANNEX-2

The followings are the issues discussed in the 9th T/C meeting.

- (1) In the first place, the Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'lla, questioned to the JET that whether the AAS to be purchased was equipped with hydride generation unit. The JET, Mr. Koji Kimura, replied that the AAS to be purchased is equipped with the hydride generation unit and mentioned in the draft specifications.
- (2) The Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'lla, questioned about the performance of the AAS. The JET, Mr. Koji Kimura, replied that the AAS to be purchased was equipped with the Furnace and the Flame to analyze both low concentration and high concentration as mentioned in the draft specifications.
- (3) The Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'lla, also questioned about the possibility of purchasing of additional lumps to analyze the elements in samples of soil, food, etc. except the elements mentioned in the specifications. The JET, Mr. Koji Kimura, replied that the AAS to be purchased might analyze the metals in soil, food, etc. in general because the analysis methods for metals in soil, food, etc. were basically similar to that of water. However, the pretreatment methods are quite different with each other. The specifications is specifying to analyze the water samples. In relation to analysis of additional elements, the JET, Mr. Koji Kimura, replied that the additional lumps would be required for the analysis of additional elements. The JET, Mr. Shinsuke Sato, supplementary explained that the specifications were prepared based on the Record of Discussion (R/D) agreed between the Syrian side and JICA on September 9, 2004. The R/D limited the analysis of water samples and specified metals. Therefore, the soil samples and additional element to be analyzed mentioned

  
Dr. Yoram S. Al-Khoury  
General Director  
General Commission for Environmental  
Affaires

  
Mr. Yoichi Iwai  
Team Leader  
The Expert Team  
Japan International Cooperation Agency



by Dr. Yasin Moa'ila could not be included in the specifications at this moment. Mr. Shinsuke Sato suggested that any request for further assistance from JICA not described in R/D should be discussed and agreed in the Steering Committee (St/C) of the Project at first. Dr. Yasin Moa'ila understood this answer.

(4) Dr. Al Muthanna, the staff of laboratory of Damascus asked the name of manufacturer of AAS that the JET had investigated this time. The JET, Mr. Koji Kimura, answered that investigation had made concerning three manufacturers, namely Analytica Jeana, Shimadzu and Varian. Dr. Al Muthanna suggested that the manufacturer of AAS should be selected that could serve sufficient after-sale maintenance. The JET acknowledged this, and Mr. Shinsuke Sato replied that a clause of after-sale maintenance was involved in the specifications.

(5) The Director of Damascus DFEA, Mr. Bassam Khairbek, questioned about the reason of the selection of three manufacturers. The JET, Mr. Koji Kimura, answered that as a result of the investigation of the status of AASs in Syria in eight organizations and laboratories equipped with AAS, the JET selected three manufacturers that could meet the specifications prepared by the JET. The Director of Damascus DFEA, Mr. Bassam Khairbek understood this answer.

(6) The Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'ila questioned about the maintenance period after the initial installation by the supplier. The JET, Shinsuke Sato, replied that, as mentioned in the specifications, the supplier was obligated to serve the maintenance for one year after the installation. The Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'ila requested that the maintenance period after the installation should be extended to five years. The JET, Shinsuke Sato, answered that the AAS should be maintained by the Damascus DFEA from the second year onward after the installation of the AAS. Dr. Yasin Moa'ila understood this and expressed that the maintenance from the second year after the installation of the AAS would be conducted by the Damascus DFEA by their own expense. Dr. Yasin Moa'ila also requested that the clause of the continuation of the maintenance from the second year should be mentioned in the specifications for the execution of maintenance by the Damascus DFEA. The JET, Shinsuke Sato, agreed with this.

(7) The Director of Damascus DFEA, Mr. Bassam Khairbek, questioned about the level of the AAS that would be installed in the laboratory of the Damascus DFEA comparing with other laboratories that equipped with AASs. The JET, Mr. Koji Kimura, answered that the existing AASs in Syria were not necessarily utilized to the full extent in terms of performance and accuracy due to mainly the lack of the knowledge and the skill for the pretreatment of samples. The JET, Mr. Koji Kimura, also answered that the draft specifications prepared by the JET included the glassware and reagents to be required for the pretreatment of water samples for the analysis by using the AAS. Mr. Bassam Khairbek understood this answer.

(8) The Director of Damascus DFEA, Mr. Bassam Khairbek, questioned about the procurement



Sato

schedule and the warranty period of the AAS to be purchased by JICA. The JET, Mr. Shinsuke Sato, answered that JICA would tender for the AAS on August 2006 based on the information submitted by the JET, and the AAS would be delivered and installed in the Damascus DFEA on November. The JET, Mr. Koji Kimura, answered that the warranty period would be one year after the installation of the AAS in the Damascus DFEA. Mr. Bassam Khairbek understood this answer.

(9) The Director of Damascus DFEA, Mr. Bassam Khairbek, questioned about the training for the AAS. The JET, Mr. Koji Kimura, replied that the JET would start the training for the AAS after the installation of the AAS in the Damascus DFEA. Mr. Bassam Khairbek also questioned about the number of trainees that could participate in the training. The JET, Mr. Shinsuke Sato, answered that the number of the trainees to be participated in the training would not be limited, and the JET could accept the C/P personnel from other DFEAs for the trainees.

Sato

List of Attendants

## ANNEX-2

Syrian Side

| Name                      | Position                                      |
|---------------------------|---|
| Dr. Yasin Ma'alla         | Director of Directorate of Laboratories, GCEA |
| Eng. Bassam Khairbek      | Director of Damascus DFEA                     |
| Eng. Wadia a. Jeha Khouri | Deputy Director of Damascus DFEA              |
| Eng. Khozama Abo Saab     | Staff, Directorate of Laboratories, GCEA      |
| Dr. Almutianna Ghanem     | Staff, Damascus DFEA                          |
| Ms. Reem Sadr Eddin       | Staff, Damascus DFEA                          |

Japanese Side

| Name                   | Position                      |
|------------------------|-------------------------------|
| Mr. Shunsuke Sato      | Member, JICA Expert Team      |
| Mr. Koji Kimura        | Member, JICA Expert Team      |
| Mr. Keiich Takahashi   | Member, JICA Expert Team      |
| Mr. Mohammed Alhoubosh | Interpreter, JICA Expert Team |
| Mr. Wasim Kabbesh      | Interpreter, JICA Expert Team |

## EQUIPMENT PROCURED IN THE FISCAL YEAR OF 2006

**DRAFT SPECIFICATION  
FOR  
ATOMIC ABSORPTION SPECTROPHOTOMETER**

Quotation Table for Atomic Absorption Spectrophotometer for JICA

Agency : \_\_\_\_\_ Name of AAS : \_\_\_\_\_

Additional information should be attached separately. Do not change the format.

| Item No. | Name of equipment  | Required technical specifications<br>( Alternatives are not admitted )  | Quantity | Unit Price<br>US Dollars<br>(DDU) | Sub Total<br>Price |
|----------|--|---|----------|-----------------------------------|--------------------|
| 1        | Atomic Absorption Spectrophotometer<br><br>( to be continued ) | <p>◇ A complete atomic absorption spectrophotometer set</p> <p>Flame – flameless atomizer unit switching<br/>: automatic ( semi or fully )<br/>or not necessary to switch at all<br/>Beam quantity : single / double<br/>Wavelength range : 190-900nm or wider<br/>Background correction : Deuterium / Self Reverse / Zeeman</p> <p>•Lamp<br/>Lamp for correction should be equipped<br/>Number of Hollow Cathode Lamps set in the main machine : 6 or more</p> <p>•Software<br/>Measurement mode : both of flame and furnace<br/>Method : calibration curve method<br/>standard addition method<br/>Drift correction : automatic (PC controlled)<br/>Calculation : final concentrations from sample volumes and other factors</p> <p>•Burner unit<br/>Burner head : standard head for C2H2-air, Qty ( 1 )<br/>Burner head : high temperature head for N2O-C2H2, Qty ( 1 )<br/>Nebulizer : Pt-Ir capillary with Teflon orifice, Qty ( 1 )<br/>Chamber : polypropylene / polyethylene / Teflon, Qty ( 1 )<br/>Positioning : Automatic (fully or semi) flame – furnace switching and searching optimum alignment of burner or beam<br/>( if necessary to switch flame – furnace atomizer unit)</p> <p>•Gas flow rate / pressure control<br/>Automatic (PC controlled)</p> | 1 set    |                                   |                    |

1/6

| Item No. | Name of equipment                                    | Required technical specifications  | Quantity | Unit Price | Sub Total |
|----------|--|--|----------|------------|-----------|
| (1)      | Atomic Absorption Spectrophotometer<br>( continued ) | <p>• Graphite furnace unit<br/>Drying : digital current control and/or infrared<br/>Ashing and atomization : digital temperature control<br/>Heating temperature : ambient to 2000°C or more<br/>Inner gas flow rate : 0 to 1.5 L/min or more<br/>Graphite tube : High-density / high-density pyro-coated graphite tube, Qty ( 15 )<br/>Platform tube, Qty ( 15 )</p> <p>• Operating manual in English</p> <p>• Power source : AC220V 50Hz (single phase) C-type plug</p>  |          |            |           |
| 2        | Spare parts  | <p>◇ Spare parts and consumables provided initially (attach a breakdown)</p> <p>Required by measurement for more than 1 year<br/>Required by measurement for more than 1000 samples</p>  | 1 set    |            |           |
| 3        | Auto sampler   | <p>◇ Automatic sampler</p> <p>Automatic sampler for flame and furnace system<br/>Functions<br/>Flame : auto rinse, random access<br/>Furnace : auto rinse, random access, auto dilution, auto reagent addition<br/>for calibration curve<br/>Max. positions : 60 or more positions for samples for both flame and furnace<br/>Vials or other vessels suitable for automatic samplers<br/>Vials for flame : Qty ( more than the numbers of positions of the sampler )<br/>Vials for furnace : Qty ( more than the numbers of positions of the sampler )<br/>Solvent container : more than 1000mL<br/>Sample syringe, pump or injection<br/>Flame : injection volume 2 to 200 µL or wider / pump ( without limit )<br/>Furnace : syringe with max. suction volume of 20 µL or more</p> | 1 set    |            |           |
| 4        | PC, etc  | <p>◇ PC set</p> <p>OS : Officially licensed MS-Windows XP (English version) , Qty ( 1 )<br/>Monitor : 15 inch-size or larger, Qty ( 1 )<br/>Printer : A4 laser printer which is suitable to print required information, Qty ( 1 )<br/>On-line UPS for PC : working for 10 minute or more while electrical power failure,<br/>Qty ( 1 )</p>   | 1 set    |            |           |

2/6

| Item No. | Name of equipment           | Required technical specifications  | Quantity | Unit Price | Sub Total |
|----------|-----------------------------|--|----------|------------|-----------|
| 5        | Equipment for As, Sb and Hg | ◇ Special equipment for As, Sb and Hg  | 1 set    |            |           |
|          |                             | Hydride vapor generator unit for analysis of :<br>As (quantitation limit must be less than 1 μg/L)<br>Sb (quantitation limit must be less than 2 μg/L)<br>Hg (quantitation limit must be less than 0.5 μg/L)<br>Nozzle assembly<br>Absorption cell, Qty ( 2 )<br>Cell holder<br>Suitable bottles for reagents<br>note: quantitation limits = detection limits × 10/3   |          |            |           |
| 6        | Equipment for Hg            | ◇ Special equipment for Hg   | 1 set    |            |           |
|          |                             | (if necessary besides above mentioned hydride vapor generator)<br>Mercury vaporizer unit for analysis of :<br>Hg (quantitation limit must be less than 0.5 μg/L)<br>Nozzle assembly (including rubber stopper with a straight glass frit having a coarse porosity)<br><br>Gas-flow cell<br>Cell holder<br>Drainage container with stopping<br>Reaction flask suitable to the assembly ( the rubber stopper ), Qty ( 30 ) |          |            |           |
| 7        | Air compressor              | ◇ Low Noise Air compressor   | 1 set    |            |           |
|          |                             | Mist (oil) separator   |          |            |           |
| 8        | Cooling unit                | ◇ Cooling water circulator   | 1 set    |            |           |
|          |                             | Nozzle assembly with connection kit for graphite furnace<br>Suitable for operating graphite furnace method   |          |            |           |

3/6

| Item No.    | Name of equipment | Required technical specifications      | Quantity | Unit Price | Sub Total |
|-------------|-------------------|--|----------|------------|-----------|
| 9           | Lamp              | ◇ Hollow cathode lamp for each element |          |            |           |
|             |                   | lamp for Ag                            | 1        |            |           |
|             |                   | lamp for Al                            | 1        |            |           |
|             |                   | lamp for As                            | 1        |            |           |
|             |                   | lamp for Ba                            | 1        |            |           |
|             |                   | lamp for Be                            | 1        |            |           |
|             |                   | lamp for Cd                            | 1        |            |           |
|             |                   | lamp for Cr                            | 1        |            |           |
|             |                   | lamp for Cu                            | 1        |            |           |
|             |                   | lamp for Fe                            | 1        |            |           |
|             |                   | lamp for Hg                            | 1        |            |           |
|             |                   | lamp for Mn                            | 1        |            |           |
|             |                   | lamp for Ni                            | 1        |            |           |
|             |                   | lamp for Pb                            | 1        |            |           |
|             |                   | lamp for Sb                            | 1        |            |           |
| lamp for Zn | 1                 |  |          |            |           |
|             | Sub total         |  |          |            |           |

4/6

| Item No.  | Name of equipment | Required technical specifications   | Quantity | Unit Price | Sub Total |
|-----------|-------------------|---|----------|------------|-----------|
| 10        | Freight, etc.     | ◇ Freight   | 1 set    |            |           |
|           |                   | ◇ Customs duty ( excluded )<br>( Imported products should be delivered into the Tax-Free Zone in the airport )  |          |            |           |
|           |                   | ◇ Customs clearance<br>( Shipping from the manufacturer should be reported immediately to JICA Syria Office for quick procedure )   | 1 set    |            |           |
|           |                   | ◇ Installation<br>To the laboratory on the 2nd floor without lifts<br>( Installation should be completed within 3 month since the order )   | 1 set    |            |           |
|           |                   | Sub total   |          |            |           |
| 11        | Training          | ◇ Training  | 1 set    |            |           |
|           |                   | Initial training on site should be provided by engineers from the manufacture or authorized dealer (supplier) for 5 consecutive or separate days set by JICA Expert Team (5 days excluding installation)                      |          |            |           |
| 12        | Maintenance       | ◇ Periodical maintenance for the first year<br>See attachment 1   | 1 set    |            |           |
|           |                   | ◇ Periodical maintenance for the 2nd - 5th year ( obligation )  | 4 sets   |            | excluded  |
|           |                   | See attachment 1, The fee mentioned here can not be raised for these 4 years. The contents and frequency of the maintenance can not be increased. This fee is not going to be included in the total price for this quotation. |          |            |           |
|           |                   | Sub total   |          |            |           |
| 13        | Gas supply        | ◇ Gas cylinder  |          |            |           |
|           |                   | acetylene   | 2        |            |           |
|           |                   | nitrous oxide   | 2        |            |           |
|           |                   | argon   | 2        |            |           |
|           |                   | ◇ Heater for nitrous oxide  | 1        |            |           |
|           |                   | ◇ Regulator   | 3        |            |           |
|           |                   | ◇ Gas pipe  | 1 set    |            |           |
|           |                   | Stainless pipes including installation (see attachment 2)   |          |            |           |
| Sub total |                   |   |          |            |           |

5/6

| Item No.   | Name of equipment  | Required technical specifications   | Quantity | Unit Price | Sub Total |
|--|--------------------|---|----------|------------|-----------|
| 14   | Fume hood          | ◇ A stainless fume hood with ventilator including installation (see attachment 3) | 1 set    |            |           |
| 15   | Standard solutions | ◇ Standards (1000mg/L, 500mL or more)   |          |            |           |
|  |                    | Standard solution for Ag  | 1        |            |           |
|  |                    | Standard solution for Al  | 1        |            |           |
|  |                    | Standard solution for As  | 1        |            |           |
|  |                    | Standard solution for Ba  | 1        |            |           |
|  |                    | Standard solution for Be  | 1        |            |           |
|  |                    | Standard solution for Cd  | 1        |            |           |
|  |                    | Standard solution for Cr  | 1        |            |           |
|  |                    | Standard solution for Cu  | 1        |            |           |
|  |                    | Standard solution for Fe  | 1        |            |           |
|  |                    | Standard solution for Hg  | 1        |            |           |
|  |                    | Standard solution for Mn  | 1        |            |           |
|  |                    | Standard solution for Ni  | 1        |            |           |
|  |                    | Standard solution for Pb  | 1        |            |           |
|  |                    | Standard solution for Sb  | 1        |            |           |
| Standard solution for Zn   | 1                  |   |          |            |           |
| Sub total  |                    |   |          |            |           |
| 16   | Matrix modifier    | ◇ Matrix modifier ( Suitable concentration, 100mL or more)                        |          |            |           |
|  |                    | Pd(NO <sub>3</sub> ) <sub>2</sub>   | 1        |            |           |
|  |                    | Mg(NO <sub>3</sub> ) <sub>2</sub>   | 1        |            |           |
|  |                    | CaCl <sub>2</sub>   | 1        |            |           |
| Sub total  |                    |   |          |            |           |
| Warranty : All machineries and accessories mentioned above ( excluding spare parts and consumables ) must be guaranteed for 1 year after installation. |                    |   |          |            |           |
| Total Price (DDU)  |                    |   |          |            |           |

6/6

## Attachment 1 : Periodical maintenance

The supplier shall be required to maintain the instrument with accessories considering analyzed results periodically within each period set by JICA Expert Team. The frequency of periodical maintenance should be 5 times per year. The specific dates should be set through consultation between the supplier and JICA Expert Team or the Damascus DFEA.

