付　属　資　料

１．詳細計画策定調査時 M/M
２．締結済み R/D、M/M
３．PO（案）（英文）
４．シリアの行政組織図
５．灌漑省の組織図
６．水資源公団（GCWR）の組織図
７．統合水資源管理局（IMWRD）の組織図
８．PCM ワークショップ結果
９．県水資源局（WRD）の組織図
10. 水資源情報センター（WRIC）の組織図
11. プロジェクトの実施体制図
12. 現地踏査（11/1～11/20）関連資料
13. WRIC フェーズ 2 概念図
14. 調査日程
15. 主要面談者
16. 質問票と回答
17. 収集資料リスト
18. シリアの現状
19. その他資料、情報等

MINUTES OF MEETINGS
BETWEEN THE JAPANESE DETAILED PLANNING SURVEY TEAM
AND
THE AUTHORITIES CONCERNED OF THE GOVERNMENT OF
THE SYRIAN ARAB REPUBLIC
ON
JAPANESE TECHNICAL COOPERATION
FOR
WATER RESOURCES INFORMATION CENTER PROJECT PHASE II

The Japanese Detailed Planning Survey Team (hereinafter referred to as "the Team") of the Japan International Cooperation Agency (hereinafter referred to as "JICA") headed by Mr. Kenji Nagata, visited the Syrian Arab Republic from November 1st to 24th, 2009, for the purpose of discussing with the Syrian authorities concerned (hereinafter referred to as "the Syrian side") on the formation of the Japanese technical cooperation for Water Resources Information Center Project Phase II (hereinafter referred to as "the Project").

During its stay in the Syrian Arab Republic, the Team exchanged views and had a series of discussions with the Syrian side. As a result of the discussions, both the Team and the Syrian side came to record the document attached hereto.

Damascus, November 16th, 2009

Mr. Kenji Nagata
Team Leader,
Detailed Planning Survey Team
Japan International Cooperation Agency

Maysa ALawa, Director
Integrated Water Resources Management
State Planning Commission
The Syrian Arab Republic

Eng. Hussein Makhlouf
Director General,
General Commission for Water Resources
Ministry of Irrigation
The Syrian Arab Republic

ATTENDANTS LIST

Syrian Side

Eng. Hussein Makhlouf	Director General, General Commission for Water Resources (GCWR)
Dr. Bachar J. Faiad	Director, Water Resources Information Center (WRIC)
Dr. Bassam Zakkar	Director, Integrated Management of Water Resources Directorate (IMWRD), GCWR
Eng. Jorjeit Sroor	Director, Planning and Training, GCWR
Ms. Mayada Al-Qadhamani	Director, Monitoring Water Quality Directorate
Dr. Rateb Saegh	Head of Water Resources and Information, IMWRD, GCWR
Dr. Jamil Fallouh	Director, Water Resources Directorate in Damascus and Rural Damascus (DRD)
Mr. Omar Al Shamali	Director, Water Resources Directorate in Homs
Eng. Yahya Noufal	Director, Water Resources Directorate in Sweida

Japanese Side

Mr. Kenji Nagata	Team Leader, Detailed Planning Survey Team
Mr. Ryuji Ogata	Planning Management
Mr. Issei Aoki	Project Planning
Mr. Kotaro Matsunawa	Hydrology and Meteorological Equipment Planning
Mr. Taketoshi Matsunaga	Data Processing and Analysis
Ms. Tamaki Muto	Evaluation and Analysis
Ms. Akiko Tomita	Chief Representative, JICA Syria Office
Mr. Takashi Hibino	Representative, JICA Syria Office

Japanese Expert

Mr. Osamu Itagaki	Water Resources Policy Advisor/JICA Expert, GCWR,

THE ATTACHED DOCUMENT

The Team and the Syrian side agreed on the following articles, which will be finalized when Record of Discussions (R/D) is signed and approved by competent authorities in both sides. Draft R/D is listed in Annex I. Signing of R/D is expected to be in February 2010.

I. Master Plan for the Project

The Team and the Syrian side agreed on the contents of Master Plan for the Project, which are as follows.

1. Title of the Project

The Team and Syrian side agreed to name the title of the Project as Water Resources Information Center (hereinafter referred to as "WRIC") Project Phase II. The official title of the Project will be finalized when R/D is signed.

2. Overall Goal

A water resources management plan is prepared by General Commission for Water Resources (hereinafter referred to as "GCWR").

3. Project Purpose

Water Resources Information is effectively utilized by GCWR.

4. Outputs

(1) Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.
(2) The capacity of all WRIC local centers is improved to provide water resources data and information to the WRIC main center.
(3) The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.
(4) The WRIC main database is used by relevant headquarters directorates of GCWR.
(5) Water balance models are elaborated in Badya, Barada-Awaj and Coastal Basins.

5. Activities

1-1)Study necessary water resources observation facilities and data processing systems in Badya Basin.
1-2)Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus (DRD).
1-3)Install water resources observation facilities in Badya Basin and improve data processing

systems for five WRIC local centers.
1-4)Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities.
1-5)Carry out observation of water resources in Badya Basin.
1-6)Process and store the observation data.
1-7)Submit the processed data to the WRIC main center.

2-1)Study problems and issues of each WRIC local center.
2-2)Install necessary water resources observation facilities and data processing systems.
2-3)Train staff members of WRIC local centers on observation and data collection.
2-4)Train staff members of WRIC local centers on data processing.
2-5)Train staff members of WRIC local centers on maintenance of monitoring facilities.

3-1)Train staff members of the WRIC main center on data processing and analysis.
3-2)Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.
3-3)Train staff members of the WRIC main center on providing necessary information that meets user's needs.

4-1)Identify necessary improvement (interface and database itself) of each small database that is used in each directorate of GCWR in order to use the WRIC main database.
4-2)Configure an intranet system to enable the relevant headquarters directorates to access the WRIC main database.
4-3)Train the relevant headquarters directorates to ensure to utilize the WRIC main database.

5-1)Review existing water balance models.
5-2)Select target basins and/or specific areas to establish water balance models.
5-3)Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.

II. Record of Discussions (R/D)

1. Contents of R/D

The Team explained the articles of the final version of R/D in details to the Syrian side. The both sides discussed the contents of R/D, and agreed on them.

2. Signers of R/D

The both sides agreed that the signer of the Japanese side would be Chief Representative of JICA Syria Office and the signer of the Syrian side would be Director General of GCWR and a representative of State Planning Commission.

III. Project Design Matrix (PDM)

The Team and Syrian side agreed on PDM as listed in Annex II.

IV. Duration of the Project

The duration of the Project will be 4 years, and it is expected to start in June 2010.

V. Administration of the Project

1. Project Director

The both sides confirmed that Minister of Ministry of Irrigation would be Project Director.

2. Project Manager

The both sides confirmed that Director General of GCWR would be the Project Manager. The Project Manager would bear responsibility for the administration and implementation as well as managerial and technical matters of the Project including personnel assignment and budget of GCWR.

3. Organization Charts

The both sides confirmed the Organization Charts of Ministry of Irrigation listed in Annex III, of GCWR listed in Annex IV and of the Project listed in Annex V.

4. Establishment of WRIC Local Centers

WRIC local centers in Badya Basin will be set up in Hama, Raqqa, Homs and Sweida and the WRIC local center in DRD will be expanded.

5. Joint Coordinating Committee

Director General of GCWR will be Chairperson of Joint Coordinating Committee. Proposed Function, Chairperson and Members of Joint Coordinating Committee are listed in Annex VI.

VI. Measures to be Taken by the Japanese Side

1. Dispatch of Long-Term Experts

- Chief Advisor
- Water Resources Monitoring and Management
- Project Coordinator

2. Dispatch of Short-Term Experts

- Water Resources Monitoring

- Water Resources Management
- Observation Equipment
- GIS and Database
- Water Balance Modeling

Other experts will be dispatched if necessary.

3. Training of Counterpart Personnel in Japan

For the effective implementation of the Project, relevant counterpart personnel will be sent to Japan for short-term training. The Syrian side requested that at least five officers in GCWR would be dispatched to Japan per year. The Team took note of the request and will convey it to JICA headquarters. Expertise of candidate courses is as follows.

- GIS
- Databases
- Modeling (Water balance, ground water)
- Maintenance of Equipment
- Water quality
- Water resources management
- Water resources monitoring and data processing

4. Provision of Equipment

1) The Japanese side will provide the equipment within the budgetary limitation. The Syrian side submitted to the Team the tentative list of equipment necessary for the implementation of the Project as shown in Annex VII.
2) The Team explained that Japanese experts would be dispatched to Syria to confirm the detailed specifications and quantity of the equipment. Considering the necessity and the budgetary limitation, the tentative list of the equipment may subject to change after confirmation of the quantity and detailed specification of the equipment.

VII. Measures to be Taken by the Syrian Side

1. Assignment of Personnel for the Project

1) The Syrian side will assign qualified personnel in WRIC and relevant Directorates in GCWR; for example, it will consider assignment of personnel for the Project from other governmental agencies and the private sector, if necessary.
2) Director General of GCWR will pay special attention to his/her staff that will be trained through the Project to keep them working in WRIC and/or relevant Directorates in GCWR to make use of their enhanced expertise.

2. Protection and Maintenance of the Equipment

The Syrian side will have responsibility including cost and personnel for the protection and maintenance of the equipment during and after the Project.

3. Spaces and Personnel for WRIC Local Centers

The Syrian side will maintain enough spaces and assign personnel for WRIC local centers to be established in Badya Basin.

VIII. Flow of Water Resources Information

The Team and the Syrian side agreed that all the existing water resources information of GCWR and necessary data of related agencies for water resources management in Syria will be input in the WRIC main database.

IX. Plan of Operation

The Team and the Syrian side jointly prepared Plan of Operation for the whole period of the Project as shown in Annex VIII.

Annex I	Draft Record of Discussion
Annex II	Project Design Matrix (Tentative)
Annex III	Organization Chart of the Ministry of Irrigation
Annex IV	Organization Chart of General Commission for Water Resources (GCWR)
Annex V	Project Implementation Chart for Water Resources Information Center Project Phase II
Annex VI	Proposed Function, Chairperson and Members of Joint Coordinating Committee
Annex VII	Tentative List of Equipment submitted by GCWR
Annex VIII	Plan of Operation

Annex I

DRAFT RECORD OF DISCUSSIONS
BETWEEN
GENERAL COMMISSION FOR WATER RESOURCES UNDER MINISTRY OF IRRIGATION, THE SYRIAN ARAB REPUBLIC
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
ON
JAPANESE TECHNICAL COOPERATION
FOR
"WATER RESOURCES INFORMATION CENTER PROJECT PHASE II"

Based on the Minutes of Meeting signed on November 16, 2009 between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Syrian authorities concerned, Chief Representative of JICA Syrian Office and the Syrian authorities concerned had a series of discussions on desirable measures to be taken by JICA and Government of the Syrian Arab Republic (hereinafter referred to as "the Government of Syria") for the successful implementation of the "Water Resources Information Center Project Phase II".

As a result of discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of Syria signed on July 18, 1985 (hereinafter referred to as "the Agreement"), JICA and the undersigned Syrian authorities concerned agreed on the matters referred to in the document attached hereto.

Damascus, February , 2010

Ms. Akiko Tomita Chief Representative JICA Syria Office Japan International Cooperation Agency	Representative of State Planning Commission (SPC)	Eng. Hussein Makhlouf Director General, General Commission for Water Resources, Ministry of Irrigation, The Syrian Arab Republic

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF SYRIA

1. The Government of Syria will implement the Water Resources Information Center Project Phase II in the Syrian Arab Republic (hereinafter referred to as "the Project") in cooperation with JICA.

2. The Project will be implemented in accordance with the Master Plan which is given in ANNEX I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan and the provisions of Article III of the Agreement, JICA, as the executing agency for technical cooperation by the Government of Japan, will take, at its own expense, the following measures according to the normal procedures of its technical cooperation scheme.

1. DISPATCH OF JAPANESE EXPERTS
JICA will provide the services of the Japanese experts as listed in ANNEX II. The provision of Article V and VI of the Agreement will be applied to the above-mentioned experts.

2. PROVISION OF EQUIPMENT
JICA will provide equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in ANNEX III. The provision of Article VII of the Agreement will be applied to the Equipment.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF SYRIA

1. The Government of Syria will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

2. The Government of Syria will ensure that the technologies and knowledge acquired by the Syrian nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of Syria.

3. In accordance with the provisions of Article V of the Agreement, the Government of Syria will grant in Syrian privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families.

4. In accordance with the provisions of Article VII of the Agreement, the Government of Syria will take the measures necessary to receive and use the Equipment provided by JICA under II-2 above and equipment, machinery and materials carried in by the Japanese experts referred to in II-1 above.

5. In accordance with the provision of Article IV of the Agreement, the Government of Syria will provide the services of the Syrian counterpart personnel and administrative personnel as listed in ANNEX IV.

6. In accordance with the provision of Article IV of the Agreement, the Government of Syria will provide the buildings and facilities as listed in ANNEX V.

7. In accordance with the laws and regulations in force in Syria, the Government of Syria will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above.

8. In accordance with the laws and regulations in force in Syria, the Government of Syria will take necessary measures to meet the running expenses necessary for the implementation of the Project.

IV. DIRECTION AND IMPLEMENTATION OF THE PROJECT

1. Minister, Ministry of Irrigation would be Project Director.

2. Director General, General Commission of Water Resources (hereinafter referred to as "GCWR"), Ministry of Irrigation as the Project Manager would bear responsibility for the administration and implementation as well as the managerial and technical matters of the Project including personnel assignment and budget of GCWR.

3. The Japanese Chief Advisor will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

4. The Japanese experts will give necessary technical guidance and advice to the Syrian counterpart personnel on technical matters pertaining to the implementation of the Project.

5. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in ANNEX VI.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Syrian authorities concerned, at the middle and six months before termination date of the Project in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

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

VII. MUTUAL CONSULTATION

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

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Syria, the Government of Syria will take appropriate measures to make the Project widely known to the people of Syria.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project will be approximately four years from June, 2010.

X. OTHERS

This Record of Discussions and other official documents related to the project are prepared in English as common language between Japanese and Syrian sides.

ANNEX I MASTER PLAN

1. Title of the Project

Water Resources Information Center Project Phase II

2. Overall Goal

A water resources management plan is prepared by GCWR.

3. Project Purpose

Water Resources Information is effectively utilized by GCWR.

4. Outputs

1) Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.

2) The capacity of all Water Resources Information Center (hereinafter referred as to "WRIC") local centers is improved to provide water resources data and information to the WRIC main center.

3) The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.

4) The WRIC main database is used by relevant headquarters directorates of GCWR.

5) Water balance models are elaborated in Badya, Barada-Awaj and Coastal Basins.

5. Activities

1)-1 Study necessary water resources observation facilities and data processing systems in Badya Basin.

1)-2 Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus.

1)-3 Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers.

1)-4 Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities.

1)-5 Carry out observation of water resources in Badya Basin.

1)-6 Process and store the observation data.

1)-7 Submit the processed data to the WRIC main center.

2)-1 Study problems and issues of each WRIC local center.

2)-2 Install necessary water resources observation facilities and data processing systems.

2)-3 Train staff members of WRIC local centers on observation and data collection.
2)-4 Train staff members of WRIC local centers on data processing.
2)-5 Train staff members of WRIC local centers on maintenance of monitoring facilities.

3)-1 Train staff members of the WRIC main center on data processing and analysis.
3)-2 Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.
3)-3 Train staff members of the WRIC main center on providing necessary information that meets user's needs.

4)-1 Identify necessary improvement (interface and database itself) of each small database that is used in each directorate of GCWR in order to use the WRIC main database.
4)-2 Configure an intranet system to enable the relevant headquarters directorates to access the WRIC main database.
4)-3 Train the relevant headquarters directorates to ensure to utilize the WRIC main database.

5)-1 Review existing water balance models.
5)-2 Select target basins and/or specific areas to establish water balance models.
5)-3 Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.

ANNEX II LIST OF JAPANESE EXPERTS

1. Long-term Expert
   1) Chief Advisor
   2) Water Resources Monitoring and Management
   3) Project Coordinator

2. Short-term Expert
   Short-term expert will be dispatched as necessary for the effective implementation of the project.