Every maintenance activity should be done with the laboratory personnel to be in attendance. The supplier should explain what they do for maintenance to the laboratory personnel and cooperate to help improving technology transfer to the laboratory personnel.

The supplier must report every maintenance activity by documents to with certain format prepared by JICA Expert Team.

Periodical maintenance does not contain extraordinary maintenance required in case of emergency.

The whole period of the periodical maintenance described here is one year. However, the periodical maintenance must be continued for 5 years in all. The conditions ( frequency, contents, maintenance fee, etc. ) of the periodical maintenance after one year can be decreased through consultation between the supplier and the Damascus DFEA.

The maintenance after one year should be done on the Damascus DFEA's expense.

Consumables required in all periodical maintenance should be provided at the Damascus DFEA's expense.

The supplier should provide necessary equipment, spare parts and consumables suitably for 5 years at least.

## Component 1 : Regular maintenance

The supplier shall be required to check items as follows at each time of regular maintenance. The frequency of regular maintenance should be 5 times per year ( every time of the periodical maintenance).

The values as criteria mentioned below should be set by JICA Expert Team in the period between the introduction of the instrument and the first periodical maintenance.

## 1) General maintenance

The supplier should confirm that the instrument with all accessories are in good condition available for each analysis. If they are not, the supplier should deal with the problem and report the result to the laboratory side by means of methods including the contents of the periodical inspection described in Component 2.  
The supplier should provide the consumables enough for operations until the next maintenance at least.

## 2) Confirmation of linearity of calibration curves

The supplier should check all calibration curves obtained from analyses after the previous maintenance.  
The supplier should confirm that the value of correlation coefficient of each calibration curve satisfy a certain value as a criterion. If they don't, the supplier should deal with the problem and report the result to the laboratory side.

## 3) Confirmation of stability of absorbance ( each )

The supplier should confirm that the difference between a value of peak area or height of absorbance of an analysis and one of the previous analysis is not larger than a certain value as a criterion. If it is, the supplier should deal with the problem and report the result to the laboratory side.

The target values should be from the largest concentrations of calibration curves ( standards ) for different analyses of the same element.

## 4) Confirmation of stability of absorbance ( whole )

The supplier should confirm that the %RSD ( CV ) of values of peak area or height of absorbance of all analyses within one year is not larger than a certain value as a criterion. If it is, the supplier should deal with the problem and report the result to the laboratory side.

The target values should be from the largest concentrations of calibration curves ( standards ) for all analyses of the same element within one year.

## Component 2 : Periodical inspection

The supplier shall be required to inspect in accordance with the methods authorized by the manufacturer 2 times per year ( approximately once per six months ). Periodical inspection should be done with 2 out of 5 regular maintenance. The inspection should include contents as follows at least.

## 1) Burner maintenance

- Cleaning the burner head
- Cleaning the nebulizer and the tube ( the tube should be replaced as necessary )
- Cleaning the chamber

## 2) Furnace maintenance

- Cleaning graphite cap, holder and other related accessories
- Cleaning the temperature sensor
- Cleaning the graphite tube ( should be replaced as necessary )

## 3) Atomizer positioning adjustment

- Burner positioning adjustment
- Furnace positioning adjustment

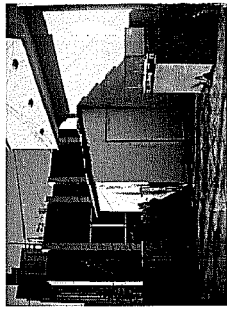
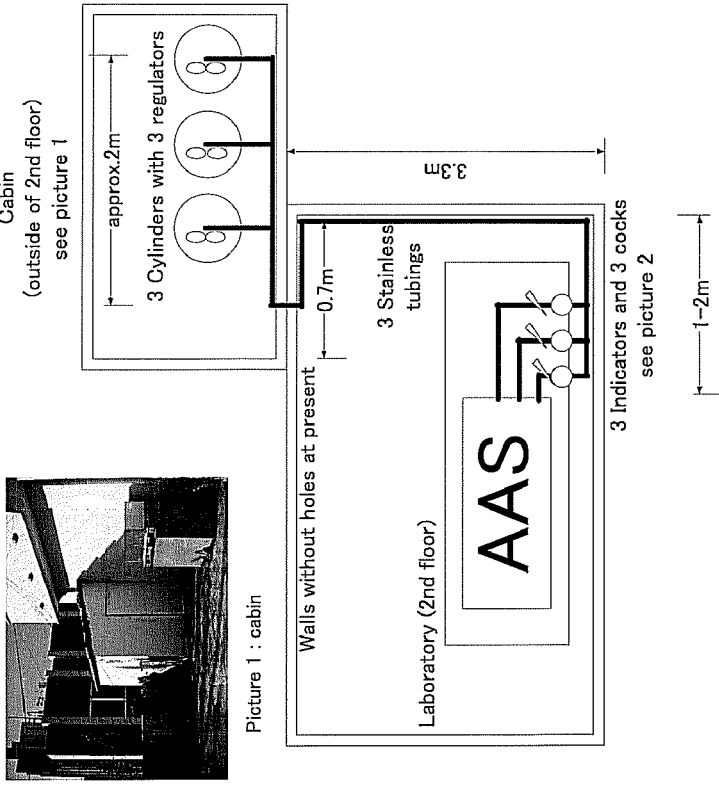
## 4) Replacing the deuterium lamp as necessary

## 5) Checking for gas leaks in tubing

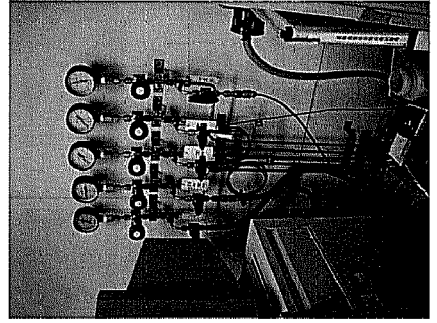
S/76

S/76

Attachment 2 : Rough sketch for gas pipes

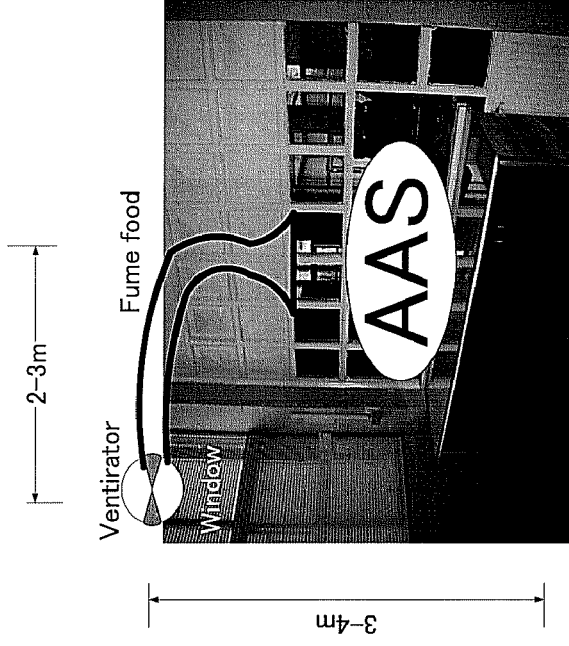


Picture 2 : Example of indicators and cocks

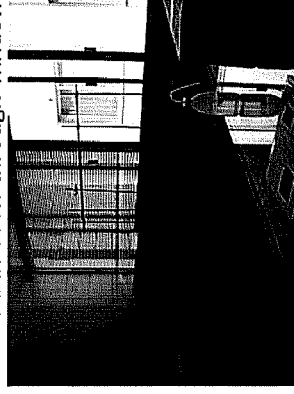


Sabo

Attachment 3 : Rough sketch for a fume hood



cabin seen through window



lab table for AAS

Picture 3 : Lab for AAS

Sabo

Quotation Table for metals analysis apparatus for JICA

Agency : \_\_\_\_\_

| No. | Name             | Specification   | Spec Note | Unit price (US\$) | Qty | Sub total |
|-----|------------------|---|-----------|-------------------|-----|-----------|
| 1   | Beaker           | Glass, Griffin squat form, 100mL  |           |                   | 60  |           |
|     |                  | Glass, Griffin squat form, 150mL  |           |                   | 30  |           |
|     |                  | PTFE, Griffin squat form, 100mL   |           |                   | 40  |           |
|     |                  | Polypropylene, Griffin squat form, 500-600mL  |           |                   | 10  |           |
| 2   | Bottle           | Polypropylene or HDPE, white, screw closure (leak-proof), rectangle, with handle, 20L   |           |                   | 4   |           |
|     |                  | Polypropylene or HDPE, white, screw closure (leak-proof), wide neck,  |           |                   | 200 |           |
|     |                  | Polypropylene or HDPE, white, screw closure (leak-proof), wide neck,  |           |                   | 30  |           |
|     |                  | Polypropylene or HDPE, white, round-shaped, screw closure (leak-proof), 1000mL  |           |                   | 500 |           |
|     |                  | Polypropylene or HDPE, white, round-shaped, screw closure (leak-proof),   |           |                   | 20  |           |
| 3   | Brush            | φ 10 to 12 mm   |           |                   | 10  |           |
|     |                  | φ 16 to 25 mm   |           |                   | 10  |           |
| 4   | Bucket           | Polypropylene or HDPE, with pouring spout and rigid handle  |           |                   | 3   |           |
|     |                  | Polypropylene or HDPE, rectangular shape, 250 * 180 * 150 mm or larger in total   |           |                   | 3   |           |
| 5   | Cylinder         | Glass, spouted, 50mL, grads. 1mL, tolerance ±0.25mL   |           |                   | 4   |           |
|     |                  | Glass, spouted, 100mL, grads. 1mL, tolerance ±0.5mL   |           |                   | 4   |           |
|     |                  | Glass, joint and stopper, 100mL, grads. 1mL   |           |                   | 30  |           |
| 6   | Eye protection   | Polycarbonate, with clear lenses, browguard and hinged sidearms, can be worn over spectacles, large                                       |           |                   | 2   |           |
|     |                  | Polycarbonate, with clear lenses, browguard and hinged sidearms, can be worn over spectacles, medium                                      |           |                   | 3   |           |
| 7   | Face mask        | Disposable, with metal nose piece, standard sized   |           |                   | 200 |           |
| 8   | Filtration paper | Cellulose, pore size 2.7um or similar, φ 90-110mm, hardened (high wet strength and chemical resistance), ashless (<0.01%ash), 100pcs/pack |           |                   | 4   |           |
|     |                  | Cellulose, pore size 8um or similar, φ 90-110mm, hardened (high wet strength and chemical resistance), ashless (<0.01%ash), 100pcs/pack   |           |                   | 2   |           |
|     |                  | Cellulose, pore size >10um, 460*570mm or similar, cellulose,  |           |                   | 200 |           |

1 of 3

|                                   |                      |  |        |                                  |    |  |
|-----------------------------------|----------------------|--|--------|----------------------------------|----|--|
| 9                                 | Flask                | Glass, Erlenmeyer, wide neck, graduated, 250mL, clear  |        |                                  | 30 |  |
|                                   |                      | Glass, Erlenmeyer, narrow neck, graduated, 300mL, clear, stoppered or screw cap  |        |                                  | 3  |  |
|                                   |                      | Glass, volumetric, 50mL, tolerance ±0.06mL or better, clear, joint and stopper   |        |                                  | 10 |  |
|                                   |                      | Glass, volumetric, 100mL, tolerance ±0.1mL or better, clear, joint and stopper   |        |                                  | 40 |  |
|                                   |                      | Glass, volumetric, 200mL, tolerance ±0.15mL or better, clear, joint and stopper  |        |                                  | 6  |  |
|                                   |                      | Glass, volumetric, 500mL, tolerance ±0.25mL or better, clear, joint and stopper  |        |                                  | 10 |  |
|                                   |                      | Glass, volumetric, 1000mL, tolerance ±0.4mL or better, clear, joint and stopper  |        |                                  | 3  |  |
|                                   |                      | Polymethylpentane or polypropylene, volumetric, 100mL, limit of error 0.16mL or better, clear or half-clear, joint and stopper |        |                                  | 20 |  |
|                                   |                      | 10   | Funnel | Polypropylene, φ 60mm or similar |    |  |
| Polypropylene, φ 150mm or similar |                      |  |        |                                  | 5  |  |
| 11                                | Glove                | Polyethylene, disposable, textured surface, non-sterile, medium,   |        |                                  | 3  |  |
|                                   |                      | Latex, disposable, examination, lightly powdered or powder free, non-sterile, medium, 100pcs/pack                              |        |                                  | 5  |  |
|                                   |                      | Neoprene, long (elbow-length), acid resistant, abrasion and puncture resistant, large  |        |                                  | 2  |  |
| 12                                | Hot plate            | Ceramic, 200-250 * 200-250mm, with temperature control (ambient to 300°C or more)  |        |                                  | 3  |  |
| 13                                | Indicator paper (pH) | Dispenser reel, 5m long * 6mm wide or similar, with reference chart showing color changes. pH range 1-11 or wider              |        |                                  | 4  |  |
| 14                                | Label tape           | Paper, roll, self-adhesive, dimensions 24 * 12.5mm or similar, 100pcs/pack   |        |                                  | 20 |  |

2 of 3



|       |                   |  |  |  |    |  |
|-------|-------------------|--|--|--|----|--|
| 15    | Pipette           | Polyethylene, graduated, Pasteur, capacity 3-5mL, 500pcs/pack  |  |  | 1  |  |
|       |                   | Glass, graduated, 1mL, grads. 0.01mL, tolerance $\pm 0.006$ or better                                    |  |  | 4  |  |
|       |                   | Glass, graduated, 2mL, grads. 0.02mL, tolerance $\pm 0.01$ or better                                     |  |  | 6  |  |
|       |                   | Glass, graduated, 5mL, grads. 0.05mL, tolerance $\pm 0.03$ or better                                     |  |  | 6  |  |
|       |                   | Glass, graduated, 10mL, grads. 0.1mL, tolerance $\pm 0.05$ or better                                     |  |  | 6  |  |
|       |                   | Glass, graduated, 25mL, grads. 0.2mL, tolerance $\pm 0.1$ or better                                      |  |  | 4  |  |
|       |                   | Glass, one mark (whole), 1mL, tolerance $\pm 0.008$ mL or better   |  |  | 6  |  |
|       |                   | Glass, one mark (whole), 2mL, tolerance $\pm 0.01$ mL or better  |  |  | 4  |  |
|       |                   | Glass, one mark (whole), 5mL, tolerance $\pm 0.015$ mL or better   |  |  | 4  |  |
|       |                   | Glass, one mark (whole), 10mL, tolerance $\pm 0.02$ mL or better   |  |  | 4  |  |
|       |                   | Glass, one mark (whole), 20mL, tolerance $\pm 0.03$ mL or better   |  |  | 4  |  |
| 16    | Pipette filler    | Molded rubber bulb, approx. 60mL capacity, 3 glass ball valves, suitable for pipettes of 2-25mL or wider |  |  | 3  |  |
|       |                   | Plastic, capacity 0.5-2mL or wider, standard release speed   |  |  | 2  |  |
|       |                   | Plastic, capacity 2-10mL or wider, standard release speed  |  |  | 2  |  |
|       |                   | Plastic, capacity 10-25mL or wider, standard release speed   |  |  | 2  |  |
| 17    | Pipette jar       | Plastic, $\phi$ 80 height 420 (cylinder) or larger   |  |  | 2  |  |
| 18    | Pipette stand     | Plastic, horizontal, holding 6 or more   |  |  | 4  |  |
|       |                   | Plastic, vertical, holding 20 or more, for drying and storage  |  |  | 3  |  |
| 19    | Sealing film      | width 100mm length 30m or longer, can be enlarged as much as 10 or more times the original area          |  |  | 2  |  |
| 20    | Soak jar          | Plastic container, acid resistant, 50-80L  |  |  | 1  |  |
| 21    | Tray              | Plastic, shallow, 450 * 350 * 30 mm or similar   |  |  | 20 |  |
|       |                   | Plastic, rigid, 400 * 300 * 70 mm or similar   |  |  | 10 |  |
|       |                   | Plastic, rigid, 600 * 350 * 150 mm or similar, suitable for the soak jar                                 |  |  | 10 |  |
| 22    | Trolley           | Plastic or plastic coated, two or more shelves, with casters, 850(w) * 1000(d) * 850(h) mm or similar    |  |  | 2  |  |
| 23    | Wash bottle       | Polyethylene, narrow neck, leak-proof, with rinser tube, imported, 1000mL                                |  |  | 10 |  |
| 24    | Watch glass       | Glass, rigid, 65-75mm  |  |  | 40 |  |
|       |                   | PTFE, 65-75mm  |  |  | 40 |  |
| 25    | Freight           |  |  |  | 1  |  |
| 26    | Customs           | Customs duty, clearance are for imports. Delivery is to Damascus DFEA in                                 |  |  | 1  |  |
| 27    | Customs clearance | Jaubar. If these expenses are included in the prices mentioned above, write "0" to fill up .             |  |  | 1  |  |
| 28    | Delivery          |  |  |  | 1  |  |
| Total |                   |  |  |  |    |  |

3 of 3

### Quotation Table for metals analysis reagents for JICA

Agency : \_\_\_\_\_

| No.   | Name  | Specification   | Spec Note | Unit   | Quantity | Unit price (US\$) | Sub total |
|-------|---|---|-----------|--------|----------|-------------------|-----------|
| 1     | Nitric acid, HNO <sub>3</sub>   | solution, conc (65%), trace analysis grade                  |           | 2.5L   | 20L      |                   |           |
| 2     | Nitric acid, HNO <sub>3</sub>   | solution, 60%, lowest grade                                 |           | 2.5L   | 30L      |                   |           |
| 3     | Potassium permanganate, KMnO <sub>4</sub>   | extra pure / trace analysis grade                           |           | 500g   | 1,000g   |                   |           |
| 4     | Potassium persulfate, K <sub>2</sub> S <sub>2</sub> O <sub>8</sub>  | extra pure / trace analysis grade                           |           | 500g   | 500g     |                   |           |
| 5     | Sodium chloride, NaCl   | extra pure / trace analysis grade                           |           | 1,000g | 2,000g   |                   |           |
| 6     | Hydroxylamin sulfate (Hydroxylammonium sulfate), (NH <sub>2</sub> OH) <sub>2</sub> · H <sub>2</sub> SO <sub>4</sub> | analytical or reagent grade                                 |           | 250g   | 1,500g   |                   |           |
| 7     | Stannous chloride (Tin(II) chloride), SnCl <sub>2</sub>   | reagent or extra pure grade                                 |           | 1,000g | 1,000g   |                   |           |
| 8     | Stannous sulfate (Tin(II) sulfate), SnSO <sub>4</sub>   | reagent or extra pure grade                                 |           | 1,000g | 1,000g   |                   |           |
| 9     | Sulfuric acid, H <sub>2</sub> SO <sub>4</sub>   | solution, conc (95-98%), extra pure or trace analysis grade |           | 2.5L   | 5L       |                   |           |
| 10    | Manganese perchlorate, Mg(ClO <sub>4</sub> ) <sub>2</sub>   | lowest grade  |           | 1,000g | 1,000g   |                   |           |
| 11    | Hydrochloric acid, HCl  | solution, conc (37%), extra pure or trace analysis grade    |           | 2.5L   | 7.5L     |                   |           |
| 12    | Sodium borohydride, NaBH <sub>4</sub>   | analytical or trace metals grade                            |           | 100g   | 100g     |                   |           |
| 13    | Sodium hydroxide, NaOH  | pellets, analytical or extra pure grade                     |           | 1,000g | 1,000g   |                   |           |
| 14    | Sulfanilamide, C <sub>6</sub> H <sub>5</sub> N <sub>2</sub> SO <sub>2</sub>   | analytical or extra pure grade                              |           | 250g   | 250g     |                   |           |
| 15    | Freight   | Customs duty, clearance are for imports. Delivery is to     |           | 1 set  | -        |                   |           |
| 16    | Customs duty  | Damascus DFEA in Jaubar. If these expenses are              |           | 1 set  | -        |                   |           |
| 17    | Customs clearance   | included in the prices mentioned above, write "0" to fill   |           | 1 set  | -        |                   |           |
| 18    | Delivery  | up .  |           | 1 set  | -        |                   |           |
| Total |   |   |           |        |          |                   |           |

**Minutes of Meeting  
On  
The 10th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 20 August 2006

The 10th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 20 August, 2006 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by an opening statement by the General Director of GCEA, Dr. Akram S. Al Khoturi. Then, the following 3 themes were presented and shared among all attendants;

1. Brief Explanation of the Mid-term Evaluation: by Dr. Mitsuo Yoshida,
2. Presentation of Current Condition of DFEAs: by Director of each DFEA, and
3. General Comment: by the JICA Expert Team.

An attendant list and agenda of the 10th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

At first, the Team Leader of JICA Mid-term Evaluation Team, Dr. Mitsuo Yoshida, presented major findings concerning to achievement of the Project obtained from a series of interviews and field visits to GCEA and DFEAs. Key findings presented are as follows;

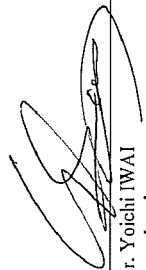
- a) Component-1:
  - Achievement level A and level B is 14 and 61 in total 88 lab staff in DFEAs,
  - On-site training is generally recommended,
  - Some problem on English-Arabic interpretation is found at Damascus DFEA, and
  - Lack of compensation system is one of obstacles for shortage of lab staff in DFEAs.
- b) Component-2:
  - Safety issues should be focused on lab management in DFEAs,
  - Insufficient running cost especially for fuel of cars for sampling activities is often found in DFEAs, and
  - Aleppo DFEA is facing difficulties for staff recruitment.
- c) Component-3:
  - Monitoring data accumulation and management is carried out only in each DFEA due to incompleteness of networking system between GCEA and DFEAs.
- d) Component-4:
  - Authorization activities with the Atomic Energy Commission (AEC) are on-going in three DFEAs (Damascus, Homs, and Lattakia) by GCEA's initiative, which could be crucial for activation of administrative enforcement to polluters by GCEA and DFEAs, and
  - Establishment of an Environmental Quality Standard for public water bodies is indispensable when DFEAs intend effectively to monitor water quality of rivers, lakes, and groundwater.
- e) Component-5:
  - The National Committee for Public Awareness is defined as a central level policy making and planning authority, and
  - Public awareness activities should be focused on polluters in industrial sector.

Dr. Akram S. Al Khoturi,  
General Director  
General Commission for Environmental  
Affaires

Witnessed by



Dr. Mitsuo YOSHIDA  
Team Leader  
JICA Mid-term Evaluation Team



Mr. Yoichi IWAI  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

List of AttendantsThe 10th Technical CommitteeSyrian Side

| Name                      | Position         | Organization                      |
|---------------------------|------------------|-----------------------------------|
| Dr. Akram Khouri          | General Director | GCEA                              |
| Dr. Yasin Moa'alla        | Director         | Directorate of Laboratories, GCEA |
| Ms. Fathia Mohammad       | Staff            | Directorate of Laboratories, GCEA |
| Ms. Khozama Abo Saab      | Staff            | Directorate of Laboratories, GCEA |
| Ms. Wadia Joha            | Deputy Director  | Damascus DFEA                     |
| Mr. Thaer Daif            | Director         | Damascus Countryside DFEA         |
| Mr. Saïd Naïfous          | Director         | Aleppo DFEA                       |
| Mr. Suleïman Kalo         | Director         | Homs DFEA                         |
| Mr. Ali Jwaïed            | Director         | Hama DFEA                         |
| Ms. Lama Ahmad            | Director         | Lattakia DFEA.                    |
| Mr. Mohammad Amin Ramadan | Director         | Deir ez Zor DFEA.                 |
| Ms. Jumana A lhasan       | Director         | Idleb DFEA.                       |
| Ms. Raefia Esper          | Director         | Hasakeh DFEA.                     |
| Ms. Shamssa Aljaseem      | Director         | Rakka DFEA.                       |
| Dr. Motasem Abed          | Director         | Sweida DFEA                       |
| Ms. Fatema Hariri         | Director         | Dara'a DFEA                       |
| Mr. Hasan Marjan          | Director         | Tartous DFEA                      |
| Mr. Hamzeh Soliman        | Director         | Quneitra DFEA                     |

Japanese Side

| Name                  | Position                    | Organization                  |
|-----------------------|-----------------------------|-------------------------------|
| Mr. Kazuhide Nagasawa | Resident Representative     | JICA Syria Office             |
| Ms. Yumiko Honda      | Project Formulation Advisor | JICA Syria Office             |
| Dr. Mitsuo Yoshida    | Team Leader                 | JICA Mid-term Evaluation Team |
| Ms. Eiko Kojima       | Member                      | JICA Mid-term Evaluation Team |
| Mr. Akitoshi Iio      | Member                      | JICA Mid-term Evaluation Team |
| Mr. Yoichi Iwai       | Chief Advisor               | JICA Expert Team              |

Then, Directors of all (14) DFEAs presented current situation, achievement, and problem of environmental monitoring activities one by one. The following major issues raised by the Directors discussed and agreed among the attendants of the 10<sup>th</sup> T/C.

- 1) In the basic water quality analysis, more training focusing on quality control, law range concentration analysis, and interpretation of monitoring data is necessary.
- 2) More training on reagents management such as toxic and hazardous ones, expiry date, stock control is required based on the Operation and Maintenance (O/M) manuals.
- 3) Training on air quality monitoring should be intensified using newly provided equipment in the target DFEAs (Damascus, Homs, and Aleppo).
- 4) Cost recovery measures of lab activities and O/M should be considered in order to ensure continuation and sustainability of them.
- 5) A target of public awareness activities should be shifted to polluters for effective use of the obtained monitoring data.
- 6) All DFEAs are ready for further capacity development activities taking step by step approach, and look forward receiving next technical cooperation projects.

After the specific discussion mentioned above, the Chief Advisor of the JICA Expert Team, Mr. Yoichi Iwai, presented a general comment related to key factors for the Project management. The followings are major points commented.

- a) Key Factors of Environmental Monitoring Activities:
  - It consists of Technical Skills, Human Resources, and Institutional Set-up, and
  - Current key factors could be QA/QC system, National and Regional Environmental Monitoring Plan, Motivation and incentive to counterparts, and Clarification of mandate and job description.
- b) Key Factors for Project Management:
  - Careful planning and management,
  - Keen to regional needs,
  - Initiative and activation of the Project,
  - Share and collaboration with others concerned, and
  - Feedback and accountability.
- c) Key Factors for Project Sustainability:
  - Overall planning related to environmental monitoring,
  - Implication with inspection and EIA system in Syria,
  - Balance between capacity and equipment,
  - Public awareness to polluters through the Chamber of Industry, and
  - Careful management by GCEA.

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

**Agenda for the 10<sup>th</sup> Technical Committee  
(Mid-term Evaluation)**

**Date and Venue:**

- Aug 20<sup>th</sup> (Sun), 11:30-14:30: at meeting room in GCEA

**Agenda:**

1. Opening Remarks (by Dr. Akram, General Director of GCEA)  
11:30-11:35

2. Brief Explanation of the Mid-term Evaluation (by Dr. Yoshida, JICA) 11:35-12:00

3. Presentation by each DFEA and Discussion with the Joint Evaluation Team  
12:00-14:20

3.1 Director of Hasakh DFEA (12:00-12:10)

3.2 Director of Deir ez Zor DFEA (12:10-12:20)

3.3 Director of Rakka DFEA (12:20-12:30)

3.4 Director of Aleppo DFEA (12:30-12:40)

3.5 Director of Idlib DFEA (12:40-12:50)

3.6 Director of Lattakia DFEA (12:50-13:00)

3.7 Director of Tartous DFEA (13:00-13:10)

3.8 Director of Hama DFEA (13:10-13:20)

3.9 Director of Homs DFEA (13:20-13:30)

3.10 Director of Damascus DFEA (13:30-13:40)

3.11 Director of Damascus Countryside DFEA (13:40-13:50)

3.12 Director of Dara'a DFEA (13:50-14:00)

3.13 Director of Sweida DFEA (14:00-14:10)

3.14 Director of Quneitra DFEA (14:10-14:20)

4. General Comment by the JICA Expert Team

14:20-14:30

5. Closing Remarks (by Dr. Akram, General Director of GCEA)

14:30-

**Minutes of Meeting  
On  
The 11th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 4 September 2006

Dr. Akram S. Al Khouri  
General Director  
General Commission for Environmental  
Affaires

Mr. Yoichi IWAI  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

End

ANNEX-1

List of Attendants  
**The 11th Technical Committee**

Syrian Side

| Name                 | Position         | Organization                      |
|----------------------|------------------|-----------------------------------|
| Dr. Akram Khouri     | General Director | GCEA                              |
| Dr. Yasin Mozalla    | Director         | Directorate of Laboratories, GCEA |
| Ms. Khozama Abo Saab | Staff            | Directorate of Laboratories, GCEA |
| Mr. Shaka Sofiman    | Chief            | Information Unit, GCEA            |

Japanese Side

| Name                 | Position      | Organization     |
|----------------------|---------------|------------------|
| Mr. Yoichi Iwai      | Chief Advisor | JICA Expert Team |
| Mr. Shinsuke Sato    | Team Member   | JICA Expert Team |
| Mr. Minoru Hirao     | Team Member   | JICA Expert Team |
| Mr. Mohammed Doubosh | Interpreter   | JICA Expert Team |

The 11th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 4 September, 2006 at the meeting room in the General Commission for Environmental Affairs (GCEA). The main purpose of the 11th T/C is to discuss the contents of the Progress Report (3) prepared by the JICA Expert Team.

An attendant list and agenda of the 11th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

After the specific discussion on the Progress Report-3, the Syrian side received the following set of Report.

- 1) Progress Report (3) (English version) : 25 copies
- 2) Progress Report (3) (Arabic version) : 25 copies



**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

**Agenda for the 11<sup>th</sup> Technical Committee**

**Date and Venue:**

- Sept 4<sup>th</sup> (Mon), 11:30-12:30; at meeting room in GCEA

**Agenda:**

- |   |                    |
|---|--------------------|
| <b>1. Opening Remarks (by Dr. Akram, General Director of GCEA)</b>  | <b>11:30-11:35</b> |
| <b>2. Presentation of Progress Report-3 (by JICA Expert Team)</b><br>-results of the mid-term evaluation based on M/M<br>-progress of the Project based on the Pr/R-3<br>-implementation of study tour<br>-plan of operation of Project works for coming period | <b>11:35-12:00</b> |
| <b>3. Discussion</b>  | <b>12:00-12:30</b> |
| <b>4. Closing Remarks (by Dr. Akram, General Director of GCEA)</b>  | <b>12:30-</b>      |

*End*

**Minutes of Meeting  
On  
The 12th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 09 November 2006

Dr. Akram S. Al-Khour  
General Director  
General Commission for Environmental  
Affairs

Mr. Yoichi IWATA  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

The 12th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 9 November, 2006 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by the opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri, and follows the opening remarks by the Director of JICA Headquarters, Mr. Kiyoshi Masumoto. Then, the following 3 themes were presented and shared among all attendants;

1. The Next 5-year Plan on Environment and Project Management: by Dr. Akram S. Al Khouri,
2. Presentation of Progress and Problems of the Project: by Directors of Damascus, Damascus Countryside, and Sweida DFEAs, and
3. Plan of Operation of the Project: by the JICA Expert Team.

An attendant list and agenda of the 12th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

At first, the General Director of GCEA, Dr. Akram S. Al Khouri, presented a future plan on environmental management and monitoring in Syria based on the 10<sup>th</sup> 5-year plan, and also announced management activities of the Project have been conducted by GCEA.