ANNEX III LIST OF EQUIPMENT

1. Meteorological and hydrological observation equipment
2. Computers and Printers, etc.
3. Vehicles for Observation

Note:

1. The content, specifications and quality of the above-mentioned equipment are shown in the Minutes of Meeting.
2. The content, specification and quality of the above items may be subject to change depending on the result of tender and budgetary limitation.

ANNEX IV LIST OF SYRIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Counterpart Personnel
   1) Director General, General Commission for Water Resources, Ministry of Irrigation
   2) Director, Water Resources Information Center
   3) Director, Integrated Management of Water Resources Directorate
   4) Director, Planning and Training Directorate
   5) Director, Technical Affairs Directorate
   6) Director, Monitoring Water Quality Directorate
   7) Director, Water Resources Directorate in Sweida
   8) Director, Water Resources Directorate in DRD
   9) Director, Water Resources Directorate in Homs
   10) Director, Water Resources Directorate in Lattakia
   11) Director, Water Resources Directorate in Tartous
   12) Director, Water Resources Directorate in Raqqa
   13) Director, Water Resources Directorate in Hama
   14) Managers of each local center of WRIC
   15) Section managers and engineering staff of the WRIC main center and local centers

2. Administrative Personnel
   1) Accountants
   2) Secretaries
   3) Drivers
   4) Other Personnel

ANNEX V LIST OF LAND, BUILDINGS AND FACILITIES

1. Land, building and facilities necessary for the Project

2. Rooms and spaces necessary for installation and storage of the equipment

3. Office spaces and facilities necessary for the Japanese experts

4. Other facilities mutually agreed upon as necessary

ANNEX VI JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee (hereinafter referred to as "JCC") shall convene at least once a year or whenever the necessity arises in order to fulfill the following functions:

1) To formulate the annual operational work plan of the Project according to the Project Design Matrix (PDM) and the Plan of Operation (PO);

2) To review the result of annual operational work plan and progress of the Project;

3) To review and exchange opinion on major issues that may arise during the implementation of the project;

4) To discuss any other issues pertinent to the smooth implementation of the Project.

2. Composition

1) Chairperson: Director General, GCWR

2) Members of the Syrian Side:

Directors concerned, GCWR

Managers concerned, WRIC Local Centers

3) Members of Japanese Side

Chief Representative of JICA Syria Office

JICA Experts

* Official(s) of the Embassy of Japan may attend JCC sessions as observer(s).

Note: Chairperson can request and admit attendance of other relevant personnel as observer(s).

Project Design Matrix 0 (Tentative)
Project Name: Water Resources Information Center Project Phase II
Project Sites: Syria as a whole
Target Group: General Commission for Water Resources (GCWR)

Date: November 16, 2009
Duration of the Project: 2010 - 2014 (four years)

Annex II

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
[Overall Goal] A water resources management plan is prepared by GCWR, Ministry of Irrigation (MOI)	Quality of a water resources management plan		
[Project Purpose] Water Resources Information is effectively utilized by GCWR.	GCWR effectively utilized the data prepared by Water Resources Information Center (WRIC) for planning water resources management and carrying out routine work.	- Project report - Annual report of GCWR	- Role of GCWR is not changed - The established model is accepted by GCWR
[Outputs] 1. Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.	- Work flow of WRIC local centers in Badya Basin - Ability of staff members of WRIC local centers in Badya Basin - Quantity of data - Quality of data (Water resources monitoring is conducted continuously and accurately at more than 95% of functioning monitoring points) - Quality of data processing (Data are collected and processed according to the proper procedure at more than 95% of monitoring points) - Each WRIC local center in Badya Basin transfers accurate and sufficient water resources data to the WRIC main center on a regular basis.	- Project report - Theoretical and practical test result - Number of equipment well functioning - Database of WRIC local centers in Badya and main center	
2. The capacity of all WRIC local centers is improved to provide water resources data and information to the WRIC main center.	- Ability of staff members of WRIC local centers - Quantity of data - Quality of data - Quality of data processing - Each WRIC local center transfers accurate and sufficient water resources data to the WRIC main center on a regular basis.	- Project report - Theoretical and practical test result - Number of equipment well functioning - Database of WRIC local centers and main center - Water resources information provided by WRIC local centers	
3 The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.	- Ability of staff members of the WRIC main center - Preparation of periodicals such as monthly water resources report, hydrological chronology, and water resources report by using the database. - Number of reference times to the WRIC main center by the relevant headquarters directorates. - Quality of water resources information that the WRIC main center submits to relevant headquarters directorates.	- Project report - Theoretical and practical test result - Interview - Database of WRIC local centers - Water resources information provided by WRIC	

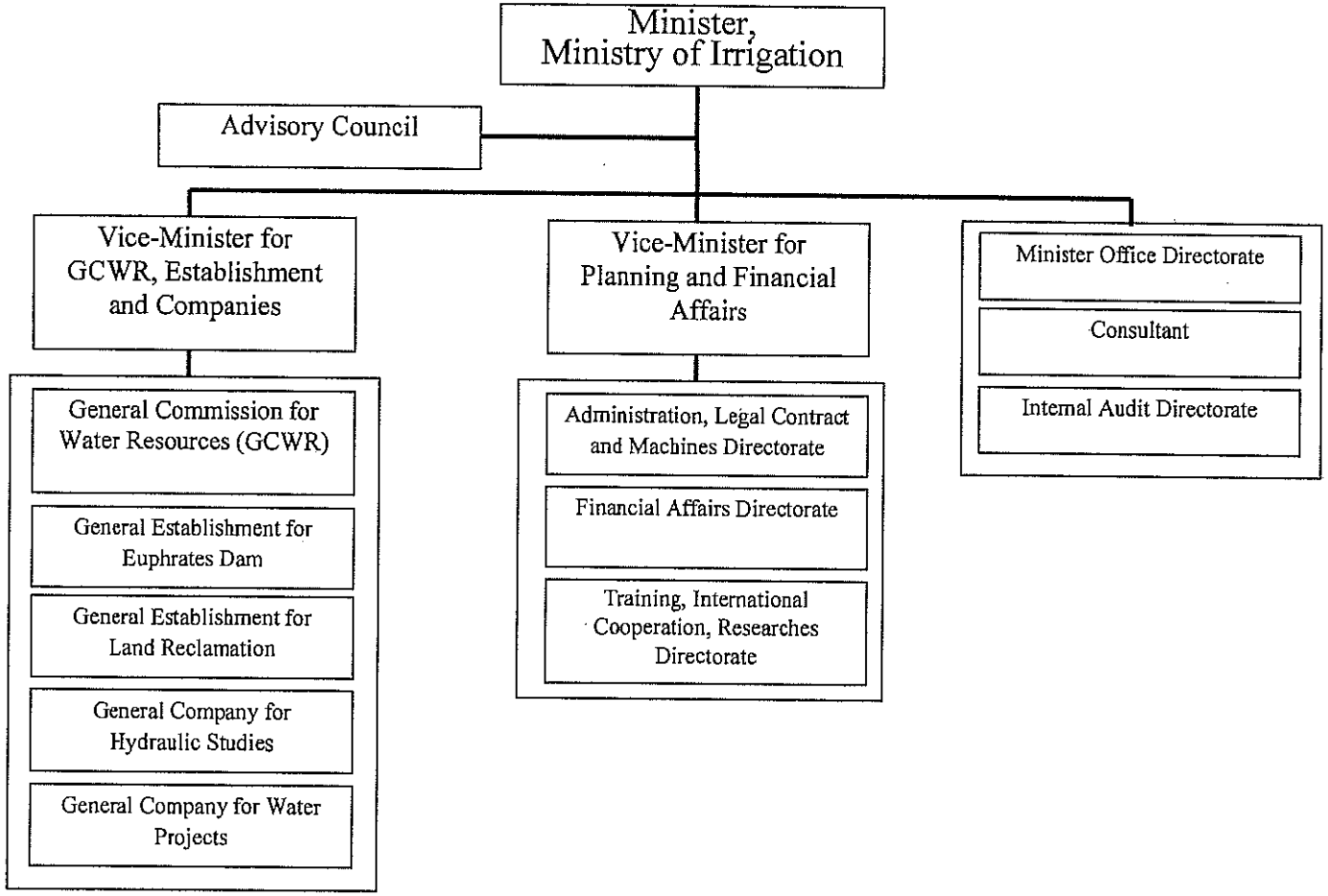
4 The WRIC main database is used by relevant headquarters directorates of GCWR.	- Coherence of the WRIC main database and data of the relevant headquarters directorates. - Accessibility of the WRIC main database from the relevant headquarters directorates. - Ability of GCWR staff members on access to WRIC database - Number of reference times to the WRIC main database by the relevant headquarters directorates.	- Data of GCWR headquarters directorates - Intranet system of GCWR - Annual report of GCWR - Interview - Theoretical and practical test result	
5 Water balance models are elaborated in Badya, Barada-Awaj and Coastal Basins.	- Ability of WRIC staff members on establishment of modelling - Ability of GCWR staff members on using models - Establishment of the model - Usefulness of the model	- Theoretical and practical test - Existence of the model - Interview	
1-1) Study necessary water resources observation facilities and data processing systems in Badya Basin. 1-2) Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus. 1-3) Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers. 1-4) Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities. 1-5) Carry out observation of water resources in Badya Basin. 1-6) Process and store the observation data. 1-7) Submit the processed data to the WRIC main center. 2-1) Study problems and issues of each WRIC local center. 2-2) Install necessary water resources observation facilities and data processing systems. 2-3) Train staff members of WRIC local centers on observation and data collection. 2-4) Train staff members of WRIC local centers on data processing. 2-5) Train staff members of WRIC local centers on maintenance of monitoring facilities. 3-1) Train staff members of the WRIC main center on	[Inputs] **【Syrian Side】** ・Preparation for establishment of WRIC local centers in Homs, Sweida, Hama and Raqqa and expansion of WRIC local center in Damascus and Rural Damascus 1) Office space and facilities 2) Assignment of staff members ・Counterpart personnel ・Office space and facilities 1) Rooms and space necessary for installation and storage of equipment 2) Office space and facilities necessary for Japanese experts 3) Meeting rooms or lecture rooms for training 4) Other facilities mutually agreed upon as necessary ・Necessary data and information ・Budget allocation 1) Salaries and other allowance including transportation cost, accommodation and honorarium for counterpart personnel 2) Expenses for utility such as electricity, water supply, and gas fuel 3) Operational expenses for customs clearance, storage and domestic transportation for the equipment provided by the Japanese side 4) Expenses for maintenance of facilities and equipment 5) Other contingency expenses related to the project	**【Japanese side】** **Long Term Experts:** - Chief Advisor - Water Resources Monitoring and Management - Project Coordinator **Short Term Experts** - Water Resources Monitoring - Water Resources Management - Observation Equipment - GIS and Database - Water Balance Modeling **Equipment:** - Meteorological and hydrological observation equipment - Computers and Printers, etc. - Vehicles for Observation	- Staff members who received capacity development works continuously

data processing and analysis. 3-2) Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report. 3-3) Train staff members of the WRIC main center on providing necessary information that meets user's needs.			**Pre-conditions** GCWR defines that the WRIC main database is the primary database in GCWR
4-1) Identify necessary improvement (interface and database itself) of each small database that is used in each directorate of GCWR in order to use the WRIC main database. 4-2) Configure an intranet system to enable the relevant headquarters directorates to access the WRIC main database. 4-3) Train the relevant headquarters directorates to ensure to utilize the WRIC main database.			
5-1) Review existing water balance models. 5-2) Select target basins and/or specific areas to establish water balance models. 5-3) Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.			

Annex III

Organization Chart of the Ministry of Irrigation

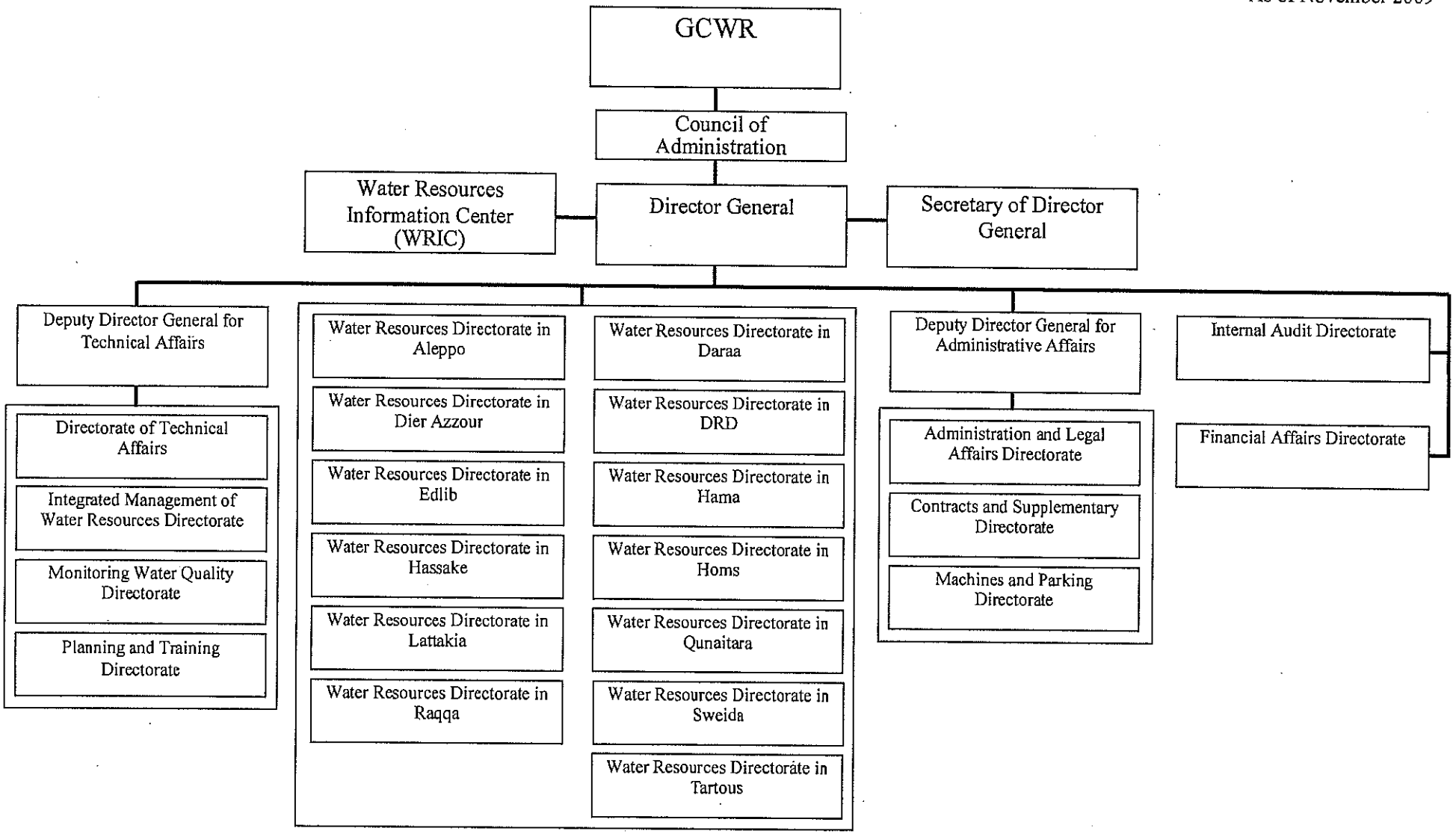
As of November 2009



Annex IV

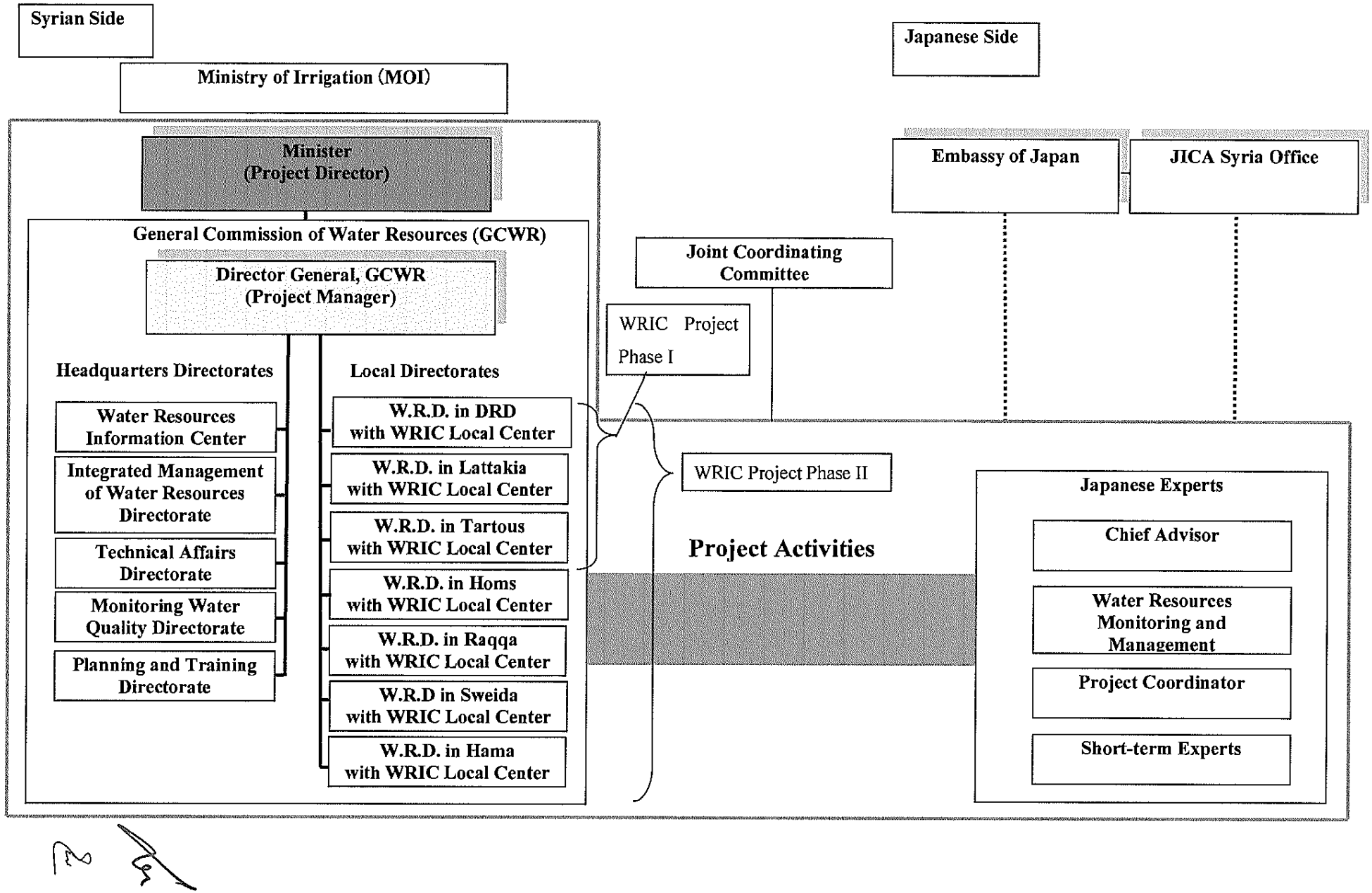
Organization Chart of General Commission for Water Resources (GCWR)

As of November 2009



Annex V

Project Implementation Chart for Water Resources Information Center Project Phase II



Annex VI JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee (hereinafter referred to as "JCC") shall convene at least once a year or whenever the necessity arises in order to fulfill the following functions:

1) To formulate the annual operational work plan of the Project according to the Project Design Matrix (PDM) and the Plan of Operation (PO);
2) To review the result of annual operational work plan and progress of the Project;
3) To review and exchange opinion on major issues that may arise during the implementation of the project;
4) To discuss any other issues pertinent to the smooth implementation of the Project.

2. Composition

1) Chairperson: Director General, GCWR

2) Members of the Syrian Side:
Directors concerned, GCWR
Managers concerned, WRIC Local Centers

3) Members of Japanese Side
Chief Representative of JICA Syria Office
JICA Experts
* Official(s) of the Embassy of Japan may attend JCC sessions as observer(s).

Note: Chairperson can request and admit attendance of other relevant personnel as observer(s).

Tentative List of Equipment Submitted by GCWR (1/4)

<Items for Observation>

#	Name of Equipment	Specifications	Quantity
1	Automatic Weather Station	Wind direction, Wind Velocity, Relative humidity, Air temperature, Global radiation, Sunshine hours, Evaporation, Air pressure, Precipitation	24
2	Automatic Rain Gauge	Precipitation and Snow	19
3	Auto-Evaporation Gauge	Evaporation	11
4	Portable Auto-Water Flow Meter	Velocity of water range:0.01 – 3m/sec.	4
5	Auto-Water Level Meter	Water level gauging	11
6	Surface Water Flow Meter	Velocity of water	6
7	Portable Water Level Meter (cable length 100m)	Water level and Temperature	12
8	Portable Water Level Meter (cable length 200m)	Water level and Temperature	12
9	Portable Water Level Meter (cable length 300m)	Water level and Temperature	12
10	Groundwater Data Logger (200m depth)	Water level and Temperature	95
11	Groundwater Data Logger (300-400m depth)	Water level and Temperature	5
12	Field Vehicle	Field works	9
13	Laptop PC	-	18
14	pH Meter	Water quality	11
15	DO Meter	Water quality	9
16	TDS Meter	Water quality	11

Annex VII

Tentative List of Equipment Submitted by GCWR (2/4)

<Items for Observation (Breakdown)>

#	Name of Equipment	WRIC Local Centers or Water Resources Directorates (WRD)							Total
		Barada-Awaj & Badya Basin		Badya Basin			Coastal Basin		
		WRIC DRD	WRD Sweida	WRD Homs	WRD Raqqa	WRD Hama	WRIC Tartus	WRIC Lattakia	
1	Automatic Weather Station	4	5	8	2	0	3	2	24
2	Automatic Rain Gauge	0	9	8	2	0	0	0	19
3	Auto-Evaporation Gauge	1	3	5	0	0	2	0	11
4	Portable Auto-Water Flow Meter	0	0	0	0	0	2	2	4
5	Auto-Water Level Meter	8	1	2	0	0	0	0	11
6	Surface Water Flow Meter	0	0	0	0	0	3	3	6
7	Portable Water Level Meter (cable length 100m)	2	0	3	1	2	2	2	12
8	Portable Water Level Meter (cable length 200m)	2	0	3	2	2	1	2	12
9	Portable Water Level Meter (cable length 300m)	2	2	2	2	2	1	1	12
10	Groundwater Data Logger (200m depth)	13	0	56	5	0	10	11	95
11	Groundwater Data Logger (300-400m depth)	0	2	0	3	0	0	0	5
12	Field Vehicle	1	2	3	1	1	1	0	9
13	Laptop PC	3	3	5	2	1	2	2	18
14	pH Meter	2	2	2	2	1	1	1	11
15	DO Meter	2	0	2	2	1	1	1	9
16	TDS Meter	2	2	2	2	1	1	1	11

Tentative List of Equipment Submitted by GCWR (3/4)

<Items for Data Processing and Analysis>

#	Name of Equipment	Specifications	Quantity
1	Main Server (for Replace)	CPU: Dual-Core Intel Xeon Processor 2GHz or Higher, Memory: DDR2 2GB and can be expanded to at least 16GB, RAID Controller: Integrated RAID-0/-1/-10, optional RAID-5, HDD: 160GB*3, Tape Drive: 6, Network Card: Integrated Gigabit Ethernet 10/100/1,000Mbps, Disk Drive: DVD/R and 3.5 inch FDD, Display Monitor: 15 inch Color LCD, Operation System: Windows 2003 Server	1
2	Local Server	CPU: Dual-Core Intel Xeon Processor 2GHz or Higher, Memory: DDR2 2GB and can be expanded to at least 16GB, RAID Controller: Integrated RAID-0/-1/-10, optional RAID-5, HDD: 160GB*3, Tape Drive: 6, Network Card: Integrated Gigabit Ethernet 10/100/1,000Mbps, Disk Drive: DVD/R and 3.5 inch FDD, Display Monitor: 15 inch Color LCD, Operation System: Windows 2003 Server	4
3	Desktop PC	CPU: Intel Pentium 4 Processor 3.4GHz or Higher, Memory: DDR2 1GB and can be expanded to at least 4GB, HDD: 80GB*1, Network Card: RJ45 10/100/1,000Mbps, Disk Drive: DVD-CD/R (combo) and 3.5 inch FDD, Display Monitor: 17 inch Color LCD, Operation System: Windows XP	30
4	Color Inkjet Printer (A3)	Type: A3 Size Color Inkjet, Internal Memory: 8MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	7
5	Monochrome Laser Printer (A4)	Type: A4 Size Monochrome Laser, Internal Memory: 8MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	3
6	Inkjet Plotter (A0)	Type: A0 Size Color Inkjet, Internal Memory: 60MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	1
7	Scanner (A0)	Scanning Resolution: 100 to 900dpi, Control Ports: SCSI-2/USB2.0, Work Environment: Compatible with Windows Me/98/NT4.0/2000/ XP and above/ Linux, Other: Bidder should provide one control unit (SCSI) for scanner	2
8	Copy Machine (A3)	Both Faces Printing Available	4
9	Switching Hub	Data Transfer: 10BASE-T/ 100BASE-TX/ 1000BASE-T	1
10	Uninterruptible Power Supply (UPS)	Nominal Input Voltage: (AC 184-264 V, 50Hz ± 0.1% single phase), Nominal Output Voltage: (220 V ± 1%, 50Hz ± 0.1% single phase), Backup Time: 50 Minutes or more	30

Annex VII

Tentative List of Equipment Submitted by GCWR (4/4)

<Items for Data Processing and Analysis (Breakdown)>

#	Name of Equipment	Other Headquarters Directrates	WRIC Main Center	WRIC Local Centers or Water Resources Directorates (WRD)							Total
				Barada-Awaj & Badya Basin		Badya Basin			Coastal Basin		
				WRIC DRD	WRD Sweida	WRD Homs	WRD Raqqa	WRD Hama	WRIC Tartus	WRIC Lattakia	
1	Main Server (for Replace)	0	1	0	0	0	0	0	0	0	1
2	Local Server	0	0	0	1	1	1	1	0	0	4
3	Desktop PC	8	4	4	4	4	2	2	2	0	30
4	Color Inkjet Printer (A3)	4	0	0	1	0	1	1	0	0	7
5	Monochrome Laser Printer (A4)	0	0	0	1	1	1	0	0	0	3
6	Inkjet Plotter (A0)	0	0	0	0	1	0	0	0	0	1
7	Scanner (A0)	0	1	0	0	1	0	0	0	0	2
8	Copy Machine (A3)	0	0	0	1	1	1	1	0	0	4
9	Switching Hub	0	0	0	0	1	0	0	0	0	1
10	Uninterruptible Power Supply (UPS)	8	4	4	4	4	2	2	2	0	30

Annex VIII

Plan of Operation: Water Resources Information Center Project Phase II

Duration of the Project: 2010 - 2014 (four years)

		Year 1												Year 2												Year 3												Year 4											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1. Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.																																																
1-1	Study necessary water resources observation facilities and data processing systems in Badya Basin.																																															
1-2	Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus.																																															
1-3	Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers.																																															
1-4	Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities.																																															
1-5	Carry out observation of water resources in Badya Basin.																																															
1-6	Process and store the observation data.																																															
1-7	Submit the processed data to the WRIC main center.																																															
2. The capacity of all WRIC local centers is improved to provide water resources data and information to the WRIC main center.																																																
2-1	Study problems and issues of each WRIC local centers.																																															
2-2	Install necessary water resources observation facilities and data processing systems.																																															
2-3	Train staff members of WRIC local centers on observation and data collection.																																															
2-4	Train staff members of WRIC local centers on data processing.																																															
2-5	Train staff members of WRIC local centers on maintenance of monitoring facilities.																																															
3. The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.																																																
3-1	Train staff members of the WRIC main center on data processing and analysis.																																															
3-2	Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.																																															
3-3	Train staff members of the WRIC main center on providing necessary information that meets user's needs.																																															
4.The WRIC main database is used by relevant headquarters directorates of GCWR.																																																
4-1	Identify necessary improvement (interface and database itself) of each small database that is used in each directorate of GCWR in order to use the WRIC main database.																																															
4-2	Configure an intranet system to enable the relevant headquarters directorates to access the WRIC main database.																																															
4-3	Train the relevant headquarters directorates to ensure to utilize the data of the WRIC main database.																																															
5. Water balance models are elaborated in Badya, Barada-Awaj and Coastal Basins.																																																
5-1	Review existing water balance models.																																															
5-2	Select target basins and/or specific areas to establish water balance models.																																															
5-3	Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.																																															

RECORD OF DISCUSSIONS
BETWEEN
GENERAL COMMISSION FOR WATER RESOURCES UNDER MINISTRY OF IRRIGATION,
THE SYRIAN ARAB REPUBLIC
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
ON
JAPANESE TECHNICAL COOPERATION
FOR
"WATER RESOURCES INFORMATION CENTER PROJECT PHASE II"

Based on the Minutes of Meeting signed on November 16, 2009 between Japan International Cooperation Agency (hereinafter referred to as "JICA") and the Syrian authorities concerned, Detailed Design Survey Team of JICA and the Syrian authorities concerned had a series of discussions on desirable measures to be taken by JICA and Government of the Syrian Arab Republic (hereinafter referred to as "the Government of Syria") for the successful implementation of the "Water Resources Information Center Project Phase II".

As a result of discussions, and in accordance with the provisions of the Agreement on Technical Cooperation between the Government of Japan and the Government of Syria signed on July 18, 1985 (hereinafter referred to as "the Agreement"), JICA and the undersigned Syrian authorities concerned agreed on the matters referred to in the document attached hereto.

Damascus, February 16th, 2010

Dr. Hiroshi Shirakawa
Team Leader
Detailed Design Survey Team
Japan International
Cooperation Agency

Representative of
State Planning Commission
(SPC)

Eng. Hussein Makhlouf
Director General,
General Commission for Water
Resources,
Ministry of Irrigation,
The Syrian Arab Republic

THE ATTACHED DOCUMENT

I. COOPERATION BETWEEN JICA AND THE GOVERNMENT OF SYRIA

1. The Government of Syria will implement the Water Resources Information Center Project Phase II in the Syrian Arab Republic (hereinafter referred to as "the Project") in cooperation with JICA.

2. The Project will be implemented in accordance with the Description of the Project which is given in ANNEX I.

II. MEASURES TO BE TAKEN BY JICA

In accordance with the laws and regulations in force in Japan and the provisions of Article III of the Agreement, JICA, as the executing agency for technical cooperation by the Government of Japan, will take, at its own expense, the following measures according to the normal procedures of its international cooperation scheme.

1. DISPATCH OF JAPANESE EXPERTS
JICA will provide the services of the Japanese experts as listed in ANNEX II. The provision of Article V and VI of the Agreement will be applied to the above-mentioned experts.

2. PROVISION OF EQUIPMENT
JICA will provide equipment and other materials (hereinafter referred to as "the Equipment") necessary for the implementation of the Project as listed in ANNEX III. The provision of Article VII of the Agreement will be applied to the Equipment.

III. MEASURES TO BE TAKEN BY THE GOVERNMENT OF SYRIA

1. The Government of Syria will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of Japanese technical cooperation, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.

2. The Government of Syria will ensure that the technologies and knowledge acquired by the Syrian nationals as a result of the Japanese technical cooperation will contribute to the economic and social development of Syria.

3. In accordance with the provisions of Article V of the Agreement, the Government of Syria

will grant ~~in~~ Syrian privileges, exemptions and benefits to the Japanese experts referred to in II-1 above and their families.

4. In accordance with the provisions of Article VII of the Agreement, the Government of Syria will take the measures necessary to receive and use the Equipment provided by JICA under II-2 above and equipment, machinery and materials carried in by the Japanese experts referred to in II-1 above.

5. In accordance with the provision of Article IV of the Agreement, the Government of Syria will provide the services of the Syrian counterpart personnel and administrative personnel as listed in ANNEX IV.

6. In accordance with the provision of Article IV of the Agreement, the Government of Syria will provide the buildings and facilities as listed in ANNEX V.

7. In accordance with the laws and regulations in force in Syria, the Government of Syria will take necessary measures to supply or replace at its own expense machinery, equipment, instruments, vehicles, tools, spare parts and any other materials necessary for the implementation of the Project other than the Equipment provided by JICA under II-2 above.

8. In accordance with the laws and regulations in force in Syria, the Government of Syria will take necessary measures to meet the running expenses necessary for the implementation of the Project.