Secondly, representatives of the three (3) DFEAs (Damascus, Damascus Countryside, and Sweida) presented current situation of the Project. Key findings presented are as follows;

(a) Damascus DFEA (presented by Deputy Director, Ms. Wadia'a Jeha Khouri)

- Activities have been conducted recognizing a role as a central lab among 14 DFEAs,
- Monitoring has been carried out for selected priority factories with proper frequency,
- Quality control activity is on going based on the QC program of the Atomic Energy Commission (AEC),
- DFEA continues to solve some troubles in equipment and reagents, and
- Currently, no serious problems are found.

(b) Damascus Countryside DFEA (presented by Director, Mr. Thaeir Daif)

- Monitoring activities have been properly carried out for major factories, but still not enough due to huge amount of factory numbers in Governorate,
- Besides the training made by JICA Expert Team, DFEA is conducting lab staff training additionally using other resources,
- Authorization of lab is urgent matter for effective use of monitoring data, and
- Difficulties are found for procurement of spare parts such as bottles for BOD due to limited market in Syria.

(c) Sweida DFEA (presented by Deputy Director, Mr. Ref'at Khodr)

- Monitoring activities have been properly carried out for various kind of water bodies in Governorate,
- DFEA just introduced instruments to measure bacteria to check contamination of water resources for drinking purpose, and its training is on contracting procedure,
- Difficulties are authorization of lab, limited staff numbers, and not enough space of lab, but no serious problems are not found at present, and
- DFEA requests to the JICA Expert Team to consult new instruments and equipment related to environmental monitoring to be procured by DFEA.

Then, the Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, presented a plan of operation of the current working stage.

After that, the attendants discussed and commented the presentations mentioned above. The following major issues are discussed and agreed among the attendants of the 12<sup>th</sup> T/C.

- (1) The Director of Directorate of Laboratories in GCEA, Dr. Yasin Moa'la, additionally presented a current situation of procurement of wastewater treatment plant for Damascus DFEA mentioning that GCEA prepared a tender document and is now waiting offers from suppliers. Dr. Yasin Moa'la announced that it will be fixed within December 2006.
- (2) The Director of DFEA in Homs, Mr. Suleiman Kalo, informed that any project activities can not be conducted in November because Homs DFEA plans to move now building. The Team Leader of the JICA Expert Team, Yoichi Iwai, replied that the draft training schedule should be rearranged based on the actual moving schedule of Homs DFEA.
- (3) The Director of DFEA in Hama, Mr. Ali Jwaied, proposed that a flexible participation to the training conducted by the JICA Expert Team should be allowed to the counterparts who are not in target DFEA. The Team Leader of the JICA Expert Team, Yoichi Iwai, commented that it is welcome to the counterparts, if they want.
- (4) The Director of DFEA in Damascus Countryside, Mr. Thaeir Daif, requested more training to his DFEA based on extensive demands of environmental monitoring. The Team Leader of the JICA Expert Team, Yoichi Iwai, replied that the JICA Expert Team will conduct training activities as much as reflecting characteristics of environmental background of each DFEA.
- (5) The Lab Chief of DFEA in Lattakia, Ms. Ammal Mrehej, questioned about the training of heavy metal analysis using AAS. The Team Leader of the JICA Expert Team, Yoichi Iwai, replied that the JICA Expert Team will guide the counterparts considering their basic knowledge and background, and will visit DFEA in Lattakia as much as possible.

- (6) The Staff of JICA Headquarters, Ms. Eriko Tamura, commented the importance of trainers training for ensuring sustainability of the Project. All attendants agreed to take care the Project sustainability.

ANNEX-1

List of Attendants

The 12th Technical Committee

Syrian Side

| Name                      | Position  | Organization              |
|---------------------------|---|---------------------------|
| Dr. Akram S. Al Khouri    | General Director                                | GCEA                      |
| Dr. Yasin Moa'jila        | Director of Directorate of Laboratories,        | GCEA                      |
| Ms. Fathia Mohammed       | Deputy Director of Directorate of Laboratories, | GCEA                      |
| Ms. Khozama Abo Saab      | Staff, Directorate of Laboratories,             | GCEA                      |
| Mr. Mohammed Younes       | Staff, Directorate of Laboratories,             | GCEA                      |
| Ms. Manal Alsakka         | Director of EIA Directorate.                    | GCEA                      |
| Mr. Bassam Kheir Beik     | Director  | Damascus DFEA             |
| Ms. Wadia'ia Jeha Khouiri | Deputy Director                                 | Damascus DFEA             |
| Ms. Riem Sadr Alden       | Laboratory Chief                                | Damascus DFEA             |
| Mr. Thaer Daif            | Director  | Damascus Countryside DFEA |
| Mr. Saaid Maifous         | Director  | Aleppo DFEA               |
| Mr. Suleiman Kalo         | Director  | Homs DFEA                 |
| Mr. Ali Jwaied            | Director  | Hama DFEA                 |
| Ms. Ammal Mrehej          | Laboratory Chief                                | Latakia DFEA              |
| Mr. Saïher Abdollah       | Laboratory Chief                                | Deir ez Zor DFEA.         |
| Mr. Sameer Daboul         | Laboratory Chief                                | Idlib DFEA.               |
| Ms. Shamsa Aljaseem       | Director  | Rakka DFEA                |
| Mr. Refat Khodr           | Deputy Director                                 | Sweida DFEA               |
| Ms. Fatema Hariri         | Director  | Dara'a DFEA               |
| Ms. Rowdaina Al-Ali       | Laboratory Chief                                | Tartus DFEA               |
| Mr. Majed Zaitoun         | Laboratory Chief                                | DFEA Quneitra             |

Japanese Side

| Name                   | Position                    | Organization      |
|------------------------|-----------------------------|-------------------|
| Mr. Kiyoshi Masumoto   | Member of JICA Mission      | JICA Head office  |
| Ms. Eriko Tamura       | Member of JICA Mission      | JICA Head office  |
| Mr. Atsuo Fuyama       | Member of JICA Mission      | JICA Team         |
| Ms. Yumiko Honda       | Project Formulation Advisor | JICA Syria Office |
| Ms. Marah Morad        | Program Officer.            | JICA Syria Office |
| Mr. Yoichi Iwai        | Team Leader                 | JICA Expert Team  |
| Dr. Ryuran Matsue      | Team Member                 | JICA Expert Team  |
| Mr. Mohammed Alhoubosh | Interpreter                 | JICA Expert Team  |



**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

**Minutes of Meeting  
On  
The 13th Technical Committee**

**For  
The Capacity Development of Environmental Monitoring at Directorates**

**For  
Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 21 February 2007

**Agenda for the 12<sup>th</sup> Technical Committee**

**Date and Venue:**

- November 9<sup>th</sup> (Thu), 11:00-13:00: at meeting room in GCEA

**Agenda:**

- |   |             |
|---|-------------|
| 1. Opening Statement (by Dr. Akram, General Director of GCEA,<br>and by Mr. Masumoto, Group Leader of JICA Tokyo)   | 11:00-11:05 |
| 2. Presentation of the Next 5-year Plan on Environment,<br>and Project Management (by Dr. Akram, GCEA)  | 11:05-11:20 |
| 3. Presentation of Progress and Problems of the Project<br>(by Damascus, Damascus Countryside, Sweida DFEAs)<br>-current situation of environmental monitoring activities<br>-progress and problems of the Project<br>-comments and requests on the Project | 11:20-12:00 |
| 4. Presentation of the Plan of Operation of the Project (Nov. to Feb)<br>(by JICA Expert Team)  | 12:00-12:20 |
| 5. Discussion   | 12:20-13:00 |
| 6. Closing Remarks (by Dr. Akram, General Director of GCEA)   | 13:00-      |

*End*

Dr. Akram S. Al Khouri  
General Director  
General Commission for Environmental  
Affaires

Mr. Yoichi IWAI  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

The 13th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 21 February, 2007 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by the opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri. Then, the following 3 themes were presented and shared among all attendants;

1. Progress of the Project: by the Representatives of Hasakah, Aleppo and Tartous DFEAs,
2. Summary of the Project Evaluation: by Dr Nidal Al Kassem, and
3. Presentation of the Progress Report (4): by the JICA Expert Team.

An attendant list and agenda of the 13th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

At first, the representatives of the three (3) DFEAs (Hasakah, Aleppo, and Tartous) presented current progress of the Project including actual analysis data and results of the environmental monitoring. Key findings presented are as follows;

(a) Hasakah DFEA (presented by Lab Chief, Ms. Nawwaf Othman)

- Monitoring activities have been conducted well though little shortage of fuel for a sampling car,
- Some water bodies for drinking purpose are over the standard around 8 times,
- Discharged wastewater form several factories also exceeded the standard about 60 times, and
- Hasakah DFEA ready prepared an annual report in 2006.

(b) Aleppo DFEA (presented by Director, Mr. Saeid Naiffous)

- Among 24 staff, only six (6) staff are engaging in the monitoring activities due to shortage of the total number of staff in DFEA,
- Monitoring stations are 16 for factories, 2 for municipal sewage, and 2 for groundwater,
- The data revealed that most factories have been discharging wastewater not complying the discharge standard especially pharmaceutical and tannery industries,
- Monitoring activities are not enough because almost 40 % of factories in Syria are concentrated in Aleppo,
- DFEA is sometimes requested a presentation in the Environmental Committee of the Governorate, and
- Difficulties are shortage of the staff and less incentive to the staff.

(c) Tartous DFEA (presented by Lab Chief, Ms. Rowdaina Al-Ali)

- River pollution by wastewater from olive oil factories is the most serious problem,
- COD values of the polluted river water are more than 300 mg/l,

- Samples for analysis are concentrated in some specific period due to the seasonal operation of the factories, and

- Tartous DFEA is mostly consuming reagents and chemicals for low concentration values.

Then, Dr. Nidal Al Kassem, local expert for project evaluation, presented a summary of project evaluation results conducted by GCEA and DFEAs by themselves. Key findings presented are as follows;

- Generally, the result shows a positive outcome of the Project activities among C/Ps,
- Wide ranges differences are often found in the results of self-evaluation of C/Ps,
- Few discrepancy of evaluation results between Directors and C/Ps can be found, and
- C/Ps are understanding the importance of lab management.

Finally, the Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, presented a content of the Progress Report (4) briefly.

After that, the attendants discussed and commented the presentations mentioned above. The following major issues are discussed and agreed among the attendants of the 13<sup>th</sup> T/C.

- (1) The Director of Water Safety in GCEA, Ms. Reem Abed Rabbo, commented that GCEA should clarify the objectives of national environmental monitoring plan in order to obtain more useful monitoring data from DFEAs. The General Director of GCEA, Dr. Akram S. Al Khouri, replied that GCEA has prepared a long term vision on environmental monitoring up to 2010 and a plan for procurement of further equipment is in line with the plan. Dr. Akram S. Al Khouri also mentioned that the Project is one of activities to be carried out by GCEA as a manner of step by step approach.
- (2) The Director of DFEA in Aleppo, Mr. Saeid Naiffous, and in Hama, Mr. Ali Jwaied, requested to GCEA for further coordination in dealing with environmental issues with the Environmental Committee in each Governorate including environmental monitoring activities. The General Director of GCEA, Dr. Akram S. Al Khouri, answered that GCEA has conducted such coordination activities based on report and information brought by DFEAs, and GCEA is always ready for coping with such coordination with the Governor and the Governor Office in each Governorate.
- (3) The General Director of GCEA, Dr. Akram S. Al Khouri, commented that DFEA should fulfill its mandate given by the laws focusing on technical and administrative issues not on political matters. In this context, it is necessary for further communication with polluters through the Chamber of Industry to control pollution load in environment.
- (4) The Director of Water Safety in GCEA, Ms. Reem Abed Rabbo, emphasized the importance of

List of Attendants**The 13th Technical Committee**Syrian Side

| Name                    | Position                                       | Organization              |
|-------------------------|--|---------------------------|
| Dr. Akram S. Al Khouri  | General Director                               | GCEA                      |
| Dr. Yasin Moa'ila       | Director of Directorate of Laboratories        | GCEA                      |
| Ms. Fathia Mohammed     | Deputy Director of Directorate of Laboratories | GCEA                      |
| Ms. Khizama Abo Saab    | Staff, Directorate of Laboratories             | GCEA                      |
| Dr. Nader Ghazi         | Director of Public Awareness Dept.             | GCEA                      |
| Ms Manal Alsakka        | Director of EIA Dept                           | GCEA                      |
| Ms. Reem Abed Rabbo     | Director of Water Safety                       | GCEA                      |
| Mr. Basel Alberrny      | Atmosphere Safety Dept                         | GCEA                      |
| Ms. Wadia'a Jeha Khouri | Deputy Director of Damascus DFEA               | Damascus DFEA             |
| Ms. Riem Sadr-Alden     | Chemist  | Damascus DFEA             |
| Mr. Thaer Daif          | Director of Damascus Countryside DFEA          | Damascus Countryside DFEA |
| Mr. Saied Naifous       | Director of Aleppo DFEA                        | Aleppo DFEA               |
| Mr. Suleiman Kalo       | Director of Homs DFEA                          | Homs DFEA                 |
| Mr. Ali Jwaied          | Director of Hama DFEA                          | Hama DFEA                 |
| Ms. Yamen Slman         | Laboratory Staff                               | Latakia DFEA              |
| Ms Jumana Hasin         | Director of Idleb DFEA                         | Idleb DFEA                |
| Mr. Refiat Khador       | Lab Chief                                      | Hasakeh DFEA              |
| Mr. Nawwaf Othman       | Deputy Director of Sweida DFEA                 | Sweida DFEA               |
| Eng. Humam Abu Raeed    | Lab Staff                                      | Sweida DFEA               |
| Eng. Wael Abu Ganem     | Data & Network Management                      | Sweida DFEA               |
| Ms. Fatema Hariri       | Director                                       | Dara'a DFEA               |
| Ms. Rowdaina Al-Ali     | Laboratory Chief                               | Tartus DFEA               |
| Mr. Hamzeh Soliman      | Director of Environment                        | DFEA Quneitra             |

Japanese Side

| Name                    | Position                           | Organization                  |
|-------------------------|------------------------------------|-------------------------------|
| Mr. Yoichi Iwai         | Team Leader                        | JICA Expert Team              |
| Mr. Shunsuke Sato       | Member, JICA Expert Team           | Member, JICA Expert Team      |
| Mr. Keiich Takahashi    | Member, JICA Expert Team           | Member, JICA Expert Team      |
| Mr. Mohtanmed Aldoubosh | Interpreter, JICA Expert Team      | Interpreter, JICA Expert Team |
| Mr. Wasim Kabbesh       | Interpreter, JICA Expert Team      | Interpreter, JICA Expert Team |
| Dr. Nidal Al Kassem     | Local Expert of Project Evaluation | JICA Expert Team              |

1) preparation of an integrated data base of environmental monitoring, 2) empowerment on QA/QC activities in labs, 3) improvement of a reporting system to GCEA. The Team Leader of the JICA Expert Team, Yoichi Iwai, commented that it is quite agreeable with what Ms. Reem Abed Rabbo referred, and that we are now in ready for starting such discussion based on actual activities of labs through the Project.

(5) The Deputy Director of DFEA in Damascus, Ms. Wadia'a Jeha Khouri, informed that EU will support Syria to introduce the ISO system including ISO 17025 and QA/QC in labs should be strengthened using such assistance either. Ms. Wadia'a Jeha Khouri also requested the JICA Expert Team for 1) more training on air quality monitoring and data management, 2) support for air quality monitoring network in Damascus, and 3) preparation of sample and wastewater transportation system to Damascus DFEA including unit fee for analysis and treatment. The Team Leader of the JICA Expert Team, Yoichi Iwai, replied that the JICA Expert Team will support and conduct the Damascus DFEA's request as much as possible.

(6) The Deputy Director of DFEA in Sweida, Mr. Refiat Khador, questioned to the JICA Expert Team about possibility of training on bacteriological analysis and on usage of AAS/ GC in Sweida DFEA. The Team Leader of the JICA Expert Team, Yoichi Iwai, answered that it is difficult to include such training in this Project, but it could be possible in the Second Phase of the Project though it is a matter of discussion between the Syrian Government and the Japanese Government.

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

**Agenda for the 13<sup>th</sup> Technical Committee**

**Date and Venue:**

- February 21 (Wed), 12:30-14:00: at meeting room in GCEA

**Agenda:**

1. Opening Statement (by Dr. Akram, General Director of GCEA, 12:30-12:35)
2. Presentation of Progress and Problems of the Project (by Hasakh, Aleppo, Tartous DFEAs) 12:35-13:30
  - current situation of environmental monitoring activities
  - progress and problems of the Project
  - comments and requests on the Project
3. Summary Presentation of the Project Evaluation (by Dr. Nidal, the Local Expert) 13:30-13:50
4. Presentation of the Progress Report No.4 (by the JICA Expert Team) 13:50-14:10
5. Discussion 14:10-14:30
6. Closing Remarks (by Dr. Akram, General Director of GCEA) 14:30-

*End*



**Attendants List for the 13<sup>th</sup> Technical Committee**


Date: February 21<sup>st</sup>, 2007 (Wednesday)

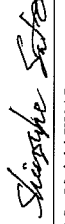
*Dr. Akram*

| No. | Name                   | Authority and Job Description             |
|-----|------------------------|---|
| 1   | Refaat Khodor          | Manager assistant/Sweidi                  |
| 2   | Houmam aburazeed       | Laboratory manager assistant Sweida       |
| 3   | Wael abughnamem        | Data and network management Sweida        |
| 4   | <i>Yasser slman</i>    | Latakia department                        |
| 5   | Nazawa fochman         | chef of lab, HSK                          |
| 6   | ROUSINA ALAKH          | chef of lab, TAR                          |
| 7   | MANAL AL SAKKA         | Head of EIA Department                    |
| 8   | Wadia Jela             | Assistant Director of Environment affairs |
| 9   | Reem Sadder Aldeh      | chimest in DFEA in Dumqus                 |
| 10  | Fahma al Gharir        | director of Dumqus                        |
| 11  | Suleiman Kabir         | Director of Homs                          |
| 12  | HANZA SOULIMOM         | DIRECTOR of QUNAYRA                       |
| 13  | Jumana Haysam          | DIRECTOR of IDLEB                         |
| 14  | ALI AL-JUYED           | = Hama                                    |
| 15  | Tamer Adel             | Director of Dumqus County Side Co.        |
| 16  | Bassel ALBERMY         | Atmospher safety Department               |
| 17  | Mohammad Saied Niffous | -Director of environment ALLEppo          |
| 18  | Nader Chuzi            | Director training GCEA                    |
| 19  | Dr. Akram Khouri       | General Director of GCEA                  |
| 20  | Dr. yasin Mo'alla      | Director of lab Directorate/GCEA          |
| 21  | Ms. Khozama Abo Sab    | labs Directorate/GCEA                     |
| 22  | Ms. Fathia Mohammad    | labs Directorate/GCEA                     |
| 23  |                        |   |

**Minutes of Meeting**  
**On**  
**The 14th Technical Committee**  
**For**  
**The Capacity Development of Environmental Monitoring at Directorates**  
**For**  
**Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 22 May 2007

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

*for*  
  
Mr. Yoichi IWAI  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

The 14th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 22 May, 2007 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by the opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri. Then, the following 3 themes were presented and shared among all attendants;

1. Progress of the Project: by the Representatives of Hama DFEA,
2. Activities of the Project from May to September in 2007, and
3. Provision of Future Cooperation with JICA.

An attendant list and agenda of the 14th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

At first, the director of Hama DFEA, Mr. Ali Jwaied, presented current progress and result of the environmental monitoring. Key findings presented are as follows;

- Monitoring has been conducted mostly for wastewater of factories and municipal wastewater,
- Water quality examination is also conducted to cope with some complaints from citizens,
- Lab staff are now capable to obtain reliable monitoring data,
- Hama DFEA was equipped AAS and GC by GCEA as a soil Lab,
- According to the Minister's Decree 2007, all factories are requested to install wastewater treatment facilities by 10 October 2007/05/22. DFEA has a role to check whether the wastewater properly treated or not,
- Since a lot of oil factories are located in Hama, equip for checking oil content is urgently required,
- At present, there is no budget shortage for monitoring, and
- Major constraints are shortage of staff for monitoring and transportation tool for sampling.

Then, the Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, presented major planned activities of the Project up to September 2007.

After that, the attendants discussed and commented the presentations mentioned above. The following major issues are discussed and agreed among the attendants of the 14<sup>th</sup> T/C.

- (1) The Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, commented the following points on the presentation made by Hama DFEA.
  - Activities to cope with complaints from the citizens using monitoring equip should be highly appreciated,
  - DFEA's role to check and inspect wastewater of factories should be more important in order to



comply with the Minister's Decree,

- It is better to include actual monitoring data in the presentation, and
- Information related to factory operation should be included in its inventory.

(2) Director of the Directorate of Laboratories in GCEA, Dr. Yasin Moa'ila, commented that Hama DFEA should procure the equip to measure oil content, and apply to QC program made by AEC.

(3) General Director of GCEA, Dr. Akram S. Al Khouri, suggested the following ideas for the Phase-II of the Project.

- To conduct integrated monitoring and analysis activities in water quality, air quality, and soil,
- To implement a pilot project by selecting specific area or Governorate, not targeting all Governorate, and
- To prepare project a feature for the Phase-II both by MOLAE and by JICA, and to discuss them in detail.

(4) The Project Formulation Advisor in the JICA Syria, Ms. Yumiko Honda, commented to the participants of T/C as follows.

-Further discussion on the Phase-II of the Project should be conducted based on the result of Terminal Evaluation and the policy paper on environment sector of the JICA Syria.

-Presentation and discussion results in T/C must be shared by all DFEAs. In this context, GCEA should arrange to invite all T/C members described in R/D.

-Although the stage enters the last year, the situation of the Project is still under vulnerable. To ensure the running expense for the project activities is crucial to enhance sustainability of the Project. Therefore, the Syrian side is requested to cover it continuously.

(5) Director of the Directorate of Laboratories in GCEA, Dr. Yasin Moa'ila, suggested the importance of close discussion related to the Phase-II in order to avoid discrepancy between JICA and MOLAE.



List of Attendants  
The 14th Technical Committee

Syrian Side

| Name                   | Position                                       | Organization              |
|------------------------|--|---------------------------|
| Dr. Akram S. Al Khouri | General Director                               | GCEA                      |
| Dr. Yasin Maa' Illa    | Director of Directorate of Laboratories        | GCEA                      |
| Ms. Fathia Mohammed    | Deputy Director of Directorate of Laboratories | GCEA                      |
| Ms. Riem Sadr Alden    | Laboratory chief                               | Damascus DFEA             |
| Ms. Mouna Al-Jomaa     | Laboratory Chief                               | Damascus Countryside DFEA |
| Mr. Ali Jwaied         | Director                                       | Hama DFEA                 |
| Dr. Motasem Al Abed    | Director                                       | Sweida DFEA               |
| Mr. Ahmed Keblawe      | Director                                       | Darr'a DFEA               |
| Mr. Hamzeh Soliman     | Director of Quneitra DFEA                      | DFEA Quneitra             |
| Mr. Shaka Al Soleman   | Head of IT Unit                                | GCEA                      |

Japanese Side

| Name                   | Position                    | Organization                  |
|------------------------|-----------------------------|-------------------------------|
| Ms. Yumiko Honda       | Project formulation advisor | JICA Syria Office             |
| Mr. Yoichi Iwai        | Team Leader                 | JICA Expert Team              |
| Mr. Shunsuke Sato      | Member                      | Member, JICA Expert Team      |
| Ms. Naomi Wake         | JOCV member                 | JICA Syria Office             |
| Mr. Nawras Khaleel     | Program officer             | JICA Syria Office             |
| Mr. Mohammed Aldoubosh | Interpreter                 | Interpreter, JICA Expert Team |



Mr Sato

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

Agenda for the 14<sup>th</sup> Technical Committee**Date and Venue:**

- May 22 (Mon), 11:30-13:00; at meeting room in GCEA

**Agenda:**

1. Opening Statement (by Dr. Akram, General Director of GCEA, 12:30-12:35)

2. Presentation by the JICA Expert Team 12:35-12:40

- Study Tour to EEAA (purposes and draft schedule)
- Provision of the Phase-II of the Project
- Major Activities from May - September

3. Presentation of Progress and Problems of the Project

(by Darr'a, Hama, and Quneitra DFEAs)

- current situation of environmental monitoring activities
- progress and problems of the Project
- comments and requests on the Project

12:40-13:30

4. Discussion 13:30-14:00

5. Closing Remarks (by Dr. Akram, General Director of GCEA) 14:00-

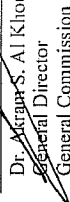
End

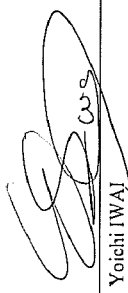


Mr Sato

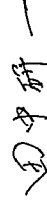
**Minutes of Meeting**  
**On**  
**The 15th Technical Committee**  
**For**  
**The Capacity Development of Environmental Monitoring at Directorates**  
**For**  
**Environmental Affairs in Governorates in the Syrian Arab Republic**

Damascus, 31 July 2007

  
\_\_\_\_\_  
**Dr. Akram S. Al Khouri**  
**General Director**  
**General Commission for Environmental**  
**Affaires**

  
\_\_\_\_\_  
**Mr. Yoichi Iwai**  
**Team Leader**  
**The Expert Team**  
**Japan International Cooperation Agency**

Witnessed by



\_\_\_\_\_  
**Mr. Kenichi TANAKA**  
**Leader**  
**JICA Terminal Evaluation Mission**



The 15th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 31 July, 2007 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by an opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri. The following 2 themes were presented and shared among all attendants in the meeting:

1. Explanation of the Terminal Evaluation: by Mr. Kenichi Tanaka, and
2. Presentation of Current Achievement: by Director of each DFEA.

An attendant list and agenda of the 15th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

At first, the Leader of the JICA Terminal Evaluation Mission, Mr. Kenichi Tanaka, presented general contents concerning to the terminal evaluation displaying a video tape of other JICA projects. Then, Directors of all (14) DFEAs presented current situation, achievement, and problem of environmental monitoring activities one by one.

After the series of presentation, the following major issues raised, discussed, and agreed among the attendants of the 15<sup>th</sup> T/C.

(1) The General Director of GCEA, Dr. Akram S. Al Khouri, pointed out the followings as common issues to be further discussed during the terminal evaluation.

- 1) Shortage of DFEA staff who have chemical background,
- 2) Preparation of a database of monitoring results, and
- 3) Sustainability of monitoring activities especially for accreditation of DFEA labs, O/M of equipment and reagents, and budget allocation.

(2) The Chief Adviser of the Project, Mr. Yoichi Iwai, commented that a capability of counterparts for preparation of reliable monitoring data and for interpretation and evaluation the data should be strengthened further because these must be a base for database. Mr. Yoichi Iwai suggested that the incentive to counterparts of lab analysis and the continuation of self-training by senior lab staff to junior in DFEAs could be crucial for ensuring sustainability.

(3) The Leader of the JICA Terminal Evaluation Mission, Mr. Kenichi Tanaka, mentioned the importance to assign full-time staff for monitoring and lab analysis, and to cope with the electricity problem which affects lab analysis substantially.

(4) The Director of the Directorate of Laboratories, Dr. Yasin Moa'alla, informed that GCEA recently submitted a letter to the Minister of MOLAE to ask for increasing the number of DFEA



staff around 50 persons who have chemical background in 2008. Dr. Yasin Moa'alla also mentioned that GCEA urged all DFEA labs to apply a QC program of AEC and asked them to prepare an annual budget plan of the monitoring activity for the Syrian fiscal year of 2008.

(5) The Leader of the JICA Terminal Evaluation Mission, Mr. Kenichi Tanaka, commented that the lab wastewater of DFEAs should be sent and treated properly in the Damascus DFEA. The General Director of GCEA, Dr. Akram S. Al Khouri, replied that GCEA already procured and installed a wastewater treatment plant in the Damascus DFEA, and established a special technical committee to deal with this matter. The Director of the Directorate of Laboratories, Dr. Yasin Moa'alla, informed that the special committee meeting will be held for a final check of the plant on coming 9th August, 2007. In this regard, Dr. Akram S. Al Khouri requested Mr. Shinsuke Sato in charge for the Chemical and Biological Analysis of the JICA Expert Team to attend the committee meeting.

End




List of Attendants  
The 15th Technical Committee

Syrian Side

| Name                       | Position         | Organization                      |
|----------------------------|------------------|-----------------------------------|
| Dr. Akram Khouri           | General Director | GCEA                              |
| Dr. Yasin Moatalla         | Director         | Directorate of Laboratories, GCEA |
| Mr. Bassam Khair Bek       | Director         | Damascus DFEA                     |
| Ms. Reem Sadder Aldin      | Lab Chief        | Damascus DFEA                     |
| Mr. Thar Daif              | Director         | Damascus Countryside DFEA         |
| Ms. Monna Al Jomaa         | Lab Chief        | Damascus Countryside DFEA         |
| Mr. Saïd Naïffous          | Director         | Aleppo DFEA                       |
| Mr. Suleiman Kalo          | Director         | Homs DFEA                         |
| Mr. Ali Jwated             | Director         | Hama DFEA                         |
| Mr. Yamen Salman           | Lab Chief        | Latakia DFEA                      |
| Mr. Mohammad Amin Rannadan | Director         | Deir ez Zor DFEA                  |
| Ms. Jumana Alhasan         | Director         | Idlib DFEA                        |
| Ms. Raëfa Espner           | Director         | Hasakeh DFEA                      |
| Ms. Shamsa Aljaseem        | Director         | Rakka DFEA                        |
| Dr. Motasem Abed           | Director         | Sweida DFEA                       |
| Mr. Ahmed Kablawi          | Director         | Dara'a DFEA                       |
| Mr. Hasan Marjan           | Director         | Tartous DFEA                      |
| Mr. Hamzeh Soliman         | Director         | Quneitra DFEA                     |

Japanese Side

| Name                | Position      | Organization                     |
|---------------------|---------------|----------------------------------|
| Mr. Kenichi Tanaka  | Leader        | JICA Terminal Evaluation Mission |
| Ms. Reiko Shindo    | Member        | JICA Terminal Evaluation Mission |
| Ms. Yasuyo Hirouchi | Member        | JICA Terminal Evaluation Mission |
| Ms. Mayumi Murakami | Staff         | JICA Syria Office                |
| Mr. Nawras Khalied  | Chief Advisor | JICA Syria Office                |
| Mr. Yoichi Iwai     | Member        | JICA Expert Team                 |
| Mr. Shinsuke Sato   | Member        | JICA Expert Team                 |



**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

Agenda for the 15<sup>th</sup> Technical Committee  
(Terminal Evaluation)

**Date and Venue:**

- July 31 (Tue), 10:00-14:30: at a meeting room in GCEA

**Attendance:**

- GCEA
- Director (or Representative) of DFEA
- JICA Terminal Evaluation Mission
- JICA Syria
- JICA Expert Team

**Purpose:**

- 1) To grip achievement of the Project,
- 2) To report current situation of DFEA,
- 3) To share information among GCEA and DFEAs, and
- 4) To discuss issues on the Project and its next Phase.

**Contents to be presented by DFEA**

- 10 minutes presentation and 5 minutes Q/A for each DFEA,
- 4-5 photos in total, 10-15 slides for presentation,

The following items should be presented by each DFEA:

- 1) Photos of the building of DFEA, the Lab (equip & analysis activity), and the sampling activities in the field (one each),
- 2) Organization chart including number of staff in each Department,
- 3) Prioritized environmental issues in each DFEA,
- 4) Level of skill and knowledge of CPs related to lab analysis,
- 5) Self-effort to improve skill and knowledge of CPs beside the training by JET,
- 6) Conditions of lab O/M (usage of manuals, equip, O/M of reagents and chemicals),
- 7) Current situation of monitoring activities compared with the plan, (Pls. describe major reasons if it was not achieved as planned), and
- 8) Monitoring conditions to pollution sources.