IV. DIRECTION AND IMPLEMENTATION OF THE PROJECT

1. Minister, Ministry of Irrigation will be Project Director.

2. Director General, General Commission of Water Resources (hereinafter referred to as "GCWR"), Ministry of Irrigation as the Project Manager will bear responsibility for the administration and implementation as well as the managerial and technical matters of the Project including personnel assignment and budget of GCWR.

3. The Japanese Chief Advisor will provide necessary recommendations and advice to the Project Director and the Project Manager on any matters pertaining to the implementation of the Project.

4. The Japanese experts will give necessary technical guidance and advice to the Syrian counterpart personnel on technical matters pertaining to the implementation of the Project.

5. For the effective and successful implementation of technical cooperation for the Project, a Joint Coordinating Committee will be established whose functions and composition are described in ANNEX VI.

V. JOINT EVALUATION

Evaluation of the Project will be conducted jointly by JICA and the Syrian authorities concerned, at the middle and six months before termination date of the Project in order to examine the level of achievement.

VI. CLAIMS AGAINST JAPANESE EXPERTS

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

VII. MUTUAL CONSULTATION

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

VIII. MEASURES TO PROMOTE UNDERSTANDING OF AND SUPPORT FOR THE PROJECT

For the purpose of promoting support for the Project among the people of Syria, the Government of Syria will take appropriate measures to make the Project widely known to the people of Syria.

IX. TERM OF COOPERATION

The duration of the technical cooperation for the Project will be approximately four years from May, 2010.

X. OTHERS

This Record of Discussions and other official documents related to the project are prepared in English as common language between Japanese and Syrian sides.

ANNEX I DESCRIPTION OF THE PORJECT

1. Title of the Project

Water Resources Information Center Project Phase II

2. Overall Goal

A water resources management plan is prepared.

3. Project Purpose

Water Resources Information is effectively utilized by GCWR.

4. Outputs

1) Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.

2) The capacity of Selected Water Resources Information Center (hereinafter referred as to "WRIC") local centers to provide water resources data and information to the WRIC main center is improved as model.

3) The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.

4) Water resources data and information in WRIC main center is used by relevant headquarters directorates of GCWR.

5) Water balance models are elaborated in selected Basins.

5. Activities

1)-1 Study necessary water resources observation facilities and data processing systems in Badya Basin.

1)-2 Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus.

1)-3 Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers.

1)-4 Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities.

1)-5 Carry out observation of water resources in Badya Basin.

1)-6 Process and store the observation data.

1)-7 Submit the processed data to the WRIC main center.

2)-1 Study problems and issues of each WRIC local center.
2)-2 Install necessary water resources observation facilities and data processing systems.
2)-3 Train staff members of WRIC local centers in Badya, Barada-Awaj and Coastal Basins on observation and data collection.
2)-4 Train staff members of WRIC local centers in Badya, Barada-Awaj and Coastal Basins on data processing.
2)-5 Train staff members of WRIC local centers in Badya, Barada-Awaj and Coastal Basins on maintenance of monitoring facilities.

3)-1 Identify the current water resources data and information sources which is stored in WRIC main center.
3)-2 Train staff members of the WRIC main center on providing necessary information that meets user's needs.
3)-3 Train staff members of the WRIC main center on data processing and analysis.
3)-4 Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.

4)-1 Identify problems on water resources information utilization in each technical directorate of GCWR.
4)-2 Establish an intranet system to enable the relevant headquarters directorates to utilize water resources data and information in WRIC main center.
4)-3 Hold seminars to the GCWR staffs on how to utilize water resources data and information such as statistical processing, GIS, etc..

5)-1 Review existing water balance models.
5)-2 Select target basins and/or specific areas to establish water balance models.
5)-3 Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.

ANNEX II LIST OF JAPANESE EXPERTS

1. Experts to be dispatched
   1) Chief advisor
   2) Water resources monitoring and management
   3) Project coordinator
   4) Data processing and analysis
   5) Observation equipment
   6) GIS
   7) Water balance modeling

ANNEX III LIST OF EQUIPMENT

1. Meteorological and hydrological observation equipment
2. Computers and Printers, etc.
3. Vehicles for Observation

Note:

1. The content, specifications and quality of the above-mentioned equipment are shown in the Minutes of Meeting.
2. The content, specification and quality of the above items may be subject to change depending on the result of tender and budgetary limitation.

ANNEX IV LIST OF SYRIAN COUNTERPART AND ADMINISTRATIVE PERSONNEL

1. Counterpart Personnel
   1) Director General, General Commission for Water Resources, Ministry of Irrigation
   2) Director, Water Resources Information Center
   3) Director, Integrated Management of Water Resources Directorate
   4) Director, Planning and Training Directorate
   5) Director, Technical Affairs Directorate
   6) Director, Monitoring Water Quality Directorate
   7) Director, Water Resources Directorate in Sweida
   8) Director, Water Resources Directorate in DRD
   9) Director, Water Resources Directorate in Homs
   10) Director, Water Resources Directorate in Lattakia
   11) Director, Water Resources Directorate in Tartous
   12) Director, Water Resources Directorate in Raqqa
   13) Director, Water Resources Directorate in Hama
   14) Managers of each local center of WRIC
   15) Section managers and engineering staff of the WRIC main center and local centers

2. Administrative Personnel
   1) Accountants
   2) Secretaries
   3) Drivers
   4) Other Personnel

ANNEX V LIST OF LAND, BUILDINGS AND FACILITIES

1. Land, building and facilities necessary for the Project

2. Rooms and spaces necessary for installation and storage of the equipment

3. Office spaces and facilities necessary for the Japanese experts

4. Other facilities mutually agreed upon as necessary

ANNEX VI JOINT COORDINATING COMMITTEE

1. Functions

The Joint Coordinating Committee (hereinafter referred to as "JCC") shall convene at least once a year or whenever the necessity arises in order to fulfill the following functions:

1) To formulate the annual operational work plan of the Project according to the Project Design Matrix (PDM) and the Plan of Operation (PO);
2) To review the result of annual operational work plan and progress of the Project;
3) To review and exchange opinion on major issues that may arise during the implementation of the project;
4) To discuss any other issues pertinent to the smooth implementation of the Project.

2. Composition

1) Chairperson: Director General, GCWR

2) Members of the Syrian Side:
Directors concerned, GCWR
Managers concerned, WRIC Local Centers

3) Members of Japanese Side
Chief Representative of JICA Syria Office
JICA Experts
* Official(s) of the Embassy of Japan may attend JCC sessions as observer(s).

Note: Chairperson can request and admit attendance of other relevant personnel as observer(s).

MINUTES OF MEETING
BETWEEN
GENERAL COMISSION FOR WATER RESOURCES UNDER MINISTRY OF IRRIGATION,
THE SYRIAN ARAB REPUBLIC
AND
JAPAN INTERNATIONAL COOPERATION AGENCY
ON
"WATER RESOURCES INFORMATION CENTER PROJECT PHASE II"

The Japan International Cooperation Agency (hereinafter referred to as "JICA") exchanged views and had a series of discussions with the authorities concerned of the Syrian Arab Republic (hereinafter referred to as "Syria") with respect to desirable measures to be taken by JICA and Government of Syrian Arab Republic (hereinafter referred to as "the Government of Syria") for the successful implementation of the above-mentioned Project.

As a result of the discussions, both sides agreed upon the matters in the document attached hereto. This document is related to the Record of Discussions on Water Resources Information Center Project Phase II.

Damascus, February 16th, 2010

Dr. Hiroshi Shirakawa
Team Leader
Detailed Design Survey Team
Japan International
Cooperation Agency

Representative of
State Planning Commission
(SPC)

Eng. Hussein Makhlouf
Director General,
General Commission for Water
Resources,
Ministry of Irrigation,
The Syrian Arab Republic

THE ATTACHED DOCUMENT

I. PROJECT DESIGN MATRIX

The Project Design Matrix (hereinafter referred to as "PDM") was elaborated through discussion by JICA and the Syrian authorities concerned. Both sides agreed to recognize the PDM as the implementation tool for project management, and the basis of monitoring and evaluation of The Project for the Water Resources Information Center Project Phase II (hereinafter referred to as "the Project"). The PDM will be utilized by both sides throughout the implementation of the Project. The PDM is shown in Annex 1.

The PDM will be subject to change within the framework of the Record of Discussions when necessity arises in the course of implementation of the Project by mutual consent.

II. PLAN OF OPERATIONS

The Plan of Operations (hereinafter referred to as "PO") has been formulated according to the Record of Discussions, on condition that the necessary resources will be allocated for the implementation of the Project by both sides. The PO consists of a timetable and planned input of the Project. The schedule is subject to change within the scope of the Record of Discussions when necessity arises in the course of implementation of the Project. The PO is shown in Annex 2.

III. MEASURES TO BE TAKEN FOR THE SMOOTH IMPLEMENTATION OF THE PROJECT

1. For the smooth implementation of the Project, both the Syrian and Japanese side will elaborate to create common recognition and understanding at any occasions with mutual respect. Director General, General Commission of Water Resources (hereinafter referred to as "GCWR"), Ministry of Irrigation will be responsible for assuring that Syrian counterparts fully understanding the result of agreement.

2. Regarding the usage of the budget borne by JICA, the Syrian side shall strictly follow the regulation of JICA.

3. Both the Syrian and Japanese side will elaborate to follow the designated timeline for the smooth implementation of the Project.

IV. OTHERS

1. Organization Charts

The both sides confirmed the Organization Charts of Ministry of Irrigation listed in Annex 3,

of GCWR listed in Annex 4 and of the Project listed in Annex 5.

2. Training of Counterpart Personnel in Japan

For the effective implementation of the Project, relevant counterpart personnel will be sent to Japan for short-term training. Counterpart Training will be arranged in first three years. The topic of the Counterpart Training will be determined through the discussion with the Syrian counterparts and Japanese Expert Team.

JICA will consider the possibility of holding a training to introduce the water resources management system in Japan to relevant counterparts in managerial posts at an early stage of the Project.

3. Provision of Equipment

1) The Syrian side submitted the tentative list of equipment necessary for the implementation of the Project as shown in Annex 6 to the Detailed Design Survey Team dispatched in October 2009.
2) In order to examine the necessity and appropriateness of the number and specification of equipment listed in Annex 6, JICA will implement the Detailed Equipment Survey from the middle of March to the middle of May in 2010.
3) Qualified personnel will be assigned by GCWR to the Detailed Equipment Survey conducted by JICA for the smooth implementation of the survey. And Syrian counterpart personnel will accompany the survey.
4) Both sides agreed that list of equipment will be finalized at the end of Detailed Equipment Survey through examination by the survey members and discussion with Syrian Counterpart personnel.

4. Protection and Maintenance of the Equipment

1) The Syrian side will have responsibility including cost and personnel for the protection and maintenance of the equipment during and after the Project.
2) The vehicles to be procured in the Project will be used for the purpose of water resources monitoring and not to be used by any privates. Syrian side will supervise the usage of vehicles during and after the Project.

5. Assignment of Personnel for the Project

1) The Syrian side will assign qualified personnel in WRIC and relevant Directorates in GCWR; for example, it will consider assignment of personnel for the Project from other governmental agencies and the private sector, if necessary.
2) Director General of GCWR will pay special attention to his/her staff that will be trained through the Project to keep them working in WRIC and/or relevant Directorates in GCWR to make use of their enhanced expertise.

6. Spaces and Personnel for WRIC Local Centers

The Syrian side will maintain enough spaces and assign personnel for WRIC local centers to be established.

7. Flow of Water Resources Information

The Team and the Syrian side agreed that all the existing water resources information of GCWR and necessary data of related agencies for water resources management in Syria will be input in the WRIC main database.

Annex1:	PDM
Annex2:	PO
Annex3:	Organization Chart of the Ministry of Irrigation
Annex 4	Organization Chart of General Commission for Water Resources (GCWR)
Annex 5	Project Implementation Chart
Annex 6	Tentative List of Equipment submitted by GCWR

Annex 1: Project Design Matrix 1 **Date: February 16, 2010**
Project Name: Water Resources Information Center Project Phase II **Duration of the Project: 2010 - 2014 (approximately four years)**
Project Sites: Syria as a whole
Target Group: General Commission for Water Resources (GCWR)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
[Overall Goal] A water resources management plan is prepared.	- Water Resources Management Plan is elaborated in the Five Year National Development Plan (2016-2020) based on the data and information provided by the WRIC main center. - Other water resources management related plans are elaborated.	- The Five Year National Development Plan and other relevant plans	
[Project Purpose] Water Resources Information is effectively utilized by GCWR.	- WRIC main center's information is utilized for the elaboration of GCWR annual report and other related reports (monthly water resources report, hydrological chronology and other water resources management related publications.)	- GCWR annual report and other related reports - Interview	- Role of GCWR do not change
[Outputs] 1. Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.	- WRIC local centers in Badya Basin start to collect the water resources data in Badya Basin. - Water resources monitoring is executed based on the Monitoring Plan in Badya Basin.	- Monitoring plan in Badya Basin - Water resources information in Badya Basin - Operation report of observation stations in Badya Basin	
2. The capacity of selected WRIC local centers to provide water resources data and information to the WRIC main center is improved as a model.	- Water resources monitoring is executed based on the Monitoring Plan in selected basin. - The amount of data collection and accuracy increases in the selected basin.	- Monitoring plan in the selected basin - Water resources data provided by selected WRIC local centers	
3 The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.	- Data processing ability of WRIC main center to fit the needs of relevant headquarters directorates of GCWR increases. - Number of reference times to the WRIC main center by the relevant headquarters directorates increases. - Number of provision of information from WRIC main center to the relevant headquarters directorates increases.	- Project report - Records on reference time from related headquarters directorates - Records on provision of information from WRIC main center to related headquarters directorates	
4 Water resources data and information in WRIC main center is used by relevant headquarters directorates of GCWR.	- Number of utilization of data and information in WRIC main center by the seminar participants from relevant headquarters directorates increases. - Seminar participants' ability on the seminar related techniques (i.e. statistical processing, GIS, etc.) improve.	- Data of GCWR headquarters directorates - Annual report of GCWR - Interview - Theoretical and practical test result	
5 Water balance models are elaborated in selected Basin.	- GCWR staff members acquire the ability to formulate the water balance modelling. - Water balance model which has high accuracy is elaborated in selected basin.	- Elaborated model - Project report	

1-1) Study necessary water resources observation facilities and data processing systems in Badya Basin. 1-2) Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus. 1-3) Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers. 1-4) Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities. 1-5) Carry out observation of water resources in Badya Basin. 1-6) Process and store the observation data. 1-7) Submit the processed data to the WRIC main center. 2-1) Study problems and issues of each WRIC local center. 2-2) Install necessary water resources observation facilities and data processing systems 2-3) Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on observation and data collection. 2-4) Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on data processing. 2-5) Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on maintenance of monitoring facilities. 3-1) Identify the current water resources data and information sources which is stored in WRIC main center 3-2) Train staff members of the WRIC main center on providing necessary information that meets user's needs. 3-3) Train staff members of the WRIC main center on data processing and analysis. 3-4) Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.	[Inputs] **【Syrian Side】** ・ Preparation for establishment of WRIC local centers in Homs, Sweida, Hama and Raqqa and expansion of WRIC local center in Damascus and Rural Damascus 1) Office space and facilities 2) Assignment of staff members ・ Counterpart personnel ・ Office space and facilities 1) Rooms and space necessary for installation and storage of equipment 2) Office space and facilities necessary for Japanese experts 3) Meeting rooms or lecture rooms for training 4) Other facilities mutually agreed upon as necessary ・ Information Security Policy Arrangement for the proper management of water resources information ・ Necessary data and information ・ Budget allocation 1) Salaries and other allowance including transportation cost, accommodation and honorarium for counterpart personnel 2) Expenses for utility such as electricity, water supply, and gas fuel 3) Operational expenses for customs clearance, storage and domestic transportation for the equipment provided by the Japanese side 4) Expenses for maintenance of facilities and equipment 5) Other contingency expenses related to the project	**【Japanese side】** **Experts:** - Chief advisor/Surface water monitoring and Management - Subsurface water monitoring and management - Water Resources Monitoring data processing and analysis / GIS - Observation equipment - Database and programming - Water balance modeling - Project coordinator **Equipment:** - Meteorological and hydrological observation equipment - Computer system (including network equipment) and Printers, etc. - Vehicles for Observation **Training:** Counterpart training in Japan	- Staff members who received capacity development works continuously **Pre-conditions** The policy, which was stated by the committee 738 in Ministry of Irrigation to consolidate all water resources information to the WRIC main center, do not change.

4-1) Identify problems on water resources information utilization in each technical directorate of GCWR. 4-2) Establish an intranet system to enable the relevant headquarters directorates to utilize water resources data and information in WRIC main center. 4-3) Hold seminars to the GCWR staffs on how to utilize water resources data and information such as statistical processing, GIS, etc.			
5-1) Review existing water balance models. 5-2) Select target basins and/or specific areas to establish water balance models. 5-3) Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired.			

6

Annex 2: Plan of Operation (PO) (draft)
Project Name: Water Resources Information Center Project Phase II
Project Sites: Syria as a whole
Target Group: General Commission for Water Resources (GCWR)

Date: February 16, 2010
Duration of the Project: 2010 - 2014 (approximately four years)

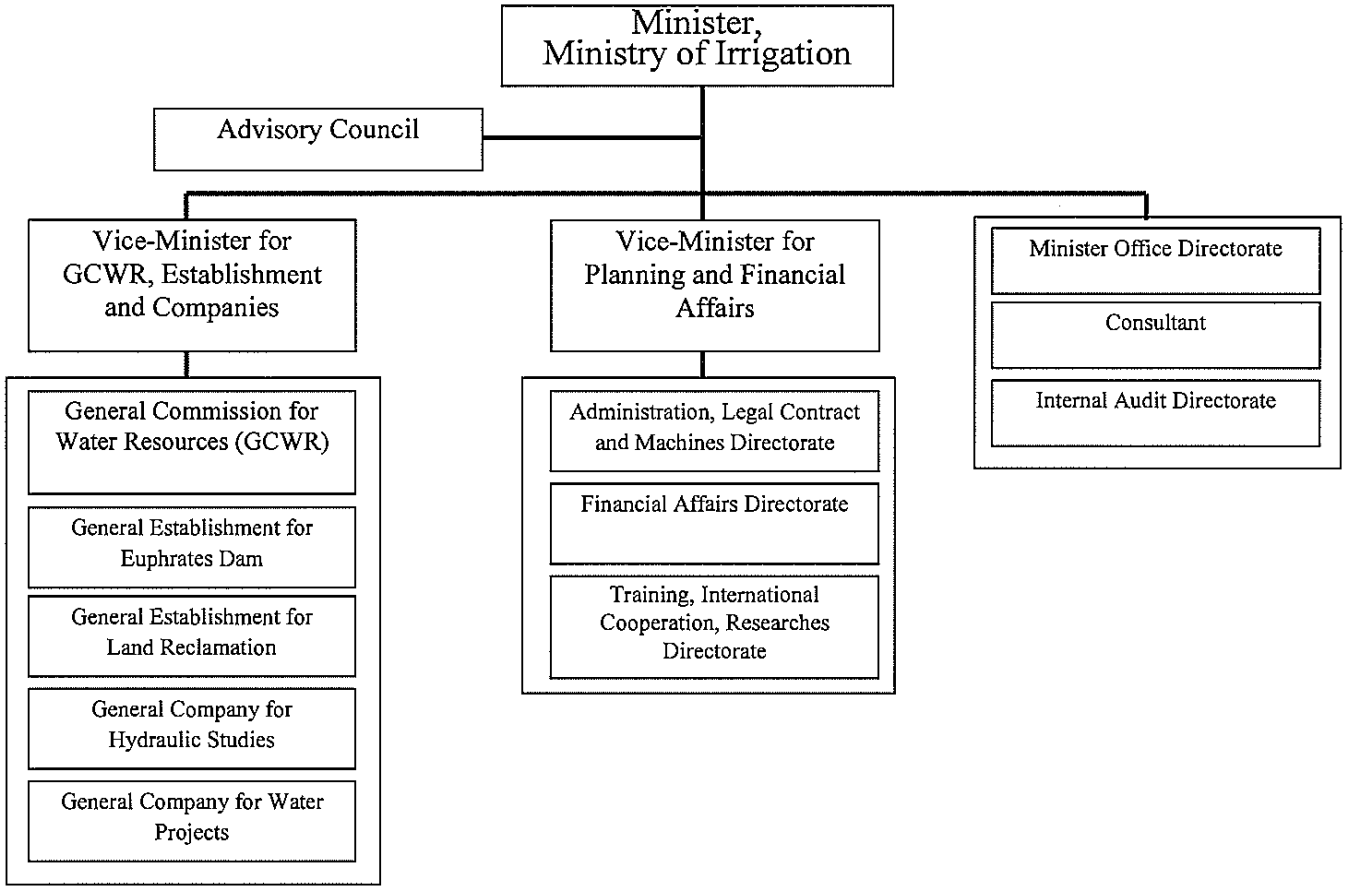
▒ : Ramadan and Eid al-Fitr

Activities	2010								2011												2012												2013												2014		
	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
1. Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.																																															
1.1 Study necessary water resources observation facilities and data processing systems in Badya Basin.	▒	▒	▒	▒	▒												▒												▒												▒						
1.2 Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus.	▒	▒	▒	▒	▒												▒												▒												▒						
1.3Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers.					▒	▒	▒	▒	▒	▒	▒						▒												▒												▒						
1.4 Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities.					▒					▒	▒	▒					▒	▒	▒					▒	▒				▒	▒	▒										▒						
1.5 Carry out observation of water resources in Badya Basin.					▒								▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
1.6 Process and store the observation data.					▒								▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
1.7 Submit the processed data to the WRIC main center.					▒								▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
2. The capacity of selected WRIC localcenters to provide water resources data and information to the WRIC main center is improved as a model.																																														
2.1 Study problems and issues of each WRIC local centers.		▒	▒	▒	▒												▒												▒												▒						
2.2 Install necessary water resources observation facilities and data processing systems.					▒	▒	▒	▒	▒	▒	▒						▒												▒												▒						
2.3 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on observation and data collection.					▒			▒	▒	▒							▒	▒					▒	▒					▒	▒	▒										▒						
2.4 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on data processing.					▒			▒	▒	▒							▒	▒					▒	▒					▒	▒	▒										▒						
2.5 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on maintenance of monitoring facilities.					▒			▒	▒	▒							▒	▒					▒	▒					▒	▒	▒										▒						
3. The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.																																														
3.1 Identify the current water resources data and information sources which is stored in WRIC main database		▒	▒	▒	▒	▒	▒	▒									▒												▒												▒						
3.2 Train staff members of the WRIC main center on providing necessary information that meets user's needs					▒			▒	▒	▒	▒				▒	▒	▒						▒	▒	▒				▒												▒						
3.3 Train staff members of the WRIC main center on data processing and analysis					▒			▒	▒	▒	▒				▒	▒	▒						▒	▒	▒				▒	▒	▒										▒						
3.4 Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.					▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
4. Water resources data and information in WRIC main center is used by relevant headquarters directorates of GCWR.																																														
4.1 Identify problems on water resources information utilization in each technical directorates of GCWR		▒	▒	▒	▒	▒	▒										▒												▒												▒						
4.2 Establish an intranet system to enable the relevant headquarters directorates to utilize water resources data and information in WRIC main					▒	▒	▒	▒	▒	▒	▒						▒												▒												▒						
4.3 Hold seminars to the GCWR staffs on how to utilize water resources data and information such as statistical processing, GIS, etc.					▒			▒			▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
5. Water balance models are elaborated in selected Basins.					▒			▒									▒												▒												▒						
5.1 Review existing water balance models.					▒			▒		▒	▒	▒	▒				▒												▒												▒						
5.2 Select target basins and/or specific areas to establish water balance					▒			▒					▒	▒	▒	▒	▒	▒	▒										▒												▒						
5.3 Establish water balance models for whole the basins and/or specific areas based on the existing and new data to be acquired					▒			▒									▒						▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒	▒
Others					▒			▒									▒												▒												▒						
Joint Mid-term Review					▒			▒									▒					▒	▒						▒												▒						
Joint Terminal Evaluation					▒			▒									▒												▒												▒	▒					
Project Final Report					▒			▒									▒												▒												▒					▒	

Annex 3

Organization Chart of the Ministry of Irrigation

As of February 2010

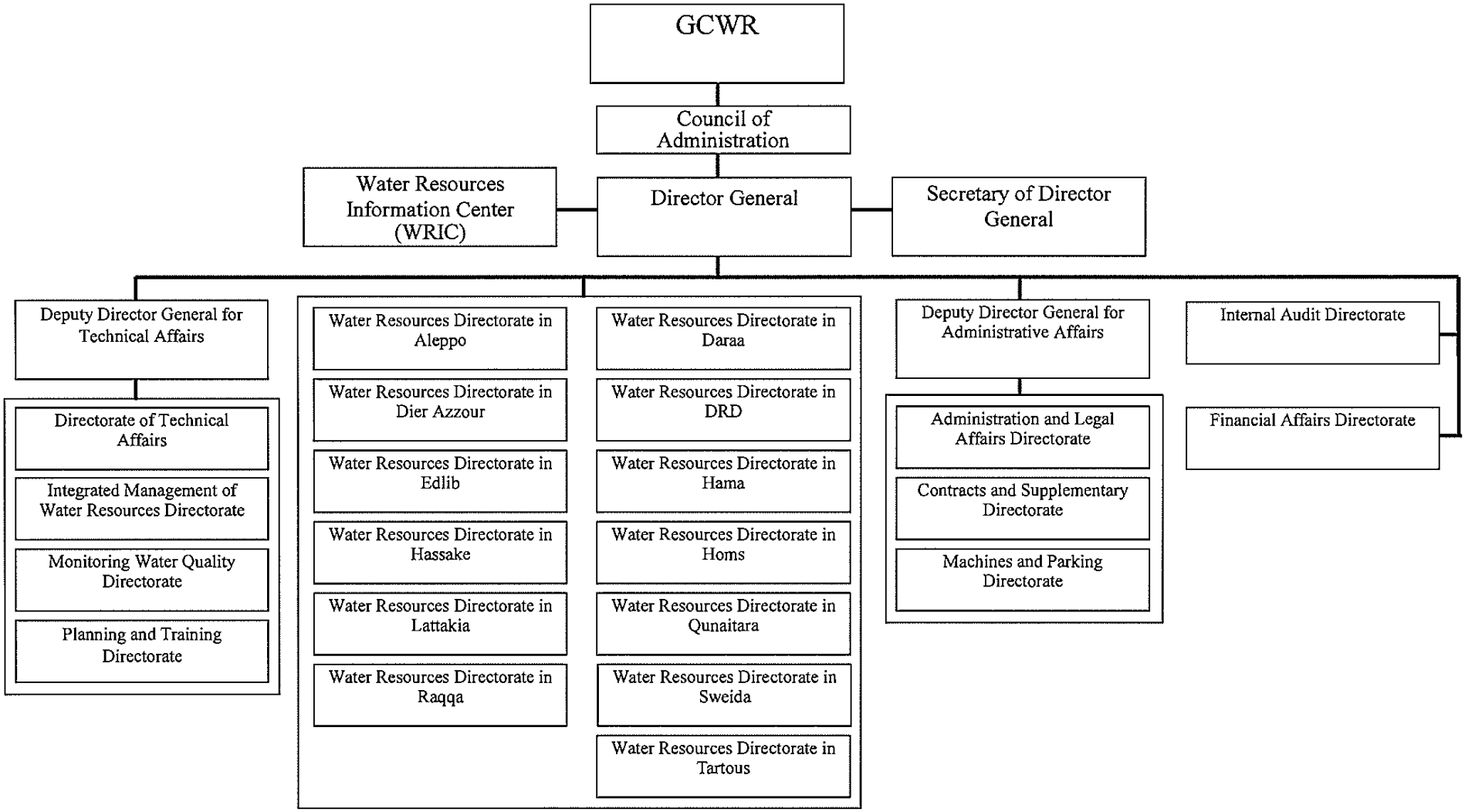


8

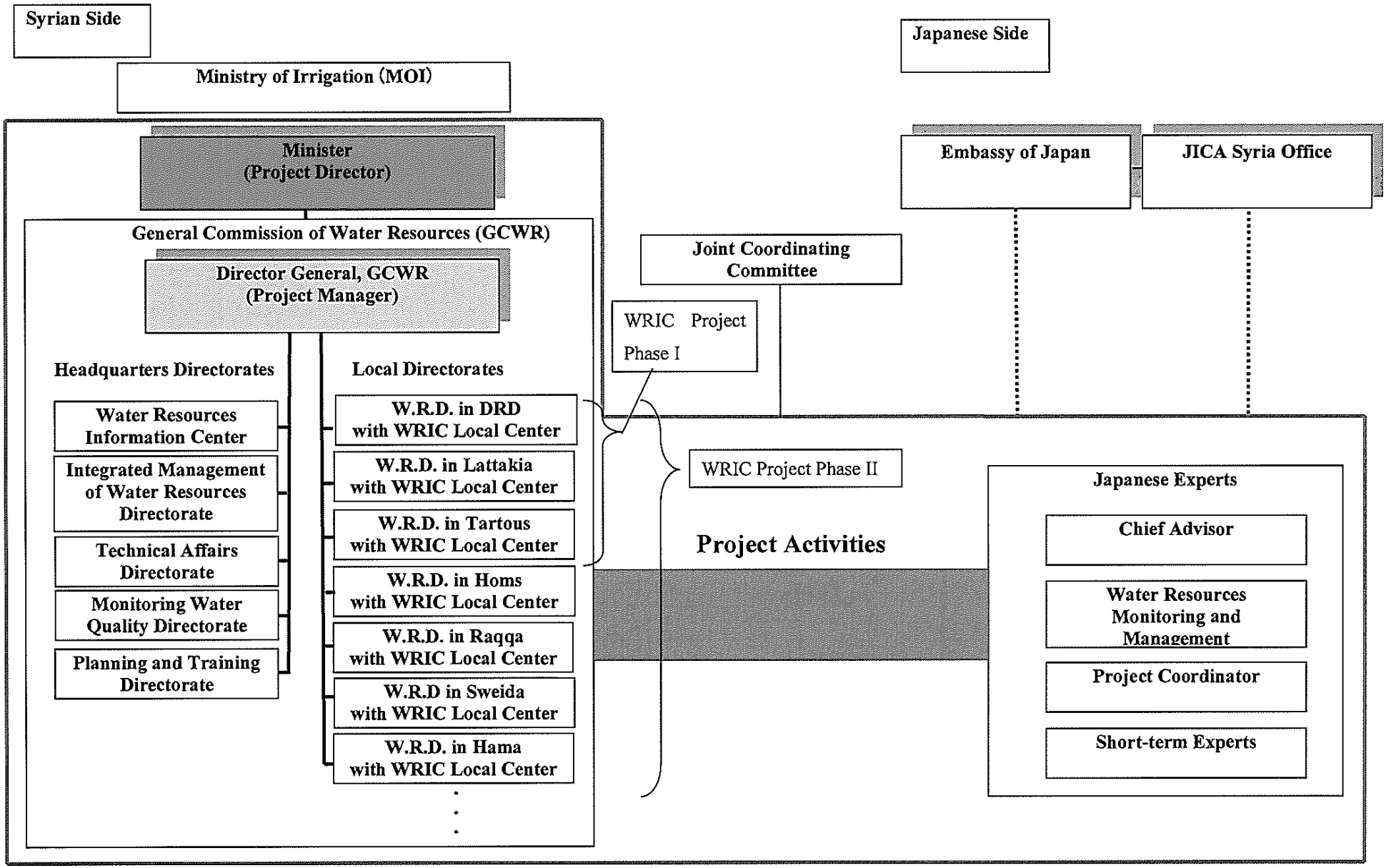
Annex4

Organization Chart of General Commission for Water Resources (GCWR)

As of February 2010



Project Implementation Chart for Water Resources Information Center Project Phase II



Tentative List of Equipment Submitted by GCWR (1/4)

<Items for Observation>

#	Name of Equipment	Specifications	Quantity
1	Automatic Weather Station	Wind direction, Wind Velocity, Relative humidity, Air temperature, Global radiation, Sunshine hours, Evaporation, Air pressure, Precipitation	24
2	Automatic Rain Gauge	Precipitation and Snow	19
3	Auto-Evaporation Gauge	Evaporation	11
4	Portable Auto-Water Flow Meter	Velocity of water range:0.01 – 3m/sec.	4
5	Auto-Water Level Meter	Water level gauging	11
6	Surface Water Flow Meter	Velocity of water	6
7	Portable Water Level Meter (cable length 100m)	Water level and Temperature	12
8	Portable Water Level Meter (cable length 200m)	Water level and Temperature	12
9	Portable Water Level Meter (cable length 300m)	Water level and Temperature	12
10	Groundwater Data Logger (200m depth)	Water level and Temperature	95
11	Groundwater Data Logger (300-400m depth)	Water level and Temperature	5
12	Field Vehicle	Field works	9
13	Laptop PC	-	18
14	pH Meter	Water quality	11
15	DO Meter	Water quality	9
16	TDS Meter	Water quality	11