Agenda:

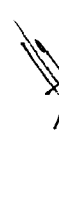
1. Opening Remarks (by Dr. Akram, General Director of GCEA) 10:00-10:10
  2. Explanation of the Terminal Evaluation (by Mr. Tanaka, JICA) 10:10-10:30
  3. Presentation by each DFEA including Question and Answer 10:30-14:00
    - 3.1 Director of Hasakh DFEA (10:30-10:45)
    - 3.2 Director of Damascus Countryside DFEA (10:45-11:00)
    - 3.3 Director of Aleppo DFEA (11:00-11:15)
    - 3.4 Director of Tartous DFEA (11:15-11:30)
    - 3.5 Director of Hama DFEA (11:45-12:00)
    - 3.6 Director of Homs DFEA (12:00-12:15)
    - 3.7 Director of Lattakia DFEA (12:15-12:30)
  - Short Discussion and/or Break (12:30-12:35)
  - 3.8 Director of Damascus DFEA (12:35-12:45)
  - 3.9 Director of Rakka DFEA (12:45-13:00)
  - 3.10 Director of Deir ez Zor DFEA (13:00-13:15)
  - 3.11 Director of Quneitra DFEA (13:15-13:30)
  - 3.12 Director of Idleb DFEA (13:30-13:45)
  - 3.13 Director of Dara'n DFEA (13:45-14:00)
  - 3.14 Director of Sweida DFEA (14:00-14:15)
4. General Discussion 14:15-14:30
  5. Closing Remarks (by Dr. Akram, General Director of GCEA) 14:30-

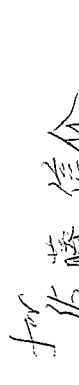
End

Minutes of Meeting  
On  
The 16th Technical Committee  
For  
The Capacity Development of Environmental Monitoring at Directorates  
For

Environmental Affairs in Governorates in the Syrian Arab Republic

Damascus, 5 November 2007

  
Dr. Akram S. Al Khouri  
General Director  
General Commission for Environmental  
Affaires

  
Mr. Yoichi Iwai  
Team Leader  
The Expert Team  
Japan International Cooperation Agency

List of Attendants**The 16th Technical Committee**Syrian Side

| Name                   | Position                                | Organization              |
|------------------------|---|---------------------------|
| Dr. Akram S. Al Khouri | General Director                        | GCEA                      |
| Dr. Yasin Moa'ila      | Director of Directorate of Laboratories | GCEA                      |
| Mr. Bassam Khier Bek   | Director of Damascus DFEA               | Damascus DFEA             |
| Ms. Riem Sadr Alden    | Chemist, Laboratory Chief               | Damascus DFEA             |
| Mr. Thar Daif          | Director of Damascus Countryside DFEA   | Damascus Countryside DFEA |
| Mr. Suleiman Kalo      | Director of Homs DFEA                   | Homs DFEA                 |
| Mr. Ali Jwaied         | Director of Hama DFEA                   | Hama DFEA                 |
| Mr. Ahmad Kablawi      | Director                                | Dara'a DFEA               |
| Mr. Hasan Marjan       | Director                                | Tartus DFEA               |

Japanese Side

| Name                   | Position                      | Organization                  |
|------------------------|-------------------------------|-------------------------------|
| Mr. Shinsuke Sato      | Member, JICA Expert Team      | Member, JICA Expert Team      |
| Mr. Mohammed Aldoubosh | Interpreter, JICA Expert Team | Interpreter, JICA Expert Team |

The 16th technical committee (T/C) for the Capacity Development of Environmental Monitoring at Directorates for Environmental Affairs in Governorates in the Syrian Arab Republic (the Project) was held on 5 November, 2007 at the meeting room in the General Commission for Environmental Affairs (GCEA). It was started by the opening statement by the General Director of GCEA, Dr. Akram S. Al Khouri. Then, the following 2 themes were presented and shared among all attendants;

1. Confirmation of delivery and acceptance of the Progress Report (5), and
2. Holding of the Integrated Final Seminar.

An attendant list and agenda of the 16th T/C are attached per ANNEX-1 and ANNEX-2, respectively.

First of all, the member of the JICA Expert Team, Mr. Shinsuke Sato, made a confirmation about the Progress Report (5) that had been prepared and submitted to the GCEA at the end of August 2007 by the JICA Expert Team. Director of the Directorate of Laboratories in the GCEA, Dr. Yasin Moa'ila, answered that the Progress Report (5), consisting of the English version and the Arabic version of main report and Annex, had been distributed to the GCEA and 14 DFEAs about one month ago by the GCEA. The Directors of DFEAs attended at this T/C acknowledged the contents of the Progress Report (5) and expressed their acceptances of the Progress Report (5).

Then, the member of the JICA Expert Team, Mr. Shinsuke Sato, explained the planned Integrated Final Seminar to be held on the beginning of December 2007. Mr. Shinsuke Sato presented a proposed plan for this seminar. Outline of the proposed plan of this seminar is shown in attached sheet. General Director of GCEA, Dr. Akram S. Al Khouri, agreed basically with the holding of this seminar. Dr. Akram S. Al Khouri, Dr. Yasin Moa'ila, and the Directors of DFEAs attended at this T/C also agreed that the contents and the details of the seminar would be discussed between the GCEA, the DFEAs and the JICA Expert Team after the arriving of the Team Leader of the JICA Expert Team, Mr. Yoichi Iwai, in Syria.

Finally, the member of the JICA Expert Team, Mr. Shinsuke Sato, suggested that the planned activities of the JICA Expert Team in this period would be informed to the GCEA and all DFEAs later. All attendants understood this.

**The Capacity Development of  
Environmental Monitoring at Directorates  
for Environmental Affairs in Governorates**

**Agenda for the 16<sup>th</sup> Technical Committee**

- Date and Venue:**  
- November 5 (Mon), 12:00-13:00: at meeting room in GCEA
- Agenda:**
1. Opening Statement (by Dr. Akram, General Director of GCEA,  
12:00-12:05
  2. Presentation by the JICA Expert Team  
12:05-12:30
    - Confirmation of the Progress Report (5)
    - Explanation of the Integrated Final Seminar
    - Planned activities of the JICA Expert Team in this period

4. Discussion  
12:30-12:45
5. Closing Remarks (by Dr. Akram, General Director of GCEA)  
12:45-

End

**Outline of Integrated Final Seminar**

- Purpose of the Seminar
  - Generalization/Summation of the Project,
  - Future prospects and subjects for the Project
- To be conducted mainly by GCEA and DFEAs
- To be held:
  - at 3 DFEAs (ALP, HOM, and DAM),
  - on Dec. 5 at ALP,
  - on Dec. 6 at HOM, and
  - on Dec. 10 at DAM (Comined with 8<sup>th</sup> St/C)
- Attendance: Minister (DAM), Governor, Director of GCEA, JICA Representative, Member of St/C, Member of other JICA Projects, Others

**Agenda for Integrated Final Seminar (tentative)**

1. Opening address (10:00 - 10:20)
2. Monitoring results of Basic Water Quality Analysis and Problems of Environmental management (10:20 - 11:00)
  - 2.1 ALP: Summary presentation for 5 northern Governorates (ALP, HSK, DRZ, RKA, IDL)
  - 2.2 HCM: Summary presentation for 4 coastal and inland Governorates (HCM, TRT, LTC, HAM)
  - 2.3 DAM: Summary presentation for 3 southern Governorates (DAM, DAMC, SWD, DRA, QNT)
3. Monitoring results of industrial wastewater and P problems of Environmental management (11:00 - 11:20)
  - 3.1 Summary presentation of 3 main Governorates (DAMC, HOM, ALP)
  - 3.2 Summary presentation of the central laboratory (DAM)

(Coffee Break)
4. Monitoring results of air quality and Problems of Environmental management (12:00 - 12:20)
  - 4.1 Summary presentation of 3 main Governorates (DAM, HCM, ALP)
5. Summary of the Environmental Monitoring Project and Subject for next stage (By GCEA) (12:20 - 13:00)
  - 5.1 Summary report of the seminar in ALP and HOM
  - 5.2 Future prospects and subjects for the environmental monitoring
  - 5.3 Summary of the Projects toward Phase-I
6. Closing address (13:00 - 13:20)  
  

(Lunch)

1/2

1/2

### **Attachment 3: 活動成果品リスト**

### Attachment 3 List of Output Materials×

| No.                                       | Name of Output Materials | English   | Arabic |   |
|---|--------------------------|---|--------|---|
| <b>Standard Operation Procedure (SOP)</b> |                          |   |        |   |
| Basic Water Quality Analysis (BW)         | 1                        | SOP for pH and Water Temperature Measurement                                      | 0      | 0 |
|   | 2                        | SOP for Color (Apparent) Measurement  | 0      | 0 |
|   | 3                        | SOP for Electrical Conductivity (EC) and Total Dissolved Solids (TDS) Measurement | 0      | 0 |
|   | 4                        | SOP for Dissolved Oxygen (DO) Measurement   | 0      | 0 |
|   | 5                        | SOP for Suspended Solid (SS) Measurement  | 0      | 0 |
|   | 6                        | SOP for Chemical Oxygen Demand (COD) Measurement (High Range 0-1,500 mg/l)        | 0      | 0 |
|   | 7                        | SOP for Chemical Oxygen Demand (COD) Measurement (Low Range 0-150 mg/l)           | 0      | 0 |
|   | 8                        | SOP for Biological Oxygen Demand (BOD) Measurement                                | 0      | 0 |
|   | 9                        | SOP for Nitrate (NO <sub>3</sub> -N) Measurement (High Range 0-30 mg/l)           | 0      | 0 |
|   | 10                       | SOP for Nitrate (NO <sub>3</sub> -N) Measurement (Mid Range 0-5.0 mg/l)           | 0      | 0 |
|   | 11                       | SOP for Phosphorous (PO <sub>4</sub> ) Measurement (High Range 0-30 mg/l)         | 0      | 0 |
|   | 12                       | SOP for Phosphorous (PO <sub>4</sub> ) Measurement (Low Range 0-2.50 mg/l)        | 0      | 0 |
|   | 13                       | SOP for Chloride (Cl <sup>-</sup> ) Measurement                                   | 0      | 0 |
|   | 14                       | SOP for Ammonia (NH <sub>3</sub> -N) Measurement (High Range 0-50 mg/l)           | 0      | 0 |
|   | 15                       | SOP for Ammonia (NH <sub>3</sub> -N) Measurement (Low Range 0-2.50 mg/l)          | 0      | 0 |
|   | 16                       | SOP for Turbidity Measurement   | 0      | 0 |
|   | 17                       | SOP for Sampling  | 0      | 0 |
|   | 18                       | SOP for Sampling Checklist  | 0      | 0 |
|   | 19                       | SOP for Field Measurement and Observation Record                                  | 0      | 0 |
|   | 20                       | SOP for Water Quality Results Record  | 0      | 0 |
|   | 21                       | SOP for Preservation and Storage of Samples                                       | 0      | 0 |
|   | 22                       | SOP for Water Stills  | 0      | 0 |
|   | 23                       | SOP for Interference Treatment  | 0      | 0 |
|   | 24                       | SOP for Reagent Correction  | 0      | 0 |
|   | 25                       | SOP for sending sample to DAM   | 0      | 0 |
| Chem. & Biol. Analysis 1 (CB 1)           | 1                        | Oil & Grease  | 0      | 0 |
|   | 2                        | Phosphorus  | 0      | 0 |
|   | 3                        | Chromium, Total   | 0      | 0 |
|   | 4                        | Chromium, Hexavalent  | 0      | 0 |
|   | 5                        | Nitrogen, Ammonia   | 0      | 0 |
|   | 6                        | Surfactants   | 0      | 0 |
|   | 7                        | Cyanide(Electrode)  | 0      | 0 |
|   | 8                        | Nitrate (Electrode)   | 0      | 0 |
|   | 9                        | Nitrate MR  | 0      | 0 |
|   | 10                       | Nitrite LR  | 0      | 0 |
|   | 11                       | Chloride (electrode)  | 0      | 0 |
|   | 12                       | Fluoride (Electrode)  | 0      | 0 |
|   | 13                       | Sulfide   | 0      | 0 |
|   | 14                       | SS  | 0      | 0 |
|   | 15                       | Total Coliform  | 0      | 0 |
|   | 16                       | SOP for COD <sub>Cr</sub>   | 0      | 0 |
|   | 17                       | De-Ionizing   | 0      | 0 |
|   | 18                       | SOP User Programs DR5000  | 0      | 0 |
|   | 19                       | SOP for sampling  | 0      | 0 |
| Chem. & Biol. Analysis 2 (CB 2)           | 1                        | SOP for the Determination of Chromium, Hexavalent for DR/4000                     | 0      | 0 |
|   | 2                        | SOP for the Determination of Chromium, Total for DR/4000                          | 0      | 0 |
|   | 3                        | SOP for the Determination of Hardness for DR/4000                                 | 0      | 0 |
|   | 4                        | SOP for the Determination of Nitrogen, Ammonia for DR/4000                        | 0      | 0 |
|   | 5                        | SOP for the Determination of Nitrate (Middle Range) for DR/4000                   | 0      | 0 |
|   | 6                        | SOP for the Determination of Nitrate (High Range) for DR/4000                     | 0      | 0 |
|   | 7                        | SOP for the Determination of Nitrite for DR/4000                                  | 0      | 0 |
|   | 8                        | SOP for the Determination of Phosphorus, Reactive (Orthophosphate) for DR/4000    | 0      | 0 |
|   | 9                        | SOP for the Determination of Sulfide for DR/4000                                  | 0      | 0 |
|   | 10                       | SOP for the Determination of Surfactants, Anionic (Detergents) for DR/4000        | 0      | 0 |
|   | 11                       | SOP for the Determination of Oil and Grease                                       | 0      | 0 |
| Heavy Metals Analysis (MH)                | 1                        | SOP for MA-01 Sampling  | 0      | 0 |
|   | 2                        | SOP for MA-02 Pretreatment  | 0      | 0 |
|   | 3                        | SOP for MA-03 Calibration Curve   | 0      | 0 |
|   | 4                        | SOP for MA-04 Flame   | 0      | 0 |
|   | 5                        | SOP for MA-05 Furnace   | 0      | 0 |
|   | 6                        | SOP for MA-06 Hg  | 0      | 0 |
|   | 7                        | SOP for MA-07 As  | 0      | 0 |
|   | 8                        | SOP for MA-08 Data Management   | 0      | 0 |

|   | No. | Name of Output Materials  | English | Arabic |
|---|-----|---|---------|--------|
|   | 9   | SOP for MA-09 Data Evaluation                                   | 0       | 0      |
|   | 10  | SOP for MA-10 Std addition method                               | 0       | 0      |
|   | 11  | SOP for MA-11 Matrix Modifier                                   | 0       | 0      |
| Air Quality Analysis (AQ)                     | 1   | SOP for AQA-1 (NOX)   | 0       | 0      |
|   | 2   | SOP for AQA-2 (SO2)   | 0       | 0      |
|   | 3   | SOP for AQA-3 (PM10)  | 0       | 0      |
|   | 4   | SOP for AQA-4 (TSP)   | 0       | 0      |
|   | 5   | SOP for AQA-5 (Pb)  | 0       | 0      |
|   | 6   | SOP for AQA-6 (O3)  | 0       | 0      |
|   | 7   | SOP for AQA-7 (NH3)   | 0       | 0      |
|   | 8   | SOP for AQA-8 (F)   | 0       | 0      |
|   | 9   | SOP for AQA-9-1 Passive of Cont                                 | 0       | 0      |
|   | 10  | SOP for AQA-10 Sampling Method                                  | 0       | 0      |
| <b>Operation and Maintenance (O/M) Manual</b> |     |   |         |        |
| Basic Water Quality Analysis (BW)             | 1   | Operation and Maintenance (O/M) Manual for Laboratory (BWQA)    | 0       | 0      |
|   | 2   | O-M Record for Equipment (BWQA)                                 | 0       | 0      |
|   | 3   | O-M Record for Reagents (BWQA)                                  | 0       | 0      |
|   | 4   | O-M Record for Laboratory Management Staff (BWQA)               | 0       | 0      |
|   | 5   | O-M Record for Suppliers Contact List (BWQA)                    | 0       | 0      |
|   | 6   | O-M Record for Sending Waste Liquid to DAM (BWQA)               | 0       | 0      |
| Chem. & Biol. Analysis 1 (CB 1)               | 1   | O-M record Chem. & Bio DAM                                      | 0       | 0      |
|   | 2   | Maintenance Glass Reagent Dam                                   | 0       | 0      |
| Heavy Metals Analysis (MH)                    | 1   | OM for MA-01 Flasks   | 0       | 0      |
|   | 2   | OM for MA-02 Pipettes   | 0       | 0      |
|   | 3   | OM for MA-03 Toxin1   | 0       | 0      |
|   | 4   | OM for MA-04 Toxin2   | 0       | 0      |
|   | 5   | OM for MA-05 Toxin3   | 0       | 0      |
|   | 6   | OM for MA-06 Consumables  | 0       | 0      |
|   | 7   | OM for MA-07 Periodical Maintenance                             | 0       | 0      |
|   | 8   | OM for MA-08 CC and Dilution                                    | 0       | 0      |
| Air Quality Analysis (AQ)                     | 1   | OM for AQA-1 Basic Operation in Chemical Analysis               | 0       | 0      |
|   | 2   | OM for AQA-2 Tools and Material OM                              | 0       | 0      |
|   | 3   | OM for AQA-3-1(DAM) Maintenance Glass Reagent Dam               | 0       | 0      |
|   | 4   | OM for AQA-3-2(HOM) Maintenance Glass Reagent Homs              | 0       | 0      |
|   | 5   | OM for AQA-3-3(ALP) Maintenance Glass Reagent Aleppo            | 0       | 0      |
| <b>Materials for Lecture Training</b>         |     |   |         |        |
| Environmental Management (EM)                 | 1   | Lecture for Environmental Management: 1 set                     | 0       |        |
| Basic Water Quality Analysis (BW)             | 2   | Lecture for Basic Water Quality Analysis: 1 set                 | 0       | 0      |
| Chem. & Biol. Analysis 1 (CB 1)               | 3   | Lecture for Chemical and Biological Analysis (1): 1 set         | 0       | 0      |
| Chem. & Biol. Analysis 2 (CB 2)               | 4   | Lecture for Chemical and Biological Analysis (2): 1 set         | 0       |        |
| Heavy Metals Analysis (MH)                    | 5   | Lecture for Heavy Metals Analysis: 1 set                        | 0       | 0      |
| Air Quality Analysis (AQ)                     | 6   | Lecture for Air Quality Analysis: 1 set                         | 0       | 0      |
| Data Management (DM)                          | 7   | Lecture for Data Management: 1 set                              | 0       | 0      |
| Environmental Education (E&E)                 | 8   | Lecture for Public Awareness and Environmental Education: 1 Set | 0       |        |



## **Attachment 4: セミナーとワークショップ記録**

## Attachment 4: Record of Seminars and Workshops

### 1. Seminar on Environmental Education

Date: 28 June 2005

Venue: Conference room of GCEA

Agenda:

- a) Broadcasting a video called 'Japan Experience on pollution control';
- b) Presentation by the environmental education expert concerning a proposal on environmental education, and
- c) Demonstration on the Eco-plant game.