Tentative List of Equipment Submitted by GCWR (2/4)

<Items for Observation (Breakdown)>

#	Name of Equipment	WRIC Local Centers or Water Resources Directorates (WRD)							Total
		Barada-Awaj & Badya Basin		Badya Basin			Coastal Basin		
		WRIC DRD	WRD Sweida	WRD Homs	WRD Raqqa	WRD Hama	WRIC Tartus	WRIC Lattakia	
1	Automatic Weather Station	4	5	8	2	0	3	2	24
2	Automatic Rain Gauge	0	9	8	2	0	0	0	19
3	Auto-Evaporation Gauge	1	3	5	0	0	2	0	11
4	Portable Auto-Water Flow Meter	0	0	0	0	0	2	2	4
5	Auto-Water Level Meter	8	1	2	0	0	0	0	11
6	Surface Water Flow Meter	0	0	0	0	0	3	3	6
7	Portable Water Level Meter (cable length 100m)	2	0	3	1	2	2	2	12
8	Portable Water Level Meter (cable length 200m)	2	0	3	2	2	1	2	12
9	Portable Water Level Meter (cable length 300m)	2	2	2	2	2	1	1	12
10	Groundwater Data Logger (200m depth)	13	0	56	5	0	10	11	95
11	Groundwater Data Logger (300-400m depth)	0	2	0	3	0	0	0	5
12	Field Vehicle	1	2	3	1	1	1	0	9
13	Laptop PC	3	3	5	2	1	2	2	18
14	pH Meter	2	2	2	2	1	1	1	11
15	DO Meter	2	0	2	2	1	1	1	9
16	TDS Meter	2	2	2	2	1	1	1	11

Tentative List of Equipment Submitted by GCWR (3/4)

<Items for Data Processing and Analysis>

#	Name of Equipment	Specifications	Quantity
1	Main Server (for Replace)	CPU: Dual-Core Intel Xeon Processor 2GHz or Higher, Memory: DDR2 2GB and can be expanded to at least 16GB, RAID Controller: Integrated RAID-0/-1/-10, optional RAID-5, HDD: 160GB*3, Tape Drive: 6, Network Card: Integrated Gigabit Ethernet 10/100/I,000Mbps, Disk Drive: DVD/R and 3.5 inch FDD, Display Monitor: 15 inch Color LCD, Operation System: Windows 2003 Server	1
2	Local Server	CPU: Dual-Core Intel Xeon Processor 2GHz or Higher, Memory: DDR2 2GB and can be expanded to at least I6GB, RAID Controller: Integrated RAID-0/-1/-I0, optional RAID-5, HDD: 160GB*3, Tape Drive: 6, Network Card: Integrated Gigabit Ethernet I0/100/I,000Mbps, Disk Drive: DVD/R and 3.5 inch FDD, Display Monitor: 15 inch Color LCD, Operation System: Windows 2003 Server	4
3	Desktop PC	CPU: Intel Pentium 4 Processor 3.4GHz or Higher, Memory: DDR2 1GB and can be expanded to at least 4GB, HDD: 80GB*I, Network Card: RJ45 10/100/1,000Mbps, Disk Drive: DVD-CD/R (combo) and 3.5 inch FDD, Display Monitor: 17 inch Color LCD, Operation System: Windows XP	30
4	Color Inkjet Printer (A3)	Type: A3 Size Color Inkjet, Internal Memory: 8MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	7
5	Monochrome Laser Printer (A4)	Type: A4 Size Monochrome Laser, Internal Memory: 8MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	3
6	Inkjet Plotter (A0)	Type: A0 Size Color Inkjet, Internal Memory: 60MB RAM, Connection Ports: Parallel/USB, Work Environment: Compatible with Windows Me/98/NT4.0/2000/XP and above/ Linux	1
7	Scanner (A0)	Scanning Resolution: 100 to 900dpi, Control Ports: SCSI-2/USB2.0, Work Environment: Compatible with Windows Me/98/NT4.0/2000/ XP and above/ Linux, Other: Bidder should provide one control unit (SCSI) for scanner	2
8	Copy Machine (A3)	Both Faces Printing Available	4
9	Switching Hub	Data Transfer: I0BASE-T/ 100BASE-TX/ 1000BASE-T	1
10	Uninterruptible Power Supply (UPS)	Nominal Input Voltage: (AC 184-264 V, 50Hz ± 0.1% single phase), Nominal Output Voltage: (220 V ± 1%, 50Hz ± 0.1% single phase), Backup Time: 50 Minutes or more	30

Annex6

Tentative List of Equipment Submitted by GCWR (4/4)

<Items for Data Processing and Analysis (Breakdown)>

#	Name of Equipment	Other Headquarters Directrates	WRIC Main Center	WRIC Local Centers or Water Resources Directorates (WRD)							Total
				Barada-Awaj & Badya Basin		Badya Basin			Coastal Basin		
				WRIC DRD	WRD Sweida	WRD Homs	WRD Raqqa	WRD Hama	WRIC Tartus	WRIC Lattakia	
1	Main Server (for Replace)	0	1	0	0	0	0	0	0	0	1
2	Local Server	0	0	0	1	1	1	1	0	0	4
3	Desktop PC	8	4	4	4	4	2	2	2	0	30
4	Color Inkjet Printer (A3)	4	0	0	1	0	1	1	0	0	7
5	Monochrome Laser Printer (A4)	0	0	0	1	1	1	0	0	0	3
6	Inkjet Plotter (A0)	0	0	0	0	1	0	0	0	0	1
7	Scanner (A0)	0	1	0	0	1	0	0	0	0	2
8	Copy Machine (A3)	0	0	0	1	1	1	1	0	0	4
9	Switching Hub	0	0	0	0	1	0	0	0	0	1
10	Uninterruptible Power Supply (UPS)	8	4	4	4	4	2	2	2	0	30

Ramadan and Eid al-Fitr

1	2	3	4	5	6	7	8	Activities	2010									2011											2012											2013											2014		
									4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
								1. Appropriate water resources monitoring (data collection and analysis) is executed in Badya Basin.																																																
○	◎		○	○				1.1 Study necessary water resources observation facilities and data processing systems in Badya Basin.																																																	
○	◎		○	○				1.2 Establish WRIC local centers in Homs, Sweida, Hama and Raqqa and expand the WRIC local center in Damascus and Rural Damascus.																																																	
○	◎		○	○				1.3Install water resources observation facilities in Badya Basin and improve data processing systems for five WRIC local centers.																																																
○	◎	○	○					1.4 Train staff members of five WRIC local centers on observation and data collection, data processing and maintenance of monitoring facilities																																																
○	◎	○						1.5 Carry out observation of water resources in Badya Basin.																																																
○	◎	○						1.6 Process and store the observation data.																																																
○	◎	○						1.7 Submit the processed data to the WRIC main center.																																																
								2. The capacity of selected WRIC localcenters to provide water resources data and information to the WRIC main center is improved as a model.																																																	
◎	○		○	○				2.1 Study problems and issues of each WRIC local centers.																																																
◎	○		○	○				2.2 Install necessary water resources observation facilities and data processing																																																
◎	○	○						2.3 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on observation and data collection.																																																
○	○	◎				○		2.4 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on data processing.																																																
○	○		◎					2.5 Train staff members of WRIC local centers in Bardya, Barada-Awaj and Coastal Basins on maintenance of monitoring facilities.																																																
								3. The capacity of the WRIC main center is strengthened to provide water resources information to the relevant headquarters directorates of GCWR.																																																
◎	○	○		○				3.1 Identify the current water resources data and information sources which is stored in WRIC main database																																																
◎	○	○						3.2 Train staff members of the WRIC main center on providing necessary information that meets user's needs																																																
◎	○	○						3.3 Train staff members of the WRIC main center on data processing and analysis																																																
◎	○	○		○		○		3.4 Support the WRIC main center to prepare periodicals such as monthly water resources report, hydrological chronology, and water resources report.																																																
								4. Water resources data and information in WRIC main center is used by relevant headquarters directorates of GCWR.																																																
○		○		◎				4.1 Identify problems on water resources information utilization in each technical directorates of GCWR																																																
○		○		◎				4.2 Establish an intranet system to enable the relevant headquarters directorates to utilize water resources data and information in WRIC main center.																																																
◎		○				○		4.3 Hold seminars to the GCWR staffs on how to utilize water resources data and information such as statistical processing, GIS, etc.																																																
								5. Water balance models are elaborated in selected Basins.																																																
○	○	○				◎		5.1 Review existing water balance models.																																																
○	○	○				◎		5.2 Select target basins and/or specific areas to establish water balance models																																																
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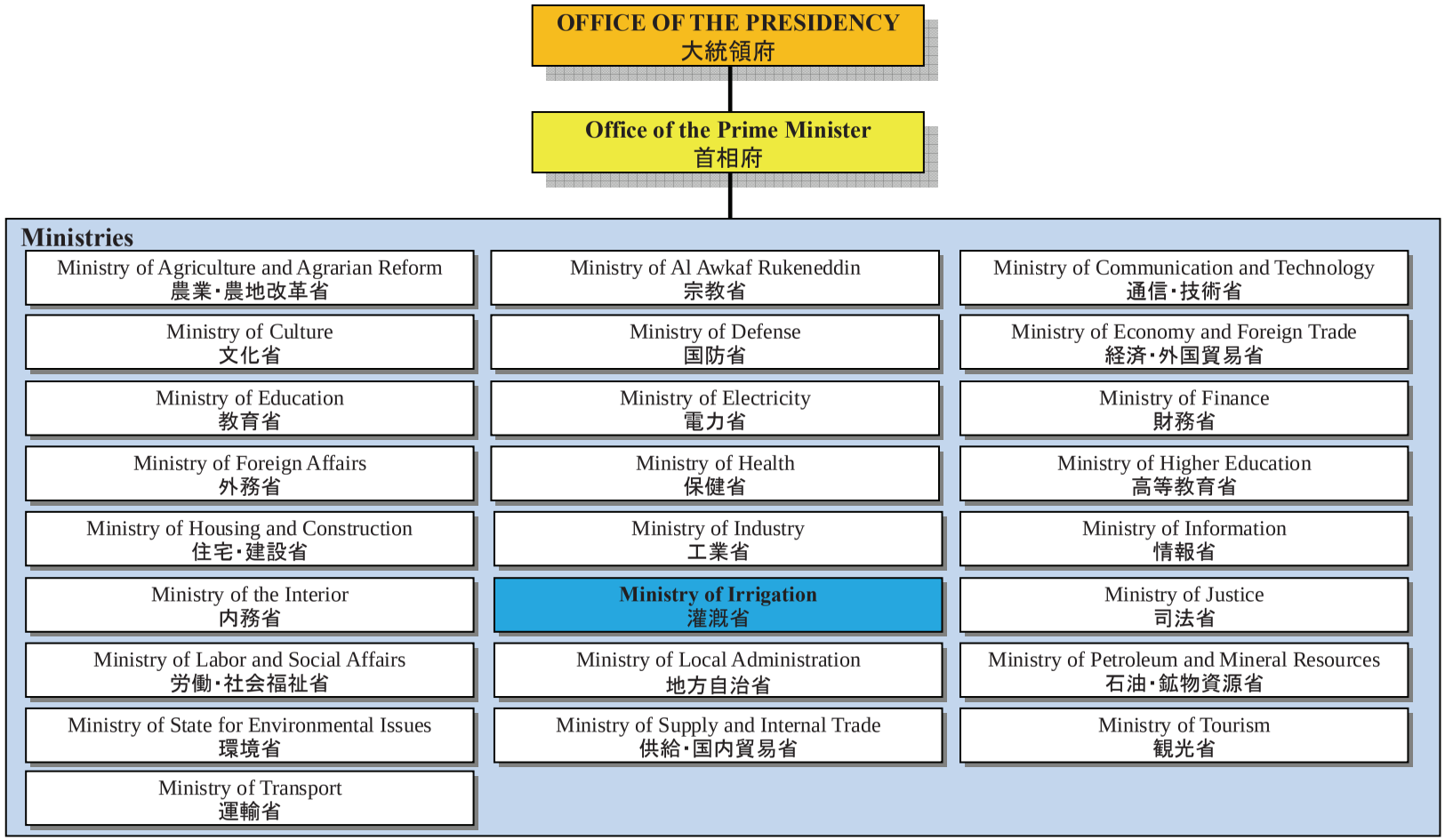
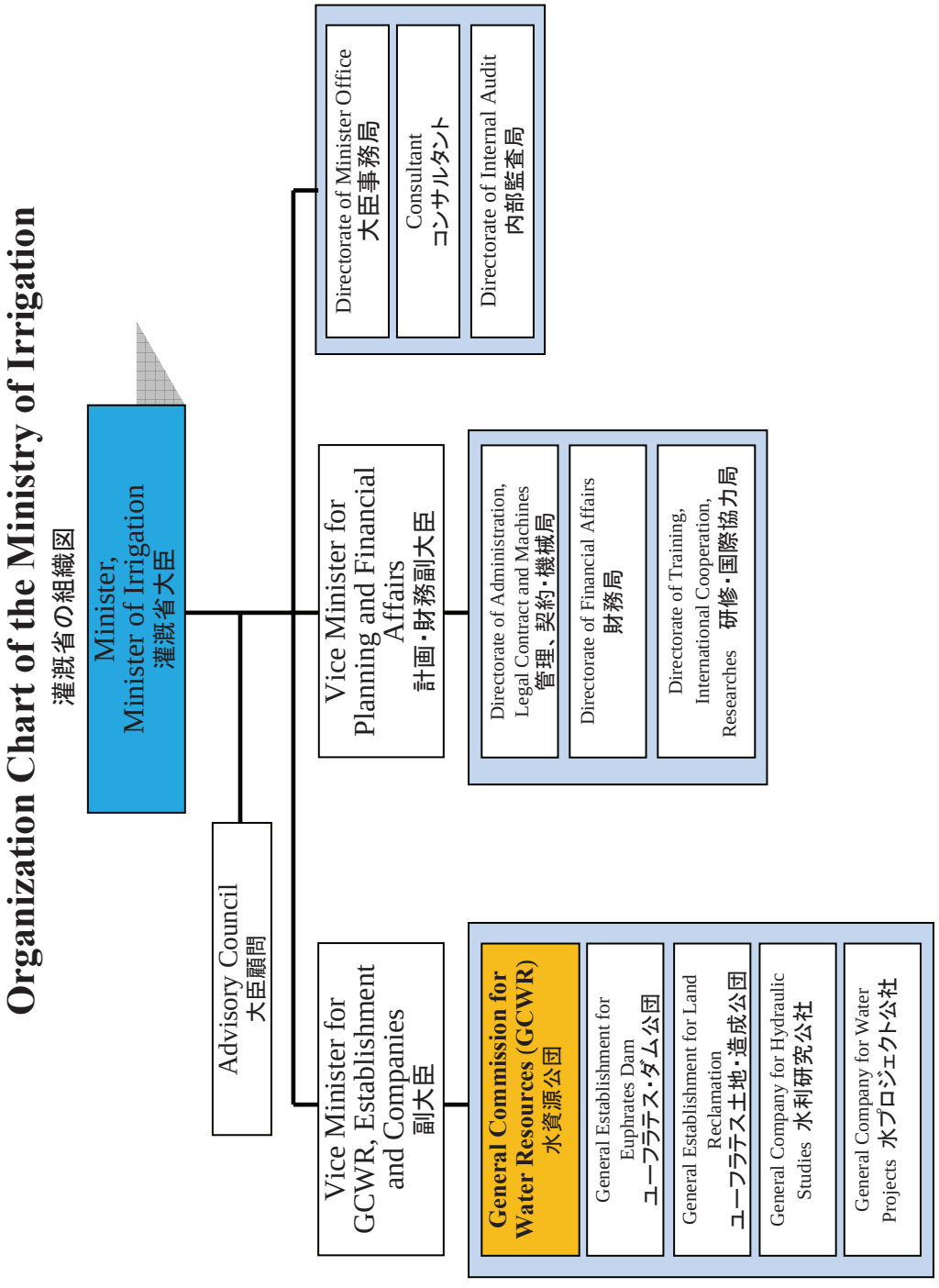
								Others																																															
								Joint Mid-term Review																																																
								Joint Terminal Evaluation																																															
								Project Final Report																																														

Syrian Government Ministries

シリアの行政組織図

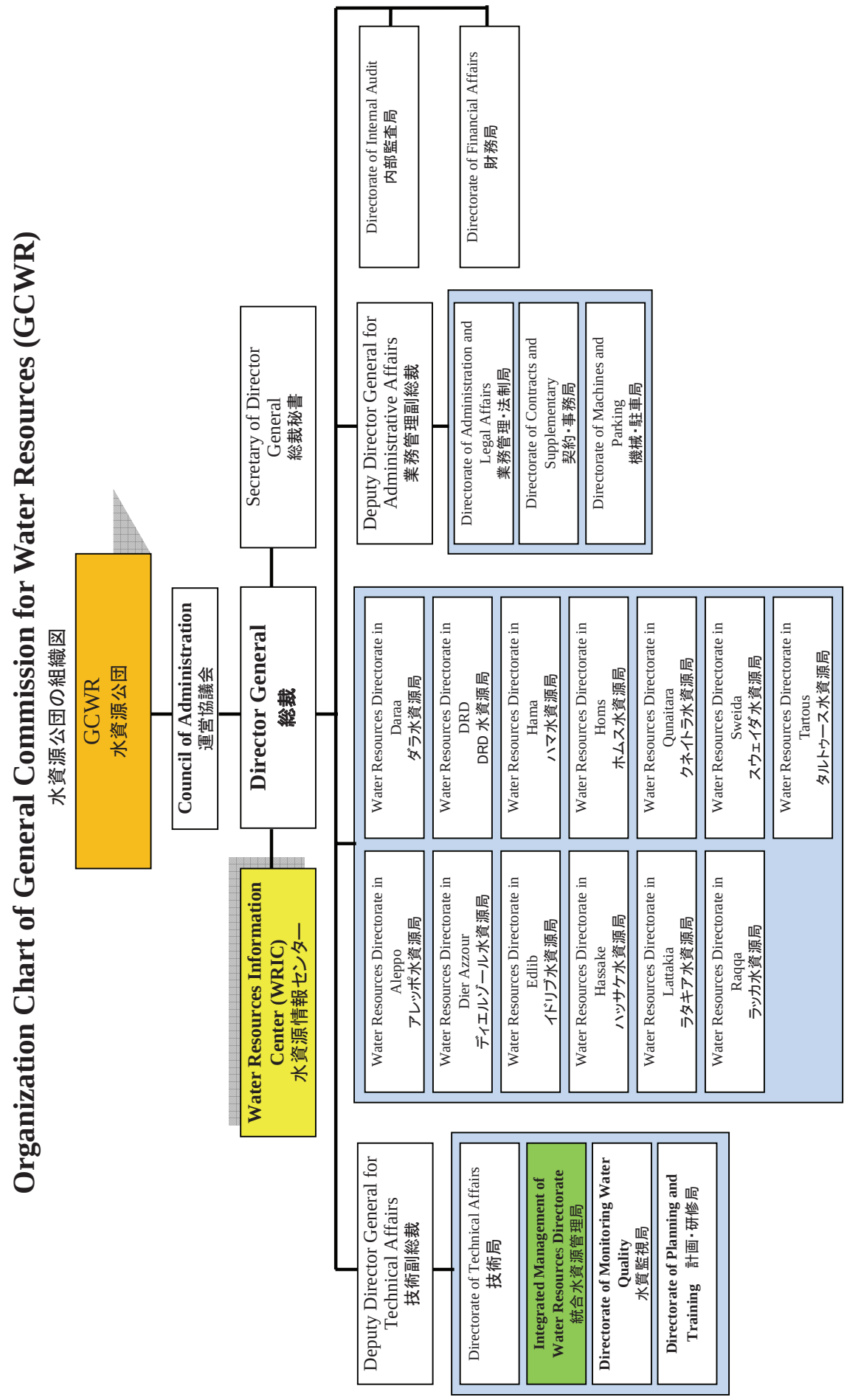


５．灌漑省の組織図

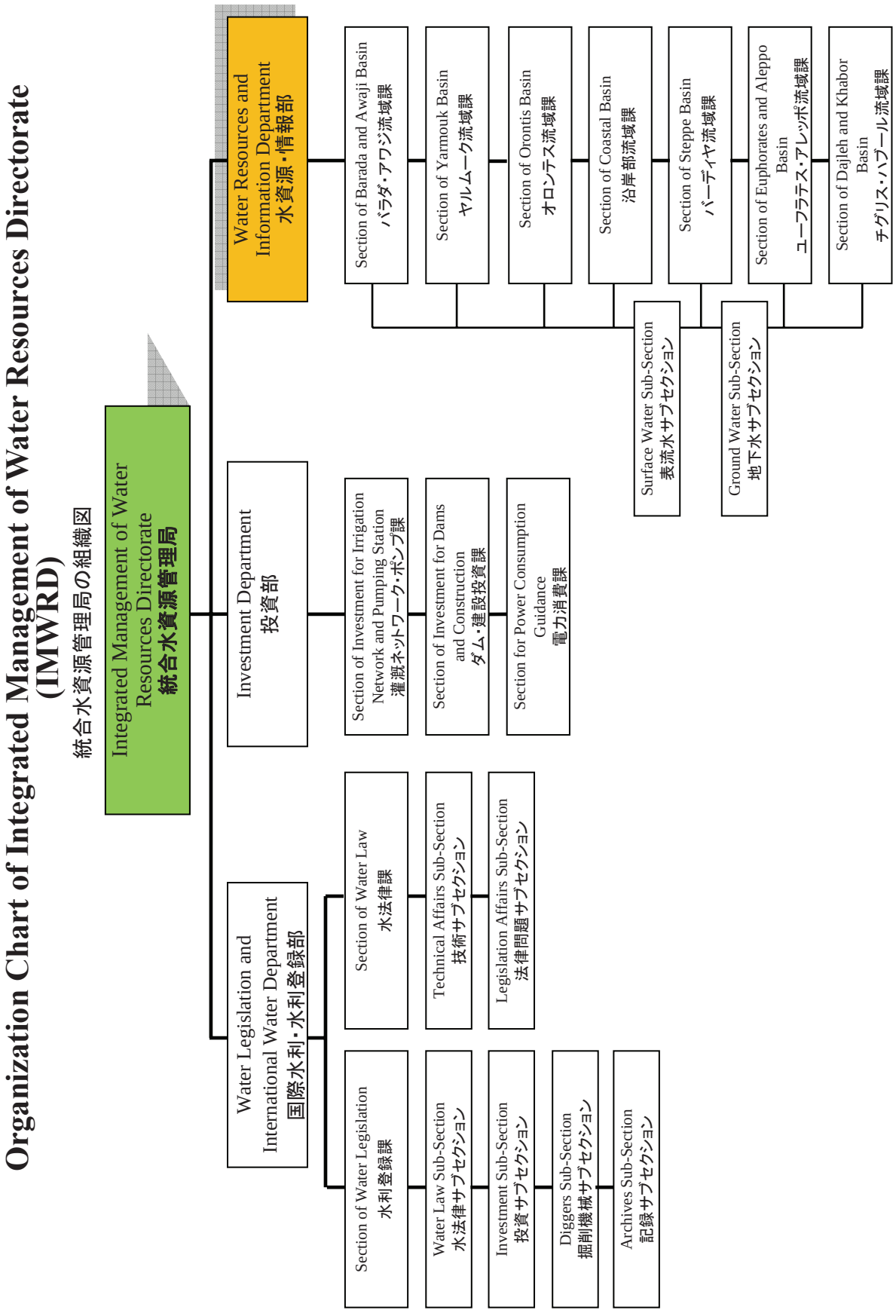

Organization Chart of the Ministry of Irrigation
灌漑省の組織図
Minister,
Minister of Irrigation
灌漑省大臣
Advisory Council
大臣顧問
Vice Minister for
GCWR, Establishment
and Companies
副大臣
General Commission for
Water Resources (GCWR)
水資源公団
General Establishment for
Euphrates Dam
ユーフラテス・ダム公団
General Establishment for Land
Reclamation
ユーフラテス土地・造成公団
General Company for Hydraulic
Studies 水利研究公社
General Company for Water
Projects 水プロジェクト公社
Vice Minister for
Planning and Financial
Affairs
計画・財務副大臣
Directorate of Administration,
Legal Contract and Machines
管理、契約・機械局
Directorate of Financial Affairs
財務局
Directorate of Training,
International Cooperation,
Researches 研修・国際協力局
Directorate of Minister Office
大臣事務局
Consultant
コンサルタント
Directorate of Internal Audit
内部監査局

Organization Chart of General Commission for Water Resources (GCWR)