#### List of Attendances for the Environmental Education Seminar

| Name                     | Organization   |
|--------------------------|--|
| Mr. Takoya Sasaki        | JICA (FIRDOS)  |
| Mr. Fareed Mawlawi       | Damascus Friends Association                                 |
| Dr. Yaser Al Muhamad     | Environment Protection & Sustainable Development Association |
| Mr. Tareq Al Boushi      | Syrian Association For Environment                           |
| Mr. Farah Huaijeh        | Syrian Association For Environment                           |
| Mr. Yamen Awad           | Syrian Association For Environment                           |
| Mr. Hisham Al Sati       | Damascus Friends Association                                 |
| Dr. Anwar Al Khateeb     | Damascus Friends Association                                 |
| Mr. Maha Nsair           | Syrian Association For Environmental life Protection         |
| Mr. Basema Mudawar       | Syrian Association For Environment                           |
| Dr. Ghassan Shaheen      | Syrian Association For Environment                           |
| Mr. Ali Ahmad Al Shimali | Fardos – Al Qunietra   |
| Mr. Katia Farah          | Damascus DFEA  |
| Mr. Nour Edin Al Shimali | Fardos – Al Qunietra   |
| Mr. Ghassan Al Jaffal    | Fardos – Al Qunietra   |
| Mr. Abeer Al Shimali     | Youth Union  |
| Mr. Samee Abbas          | Environment Friends Association                              |
| Mr. Marah Murad          | JICA   |
| Mr. Rasha Al Mehrez      | Damascus DFEA  |
| Mr. Sanaa Yaqoub         | Environment Protection & Sustainable Development Association |
| Dr. Warqaa Barmada       | Syrian Association for Environment                           |
| Mr. Dayetchi Konuma      | JICA (Fardos)  |

### 2. Seminar in DFEA on Public Awareness Raising for Industrial Sector (Aleppo DFEA)

Subject: Communication with Industrial sector

Venue: Aleppo DFEA

Date and Time: 10:00-12:30, 28 Jan., 2007

#### List of Attendances for the Seminar in Aleppo DFEA

| Name                        | Organization                                |
|-----------------------------|---|
| Mr. Mouhammed Saeid Naffous | Manager of Aleppo DFEA, Aleppo DFEA         |
| Mr. Ilia Wasel              | Air quality & data management, Aleppo DFEA  |
| Ms. Waffa Kraim             | Public awareness, Aleppo DFEA               |
| Ms. Khload Awayed           | Public awareness & air quality, Aleppo DFEA |
| Ms. Donia Ghariieb          | Public awareness & air quality, Aleppo DFEA |
| Mr. Mahmoud Hassan Esmacil  | Public awareness & air quality, Aleppo DFEA |
| Mr. Ahmad Mo'ala Ahmad      | Water quality, Aleppo DFEA                  |
| Mr. Mohammad Alhammadeh     | Water quality, Aleppo DFEA                  |
| Mr. Mohammad Rasheed        | Water quality, , Aleppo DFEA                |

### 3. Workshop with Chamber of Industry initiated by DFEA (Aleppo Chamber of Industry)

Subject: Workshop in Aleppo Chamber

Venue: Meeting room in Aleppo Chamber.

Date and Time: 10:00-01:00, 29 Jan., 2007

#### List of Attendances for the Environmental Education Seminar

| Name                       | Organization   |
|----------------------------|--|
| Mr. Nizam Esmail           | Tahan Co. /Publicity Management /M.Q.  |
| Mr. Mouhamed Haddad        | Ch. Ind /Lab-City -Ind   |
| Ms. Hanna Ekki             | Aleppo University / Faculty of Agronomy/ a member in governorate's session & a member of agricultural engineering unit |
| Mr. Ahmad Alskehkh Saleh   | The General Establishment of Railways/Chief of industrial safety and protection dept.                                  |
| Mr. Abd Aljalil Jarra      | Barakat for medicinal industries /Manager of quality accuracy  |
| Mr. Mouhammed Azzam Skheta | Skheta Co./Development &Research / researcher into environment affaires &food safety                                   |
| Mr. Wael Khder             | The General Company for sewerage /industrial waste monitoring / Environmental committee member in governorate          |
| Mr. Ahmad Mo'ala Ahmad     | Aleppo DFEA/Lab chief /Environmental committee member  |
| Mr. Mohammad Alhammadeh    | Aleppo DFEA/Lab /Environmental committee member  |
| Mr. Mohammad Rasheed       | Aleppo DFEA/Lab /Environmental committee member  |
| Mr. Walid Ak               | Asia for Fodder/General manager  |
| Mr. Azeez Alattar          | Arabian Co. for paper products /Manger of production   |
| Mr. Najem Aldeen Altanbi   | Arabian Co. for paper products/Engineering office supervisor   |
| Ms. Mai Bas                | Syndicate of agronomists/Environment committee chief in the syndicate  |
| Ms. Donia Ghariieb         | Aleppo DFEA/Lab/Eng.   |
| Ms. Khload Awayed          | Aleppo DFEA /Lab/Eng.  |
| Ms. Waffa Kraim            | Aleppo DFEA/Public awareness/Eng.  |
| Ms. Hiba Hadidi            | Aleppo DFEA/Eng.   |
| Mr. Elias Khoudari         | Engineering office for treatment station and environment /Eng  |
| Mr. Aed Alhakeem Bannoudd  | Syndicate of engineering /Environmental engineering /Dean of technical engineering                                     |

### 4. Workshop with Chamber of Industry initiated by DFEA (Lattakia Chamber of Commerce & Industry)

Subject: Workshop in Lattakia Chamber of Commerce & Industry

Venue: Meeting room in Lattakia Chamber

Date and Time: 10:30-12:30, 31 Jan., 2007

#### List of Attendances for the Workshop in Lattakia Chamber of Commerce & Industry

| Name                | Organization                                      |
|---------------------|---|
| Mr. Habeeb Deratani | Lattakia DFEA /Assistant manager of Lattakia DFEA |
| Mr. Senan Deeb      | Lattakia DFEA/Lab staff                           |
| Ms. Ammal Allo      | Lattakia DFEA/Eng/ Public awareness               |
| Ms. Awatef HADAD    | Lattakia DFEA/Eng/ Public awareness               |
| Ms. Kinda Haddad    | Lattakia DFEA/Eng/Public awareness                |
| Ms. Maya Yaseen     | Lattakia DFEA/ Eng. /Lab staff                    |
| Mr. Thaer Mouhammed | Lattakia DFEA/ Eng. /Lab staff                    |
| Ms. Suzan Shaddod   | Lattakia DFEA/Eng. /Lab staff                     |
| Ms. Hadeel Wannus   | Lattakia DFEA/Eng. /Lab staff                     |
| Mr. Yousef Ali      | Tishreen Newspaper /Journalist                    |
| Mr. Sami Sufi       | Chamber manager of Industry & Commerce            |
| Mr. Assem Souliman  | Board member                                      |
| Mr. Numman Saai     | Board member                                      |
| Mr. Saad Allh Zedan | Board member                                      |
| Mr. Gaber Aldarf    | Board member                                      |
| Mr. Talal Raai      | Raai Ikhoun for purification of olive 's oil      |
| Mr. Waleed Saleh    | Commercial representative                         |

| Name                    | Organization                 |
|-------------------------|------------------------------|
| Mr. Mouhammed Soufi     | Commercial representative    |
| Ms. Nouha Shekh Suliman | Alwatan Newspaper/Journalist |
| Ms. Nariman Hasna       | Alwehda Newspaper/Journalist |
| Ms. Tagreed Zayood      | Alwehda Newspaper/Journalist |
| Mr. Riad Helal          | Agricultural Company         |

## 5. Seminar in DFEA on Public Awareness Raising for Industrial Sector (Damascus DFEA)

Subject: Seminar for Public Awareness

Venue: Damascus DFEA

Date and Time: 11:00-12:00, 1 Feb., 2007

### List of Attendances for the Seminar in Damascus DFEA

| Name                | Organization                    |
|---------------------|---------------------------------|
| Mr. Almuthana Ganem | Damascus DFEA/Data management   |
| Ms. Rasha Mehrez    | Damascus DFEA/ Public Awareness |
| Mr. Iman Suleman    | Damascus DFEA/Lab staff         |

## 6. Workshop with Chamber of Industry initiated by DFEA (Damascus Chamber of Industry)

Subject: Workshop in Damascus Chamber of Industry

Venue: Damascus Chamber of Industry.

Date and Time: 12:00-14:00. 4 Feb., 2007

### List of Attendances for the

| Name                         | Organization  |
|------------------------------|---|
| Mr. Mohamed Walid Malas      | Damascus & Damascus countryside Chamber of Industry |
| Eng. Mohamed Ali             | Habi Tex Co.  |
| Mr. Eiad Alhashmy            | Rafik Albrgali Co.                                  |
| Eng. Ratib Ramadan           | Madar Company for chemicals                         |
| Mr. Chade Aroob              | Madar Company for chemicals                         |
| Mr. Asama Balki              | Madar Company for chemicals                         |
| Mr. Bashar Maani             | Maani Group –Damascus                               |
| Ms. Rahaf Kahwaji            | JICA DETEX project                                  |
| Eng. Mohamed basel Al-hafar  | TUV-ME  |
| Mr. Amer Malas               | Malas 's laundry                                    |
| Mr. Ziad Al-Doumani          | Colour Tex for Dying                                |
| Mr. Mohamed Ammar Rifai      | Colour Tex for Dying                                |
| Eng. Nizar Jalaghi           | Unipharma for Medicine                              |
| Eng. Ahmad Alakkad           | Salsbil's Company                                   |
| Eng. Basel Takie Eddine      | New Company for dying                               |
| Eng. Wadia'a Jeha            | Manager's assistant of Damascus DFEA                |
| Eng. Gloria Moussa           | GCEA  |
| Mr. Mouhamed Abed Alla Mozek | Mozek's company for paper                           |
| Mr. Firas Kassem             | Kadri and Kassem for dying                          |
| Ms. Reem Fawakheeri          | Alhilali, Almwaldi & partners Co.                   |
| Mr. Mouhamed Al-Helbawi      | Altawfeek's plant for bactericides                  |
| Mr. Mohamed Tawfik Mourad    | Murad Co. for Textile & Spinning                    |
| Mr. Adel Galoul              | Algaloul Company for Agricultural Tools             |
| Dr. Mamoun El Bahra          | Albahra & Partners Co.                              |
| Eng. Firas Kahwaji           | Engineering office                                  |
| Eng. Yasser Helbawi          | Altawfeek's plant for Bactericides                  |
| Dr. Mohamed Radwan Abdeen    | Savco for Veterinary Medicine                       |

## 7. Final Seminar in Aleppo

Subject: Final Seminar of the Project in Aleppo

Contents: Overall Results of the Project for Aleppo, Idleb, Hasakeh, Deir ez Zor, and Rakka DFEAs

Date and Time: 10:00-14:00. 5 Dec., 2007

### List of Attendances for the Final Seminar in Aleppo

| Name                        | Position   | Organization      |
|-----------------------------|--|-------------------|
| Eng. Saeed Naffous          | Director   | Aleppo DFEA       |
| Mr. Ahmad Mo'ala Ahmad      | Lab chief  | Aleppo DFEA       |
| Mr. Mohammad Hammadeh       | Lab staff (Water Quality Analysis)               | Aleppo DFEA       |
| Mr. Mohammad Rasheed        | Lab staff (Water Quality Analysis)               | Aleppo DFEA       |
| Mr. Mouhamed Najeeb Fattouh | Lab staff  | Aleppo DFEA       |
| Mr. Iliia Wasel             | Lab staff (Air Quality Analysis/Data management) | Aleppo DFEA       |
| Ms. Donia Gharieb           | Lab staff (Air Quality Analysis)                 | Aleppo DFEA       |
| Ms. Khload Awayed           | Lab staff (Air Quality Analysis)                 | Aleppo DFEA       |
| Ms. Hiba Hudari             | Lab staff (Air Quality Analysis)                 | Aleppo DFEA       |
| Ms. Mai Leboss              | Eng. Syndicate                                   | Aleppo            |
| Ms. Souhayla Mouhajer       | Env. Committee in Aleppo Governorate             | Aleppo            |
| Mr. Mohammed Amin Al Kalaf  | Director   | Deir ez Zor DFEA  |
| Mr. Saher Abdullah          | Lab chief  | Deir ez Zor DFEA  |
| Mr. Omar Almala Ali         | Lab staff  | Deir ez Zor DFEA  |
| Ms. Jomana Hasan            | Director   | Idleb DFEA        |
| Mr. Sameer Da'boul          | Lab Chief  | Idleb DFEA        |
| Mr. Mustafa Al-Dghayem      | Lab staff  | Idleb DFEA        |
| Mr. Mustafa Haddad          | Lab staff  | Idleb DFEA        |
| Mr. Kais Abazli             | Lab staff  | Idleb DFEA        |
| Mr. Eiad Al-Husein          | Lab staff  | Idleb DFEA        |
| Mr. Aysar Beniameen         | Lab staff  | Hasakeh DFEA      |
| Ms. Abir Hanna              | Lab staff  | Hasakeh DFEA      |
| Mr. Nawaf Othman            | Lab staff  | Hasakeh DFEA      |
| Mr. George Shabo            | Lab staff  | Hasakeh DFEA      |
| Mr. Emad Meslet             | Lab staff  | Hasakeh DFEA      |
| Ms. Shamsa Aljasem          | Director   | Rakka DFEA        |
| Ms. Adib Amouri             | Lab chief  | Rakka DFEA        |
| Mr. Wayl Kheder             | General Company for Sewerage                     | Aleppo            |
| Dr. Talal Masri             | Mechanical Engineering Faculty                   | Aleppo University |
| Mr. Khallad Jamal           | Chamber of industry                              | Aleppo            |
| Mr. Ahmad Ammar Said        | Free land Consultant                             | Aleppo            |
| Dr. Zuhair Masri            | Land Management                                  | ICARDA in Aleppo  |
| Dr. Waleed Isa              | Head of General Water Monitoring Dept.           | Aleppo            |
| Mr. Omar Sharani            | Member of exertive bureau                        | Aleppo            |

### Japanese Side

| Name                   | Position                             | Organization            |
|------------------------|--------------------------------------|-------------------------|
| Mr. Nawras Khaled      | Program officer                      | JICA Syria Office       |
| Ms. Higshi Kaori       | JICA Staff                           | JICA Syria Office       |
| Mr. Ken Morino         | JICA Senior volunteer                | Aleppo Chamber Industry |
| Mr. Yoichi Iwai        | Team Leader/Environmental Management | JICA Expert Team        |
| Mr. Shunsuke Sato      | Member                               | JICA Expert Team        |
| Dr. Ryunan Matsue      | Team Member                          | JICA Expert Team        |
| Mr. Mohammed Aldoubosh | Interpreter                          | JICA Expert Team        |
| Mr. Wasim Kabbesh      | Interpreter                          | JICA Expert Team        |

## 8. Final Seminar in Hama

Subject: Final Seminar of the Project in Hama

Contents: Overall Results of the Project for Hama, Homs, Tartous, and Lattakia DFEAs

Date and Time: 10:00-14:00. 6 Dec., 2007

### List of Attendances for the Final Seminar in Hama

| Name                       | Position                            | Organization  |
|----------------------------|-------------------------------------|---------------|
| Mr. Suleiman Kalo          | Director                            | Homs DFEA     |
| Mr. Muhamed Ali Al Husien  | Lab staff                           | Homs DFEA     |
| Ms. Sana Mansour           | Chief of water lab                  | Homs DFEA     |
| Ms. Hanan Naffouj          | Data Management                     | Homs DFEA     |
| Mr. Ali Jwaied             | Director                            | Hama DFEA     |
| Ms. Rana Wardeh            | Lab chief                           | Hama DFEA     |
| Ms. Nameer Warra           | Lab staff                           | Hama DFEA     |
| Ms. Yasmin Haidar          | Lab staff                           | Hama DFEA     |
| Ms. Hebah Khouri           | Lab staff                           | Hama DFEA     |
| Mr. Durgham Flaha          | Soil analysis                       | Hama DFEA     |
| Ms .Raw'a Al habian        | Environmental Safety Department     | Hama DFEA     |
| Mr. Hasan Yousef           | EIA                                 | Hama DFEA     |
| Mr. Ahmad Harbi            | Soil Lab                            | Hama DFEA     |
| Ms. Sawsan Hammud          | Soil Lab                            | Hama DFEA     |
| Ms. Noorha Alshishakly     | Water Lab                           | Hama DFEA     |
| Ms. Shatha Soltan          | Planning Department                 | Hama DFEA     |
| Mr. Osama Alrail           | IT. Department                      | Hama DFEA     |
| Ms. Rana Alshuriki         | Officer                             | Hama DFEA     |
| Ms .Esraa Dhemesh          | Officer                             | Hama DFEA     |
| Mr. Mahmoud Alhassan       | Officer                             | Hama DFEA     |
| Mr. Sameer Abd Alrazak     | General director of sewerage        | Hama          |
| Mr. Abd Alraheem Alkhateeb | Directorate of water resources      | Hama          |
| Mr. Nidal Rasheed Bakoor   | Head of Industrial chamber in Hama  | Hama          |
| Mr. Mesaef Alwani          | Member of exertive bureau           | Hama          |
| Mr. Abd Alla Alshekh       | Secretary of Sana in Hama           | Hama          |
| Mr. Abed Almajed Alrahmoon | Reporter for Alfeda Newsletter      | Hama          |
| Mr.Kanaan Pukhar           | Reprehensive of Env Friends society | Hama          |
| Mr. Badi Haidar            | Lab staff                           | Lattakia DFEA |
| Mr. Mohammed Milhem        | Lab staff                           | Lattakia DFEA |
| Mr. Thaer Mohamad          | Lab staff                           | Lattakia DFEA |
| Mr. Hasan Marjan           | Director                            | Tartus DFEA   |
| Ms. Sohila Botros          | Lab staff                           | Tartus DFEA   |
| Ms. Ameera Omran           | Lab staff                           | Tartus DFEA   |
| Ms. Rowdaina Al-Ali        | Lab staff                           | Tartus DFEA   |
| Ms. Smaher Abdul Rahman    | Lab staff                           | Tartus DFEA   |
| Mr. Osama Ali              | Mobile lab                          | Tartus DFEA   |

### Japanese Side

| Name                   | Position                             | Organization      |
|------------------------|--------------------------------------|-------------------|
| Ms. Mayumi Mura Kami   | JICA .ARR                            | JICA Syria Office |
| Mr. Nawras Khaled      | Program officer                      | JICA Syria Office |
| Ms. Higshi Kaori       | JICA staff                           | JICA Syria Office |
| Mr. Yoichi Iwai        | Team Leader/Environmental Management | JICA Expert Team  |
| Mr. Shunsuke Sato      | Member                               | JICA Expert Team  |
| Dr. Ryunan Matsue      | Team Member                          | JICA Expert Team  |
| Mr. Mohammed Aldoubosh | Interpreter                          | JICA Expert Team  |
| Mr. Wasim Kabbesh      | Interpreter                          | JICA Expert Team  |

## 9. Final Seminar in Damascus

Subject: Final Seminar of the Project in Damascus

Contents: Overall Results of the Project for Damascus, Damascus Countryside, Dara'a, Sweida, and Quneitra DFEAs

Date and Time: 10:00-14:00. 9 Dec., 2007

### List of Attendances for the Final Seminar in Damascus

#### Syrian Side

| Name                        | Position                                 | Organization              |
|-----------------------------|--|---------------------------|
| Dr. Bisher Alsaban          | Governor                                 | Damascus Governorate.     |
| Dr. Akram S. Alkouri        | General Director                         | GCEA                      |
| Dr. Yasin Moa'lla           | Director of Directorate of Laboratories, | GCEA                      |
| Ms. Fathia Mohammed         | Directorate of Laboratories.             | GCEA                      |
| Eng. Basel Barni            | Directorate of Atmospheric air safety    | GCEA                      |
| Mr. Bassam Kheir beik       | Director                                 | Damascus DFEA             |
| Ms. Wadia'a Jaha Khouri     | Deputy Director                          | Damascus DFEA             |
| Ms. Riem Sadr Alden         | Laboratory Chief                         | Damascus DFEA             |
| Ms. Ms. Iman Sulayman       | Lab staff                                | Damascus DFEA             |
| Ms. Sohad Sida              | Lab staff                                | Damascus DFEA             |
| Ms. Inas Webby              | Lab staff                                | Damascus DFEA             |
| Ms. Raniya Sulayman         | Lab staff                                | Damascus DFEA             |
| Ms. Firyal Al Husayni       | Lab staff                                | Damascus DFEA             |
| Ms. Omaima Younes           | Lab staff                                | Damascus DFEA             |
| Mr. Tallat Harb             | Lab staff                                | Damascus DFEA             |
| Ms. Assmaa Altabakh         | Lab staff                                | Damascus DFEA             |
| Mr. Thaer Daif              | Director                                 | Damascus Countryside DFEA |
| Ms. Muna Al Joma`a          | Lab chief                                | Damascus Countryside DFEA |
| Mr. Malek Soliman           | Lab staff                                | Damascus Countryside DFEA |
| Ms. Lina Yousef             | Lab staff                                | Damascus Countryside DFEA |
| Ms. Rania Karawi            | Lab staff                                | Damascus Countryside DFEA |
| Ms. Dana Fuad Altahan       | Lab staff                                | Damascus Countryside DFEA |
| Ms. Hana Bairoti            | Lab staff                                | Damascus Countryside DFEA |
| Dr. Motasem Al Abed         | Director                                 | Sweida DFEA               |
| Mr. Humam Abo Raid          | Lab staff                                | Sweida DFEA               |
| Mr. Bashar Aljarmakani      | Lab staff                                | Sweida DFEA               |
| Mr. Wael Abu Ganem          | Lab staff                                | Sweida DFEA               |
| Ms. Raghada Abu Hasson      | Lab staff                                | Sweida DFEA               |
| Ms. Hana Abu Zaidan         | Lab staff                                | Sweida DFEA               |
| Mr. Samer Al Masri          | Lab staff                                | Sweida DFEA               |
| Ms. Amal Swaidan            | Lab staff                                | Sweida DFEA               |
| Mr. Thaer Hamzeh            | Lab staff                                | Sweida DFEA               |
| Ms. Waffa Alsalman          | Lab staff                                | Sweida DFEA               |
| Mr. Ahmad Kablawi           | Director                                 | Dara'a DFEA               |
| Mr. Mohammad Al-hariri      | Lab staff                                | Dara'a DFEA               |
| Mr. Ateea Zwayda            | Lab staff                                | Dara'a DFEA               |
| Mr. Yousef Shadaideh        | Lab staff                                | Dara'a DFEA               |
| Mr. Diea Shabat             | Lab staff                                | Dara'a DFEA               |
| Mr. Imad Abo Habash         | Lab staff                                | Dara'a DFEA               |
| Mr. Hamzeh Soliman          | Director                                 | Qunaitra DFEA             |
| Mr. Majed Zaitoun           | Lab staff                                | Qunaitra DFEA             |
| Mr. Ali Ibrahim             | Lab staff                                | Qunaitra DFEA             |
| Ms. Mouhamad Fawaz Alsafadi | Officer                                  | Damascus Governorate      |

**Japanese Side**

| <b>Name</b>            | <b>Position</b>                      | <b>Organization</b> |
|------------------------|--------------------------------------|---------------------|
| Mr. Satoshi Baba       | Second Secretary                     | Embassy of Japan    |
| Mr. Ghassan Habbal     | Economical Section                   | Embassy of Japan    |
| Ms. Akiko Tomita       | Resident Representative              | JICA Syria Office   |
| Mr. Nawras Khaled      | Program officer                      | JICA Syria Office   |
| Ms. Higshi Kaori       | JICA staff                           | JICA Syria Office   |
| Mr. Tsuyosh Hashimoto  | Team Leader                          | JICA Study team     |
| Ms. Hirokko Nariyawa   | JOVC                                 | JICA Syria Office   |
| Ms. Naomi Wake         | JOVC                                 | JICA Syria Office   |
| Mr. Yoichi Iwai        | Team Leader/Environmental Management | JICA Expert Team    |
| Mr. Shunsuke Sato      | Member                               | JICA Expert Team    |
| Dr. Rynan Matsue       | Team Member                          | JICA Expert Team    |
| Mr. Koji Kimura        | Member                               | JICA Expert Team    |
| Mr. Mohammed Aldoubosh | Interpreter                          | JICA Expert Team    |
| Mr. Wasim Kabbesh      | Interpreter                          | JICA Expert Team    |
| Ms. Rula Sabboh        | Secretary                            | JICA Expert Team    |



## **Attachment 5: 収集資料リスト**

### Attachment 5 List of Collected Data and Documents

| Serial No. | Title  | Type     | Size | Page No. | Orig/Copy | No. | Provided or Issued by  | Presented/<br>Purchased | Person in charge | Date         |
|------------|--|----------|------|----------|-----------|-----|------------------------|-------------------------|------------------|--------------|
| 1          | Plan View of Laboratory in Damascus DFEA   | Drawing  | A4   | 1        | Orig      | 1   | Damascus DFEA          | Presented               | R. Matsue        | 11 Jan. 2005 |
| 2          | Lake Water Quality Management (International Lake Environmental Committee)   | Report   | A4   | 13       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 3          | Coastal Water Resources Management Project<br>Assessment of the Groundwater Resources and Recommendations for Their Development and Management | Report   | A4   | 58       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 4          | Coastal Water Resources Management Project<br>Surface Water  | Report   | A4   | 59       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 5          | Coastal Water Resources Management Project<br>Water Use in Agriculture   | Report   | A4   | 33       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 6          | Coastal Water Resources Management Project<br>Water Pollution Control  | Report   | A4   | 59       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 7          | Coastal Water Resources Management Project<br>Environmental Impact Aspects   | Report   | A4   | 50       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 8          | Coastal Water Resources Management Project<br>Water Balances in the Syria Coastal Basin  | Report   | A4   | 17       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 9          | Coastal Water Resources Management Project<br>The Coastal Basin Water Management Action Plan   | Report   | A4   | 74       | Copy      | 1   | Ministry of Irrigation | Presented               | R. Matsue        | 17 Jan. 2005 |
| 10         | Environmental and Scientific Research Center   | Pamphlet | A4   | 5        | Copy      | 1   | MOLAE                  | Presented               | R. Matsue        | 31 Jan. 2005 |

| Serial No. | Title   | Type   | Size | Page No. | Orig/Copy | No. | Provided or Issued by                   | Presented/<br>Purchased | Person in charge | Date          |
|------------|---|--------|------|----------|-----------|-----|---|-------------------------|------------------|---------------|
|            | (ESRC)  |        |      |          |           |     |   |                         |                  |               |
| 11         | Country Report, Syria<br>Lake Water Quality Management JFY 2003   | Report | A4   | 33       | Copy      | 1   | Ministry of Irrigation                  | Presented               | R. Matsue        | 21 Feb. 2005  |
| 12         | Laboratory Equipment List   | Report | A4   | 3        | Copy      | 1   | Ministry of Housing and<br>Construction | Presented               | R. Matsue        | 21 Feb. 2005  |
| 13         | Text Book for Laboratory Analysis of Water<br>Quality   | Book   | A4   | 90       | Orig      | 1   | Ministry of Housing and<br>Construction | Presented               | R. Matsue        | 21 Feb. 2005  |
| 14         | Environmental Guideline for the Works in the<br>Field of Administration and Monitoring of<br>Drinking Water                 | Book   | A4   | 164      | Orig      | 1   | Ministry of Housing and<br>Construction | Presented               | R. Matsue        | 21 Feb. 2005  |
| 15         | National Environmental Strategy and Action<br>Plan of Syria (2003)  | Book   | A4   | 69       | Orig      | 1   | UNDP                                    | Presented               | R. Matsue        | 28 Feb. 2005  |
| 16         | The Situation in Lattakia Lab.  | Report | A4   | 3        | Copy      | 1   | Lattakia DFEA                           | Presented               | R. Matsue        | 29 Dec. 2005  |
| 17         | National Environmental Action Plan for Syrian<br>Arab Republic  | Book   | A4   | 117      | Orig      | 1   | UNDP                                    | Presented               | R. Matsue        | 12 Jul. 2007  |
| 18         | Administration of resulting rests of olive<br>squeezing   | Report | A4   | 7        | Copy      | 1   | Idleb DFEA                              | Presented               | S. Sato          | 9 July, 2005  |
| 19         | SASMO (Effluent standards in Syria)   | Report | A4   | 10       | Copy      | 1   | Ministry of Irrigation                  | Presented               | S. Sato          | Jul., 2005    |
| 20         | Program for Quality Control of the Laboratory<br>Analysis by AEC  | Report | A4   | 3        | Copy      | 1   | Ministry of Irrigation                  | Presented               | S. Sato          | Jul., 2006    |
| 21         | Comments on the Study Report of "Industrial &<br>Municipal Wastewater Treatment Plants in<br>Industrial City Sheikh Najjar" | Report | A4   | 27       | Copy      | 1   | Dr. Ueno/SV                             | Presented               | S. Sato          | 10 Jan., 2007 |
| 22         | Instruction Manual of AA-6800 (Arabic)  | Report | A4   | 88       | Copy      | 1   | Water Institute of Homs                 | Presented               | K.KIMURA         | 8 Jan., 2006  |

| Serial No. | Title  | Type   | Size | Page No. | Orig/Copy | No. | Provided or Issued by       | Presented/<br>Purchased | Person in charge | Date          |
|------------|--|--------|------|----------|-----------|-----|-----------------------------|-------------------------|------------------|---------------|
| 23         | Instruction Manual of GFA-6500 (Arabic)                  | Report | A4   | 30       | Copy      | 1   | Water Institute of Homs     | Presented               | K.KIMURA         | 8 Jan., 2006  |
| 24         | Instruction Manual of HVG-1 (Arabic)                     | Report | A4   | 30       | Copy      | 1   | Water Institute of Homs     | Presented               | K.KIMURA         | 8 Jan., 2006  |
| 25         | Atomic Absorption Spectrophotometer Cookbook (English)   | Report | A4   | 227      | Copy      | 1   | Shimadzu                    | Presented               | K.KIMURA         | 17 Jan., 2007 |
| 26         | Heavy metals in dewatered sludge                         | Report | A4   | 1        | Copy      | 1   | Adra Sewage Treatment Plant | Presented               | K.KIMURA         | 26 Dec., 2005 |
| 27         | The latest step in hydride analysis                      | Report | A4   | 1        | Copy      | 1   | ESRC                        | Presented               | K.KIMURA         | 28 Dec., 2005 |
| 28         | Air Quality Environmental Standard and Emission Standard | Report | A4   | 1        | Copy      | 1   | GCEA                        | Presented               | M. Hirao         | 16 Jun. 2005  |
| 29         | Air Quality of Syria                                     | Report | A4   | 4        | Copy      | 1   | ESRC                        | Presented               | M. Hirao         | 13 Nov. 2006  |