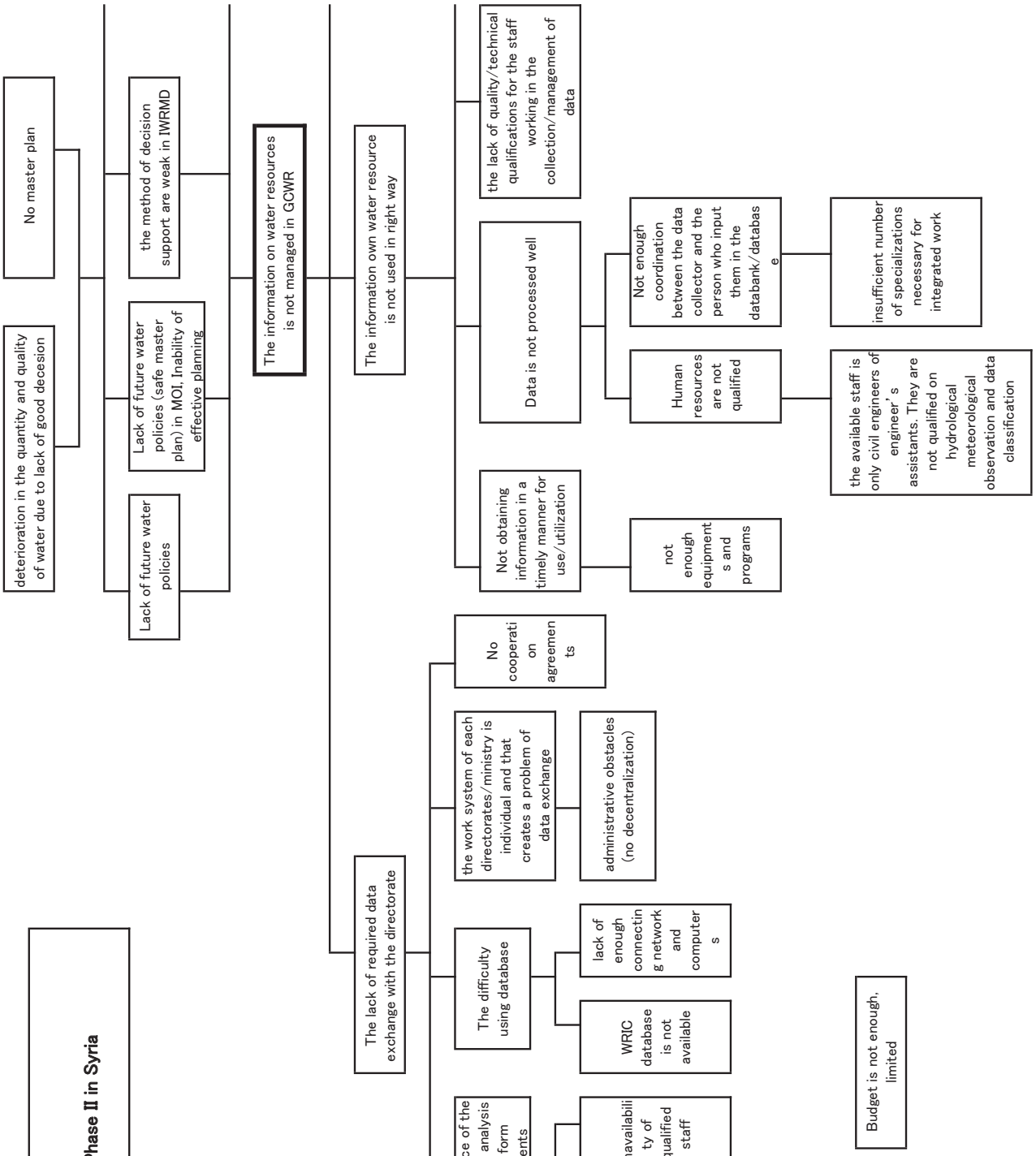
水資源公団の組織図

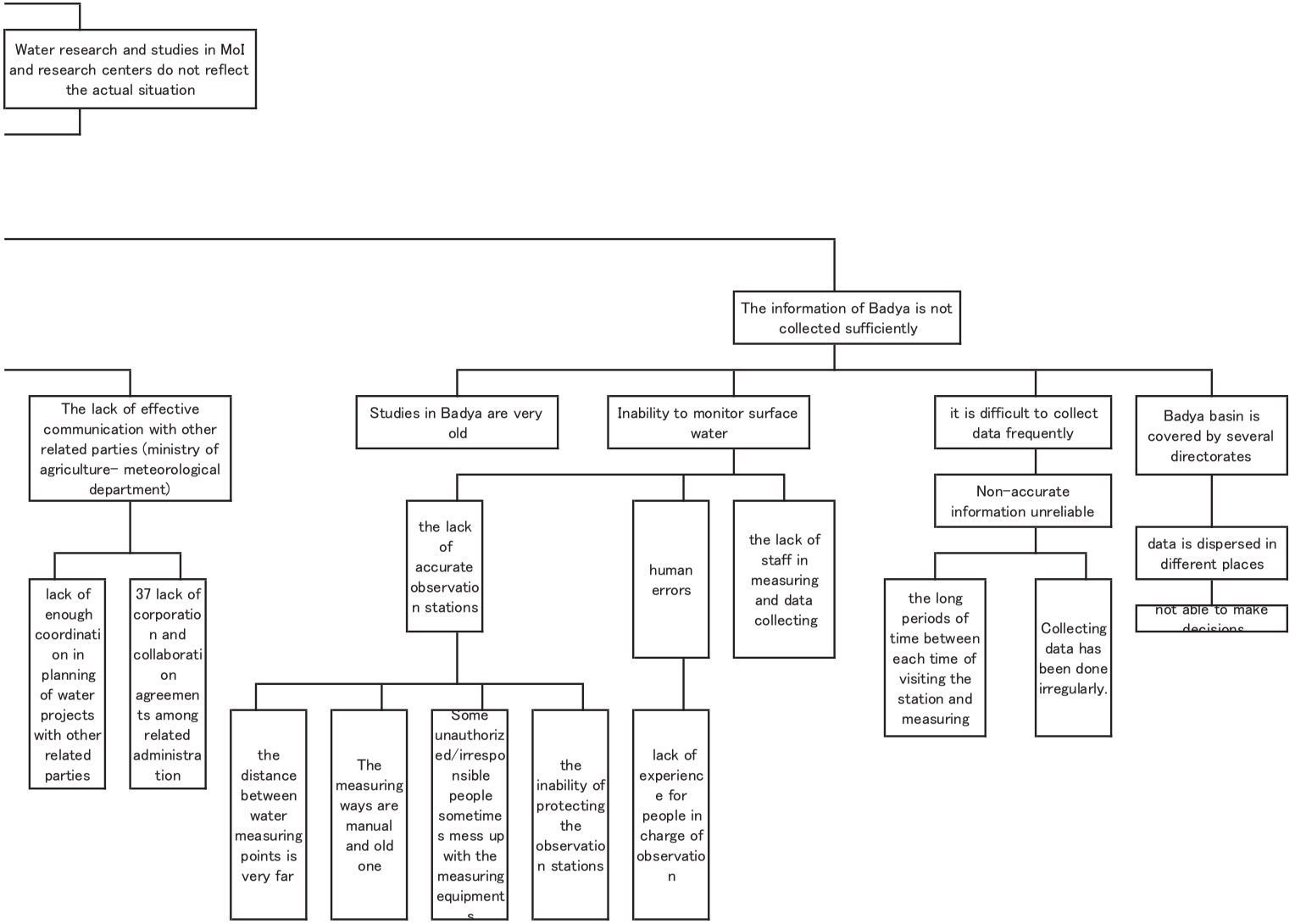


7．統合水資源管理局（IMWRD）の組織図

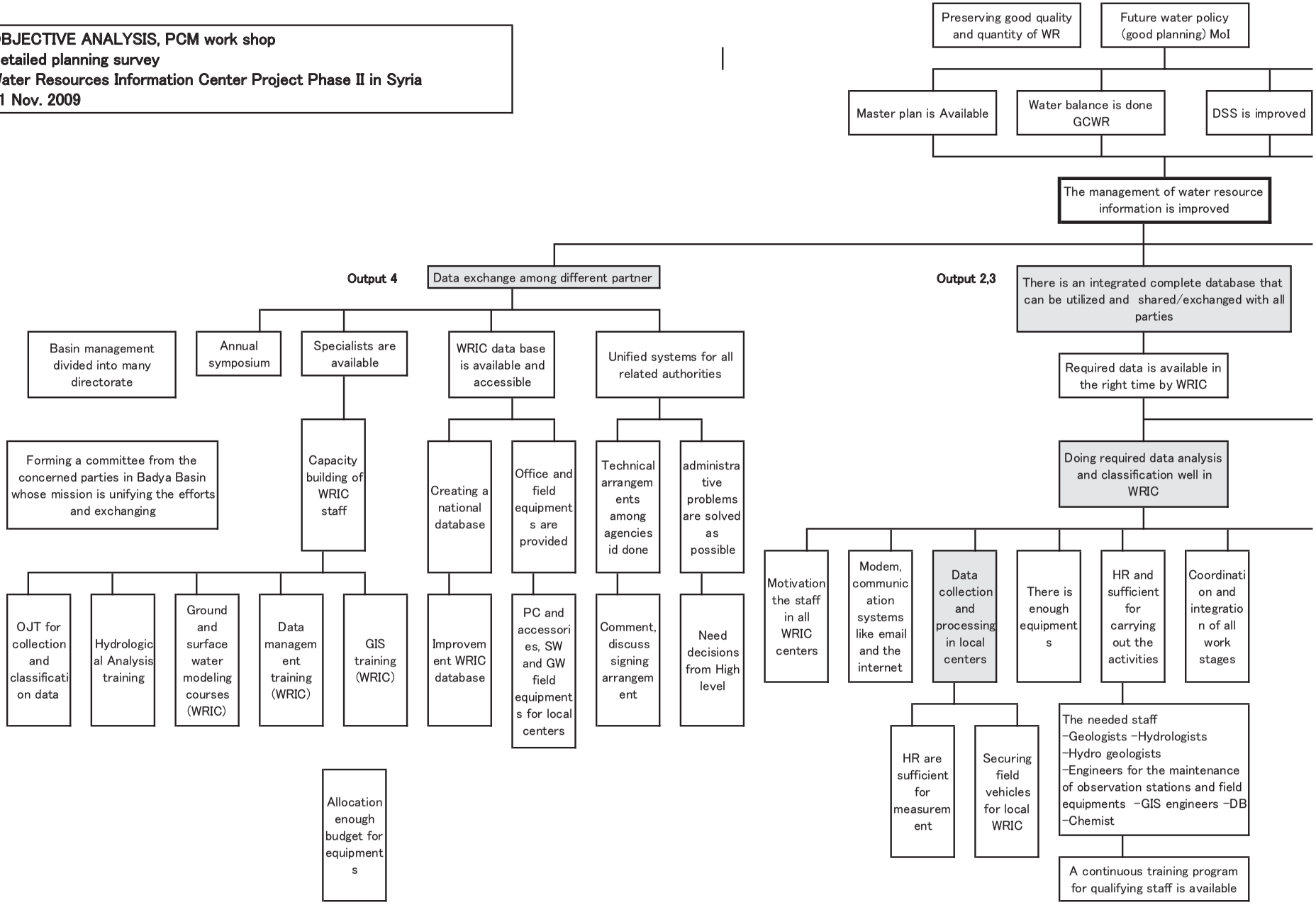


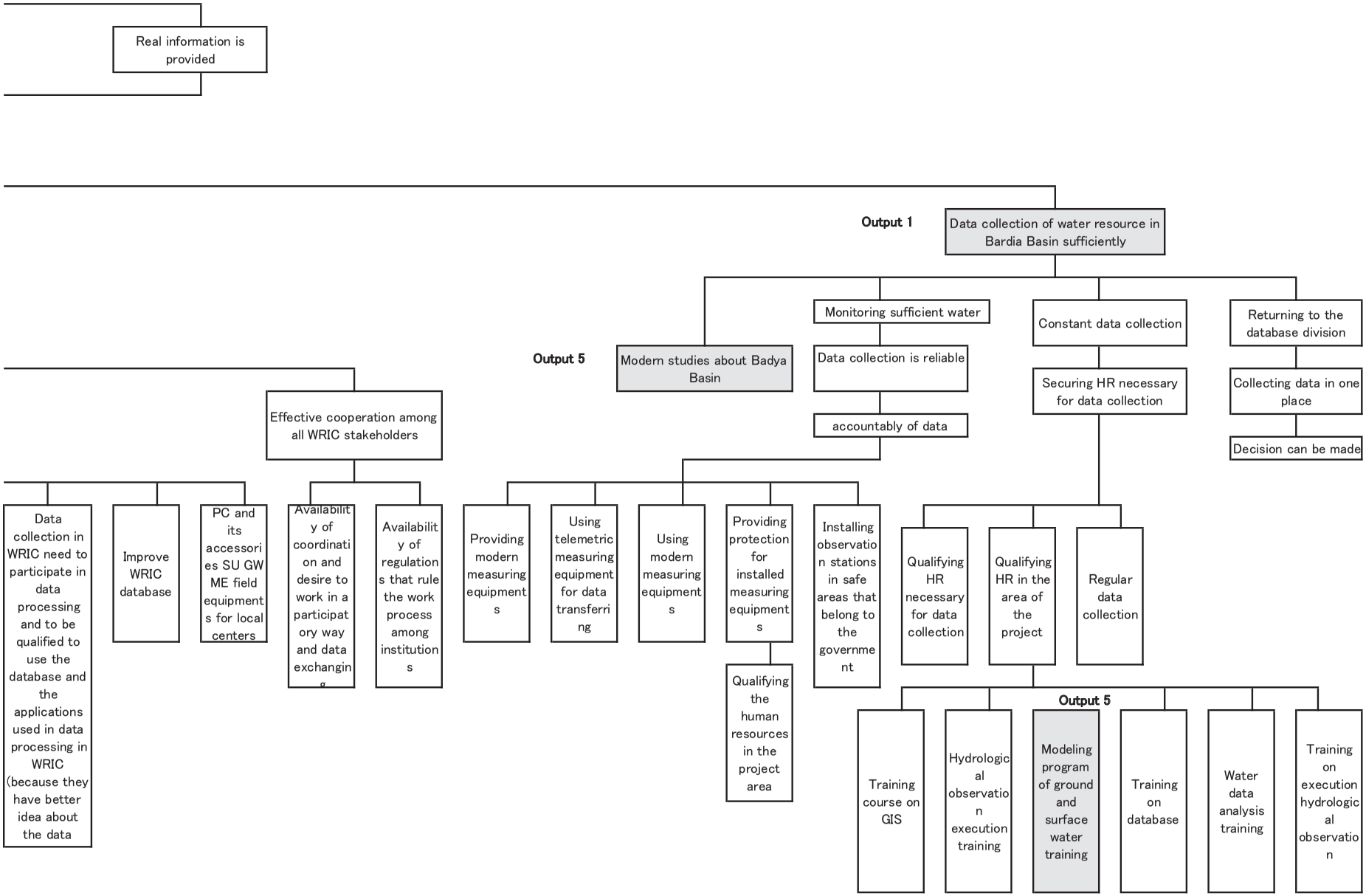
８．PCM ワークショップ結果




Water research and studies in MoI and research centers do not reflect the actual situation
The information of Badya is not collected sufficiently
The lack of effective communication with other related parties (ministry of agriculture- meteorological department)
lack of enough coordination in planning of water projects with other related parties
37 lack of corporation and collaboration agreements among related administration
Studies in Badya are very old
Inability to monitor surface water
the lack of accurate observation stations
the distance between water measuring points is very far
The measuring ways are manual and old one
Some unauthorized/irresponsible people sometimes mess up with the measuring equipments
the inability of protecting the observation stations
human errors
lack of experience for people in charge of observation
the lack of staff in measuring and data collecting
it is difficult to collect data frequently
Non-accurate information unreliable
the long periods of time between each time of visiting the station and measuring
Collecting data has been done irregularly.
Badya basin is covered by several directorates
data is dispersed in different places
not able to make decisions

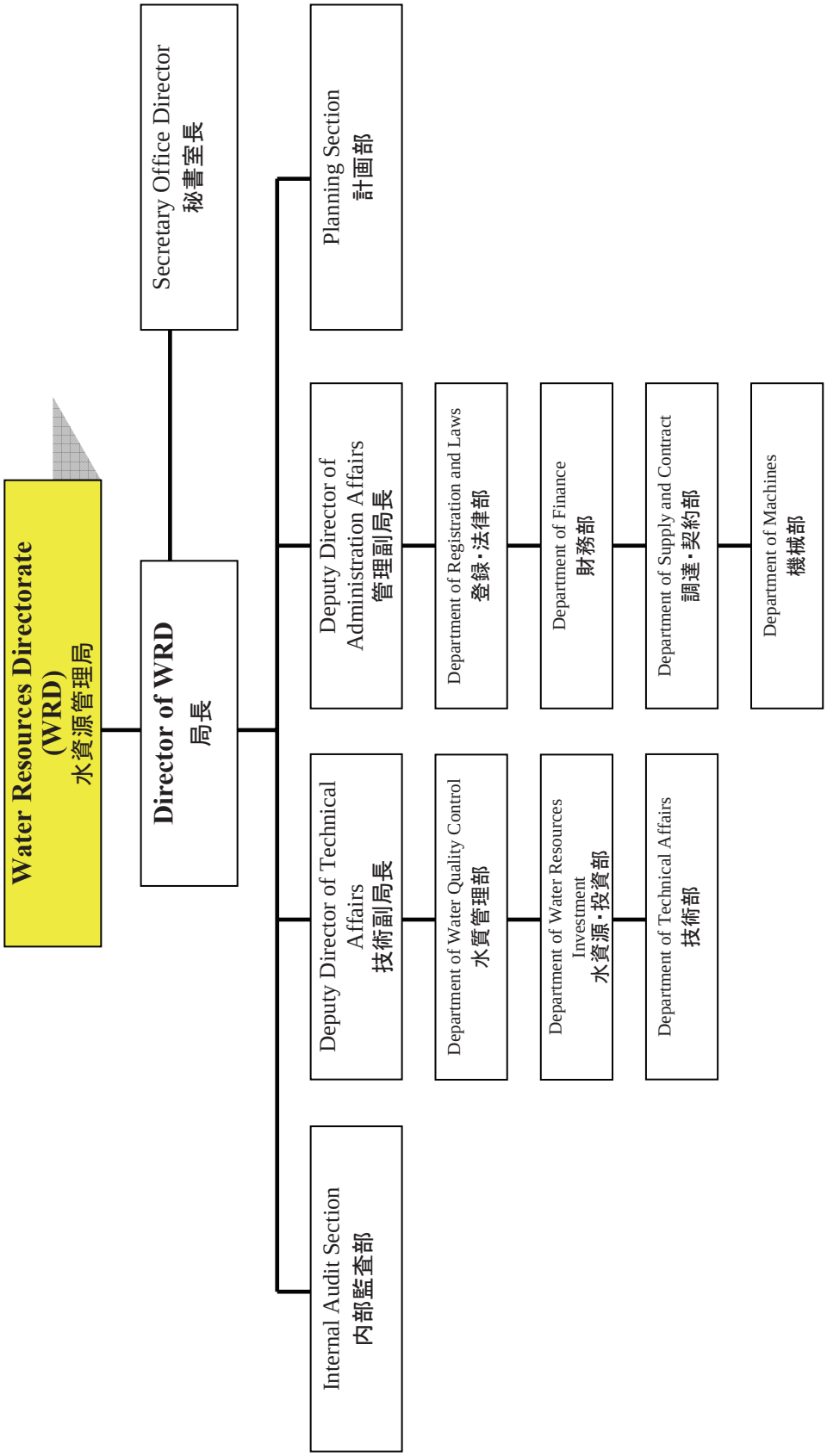
OBJECTIVE ANALYSIS, PCM work shop
Detailed planning survey
Water Resources Information Center Project Phase II in Syria
11 Nov. 2009



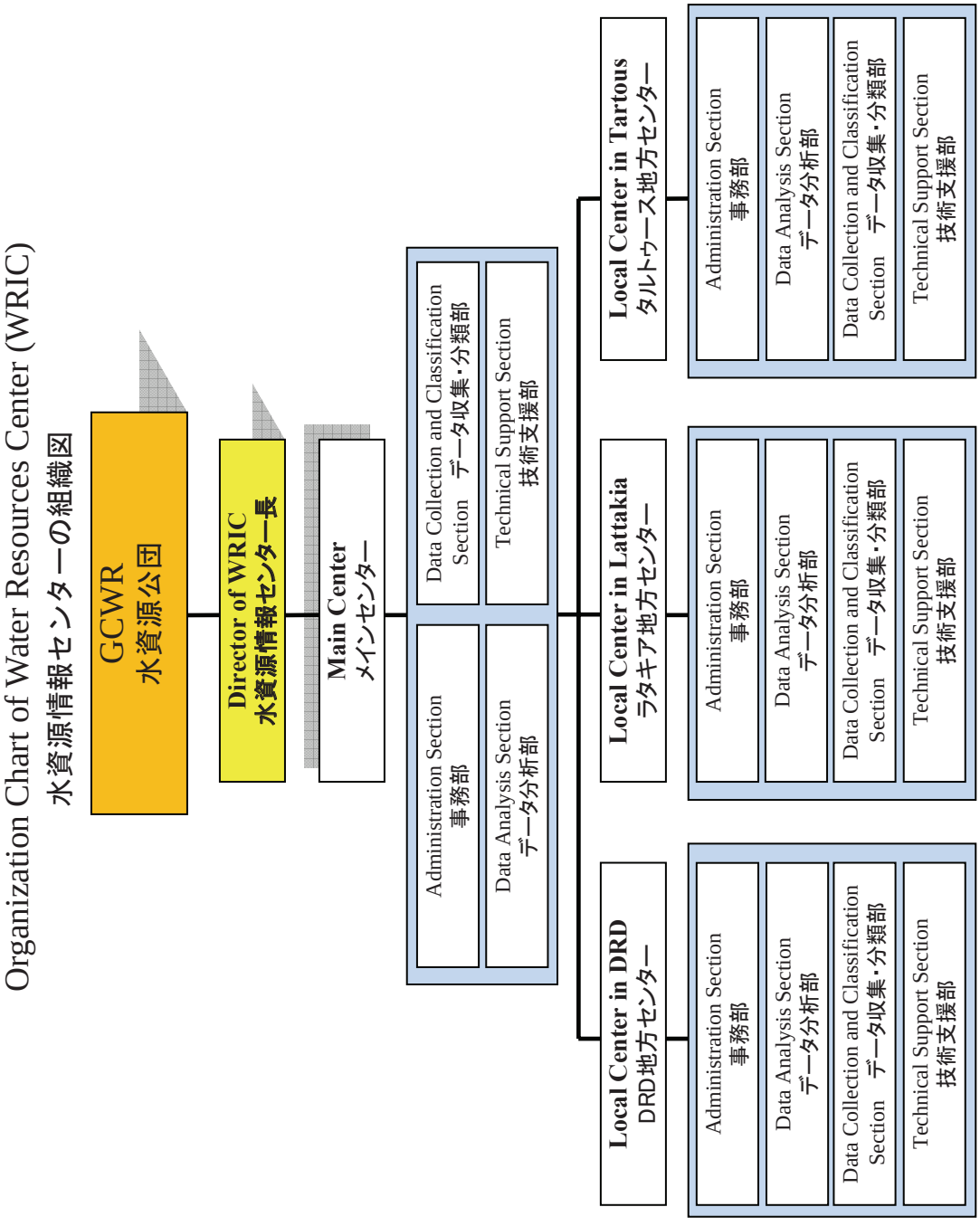

Real information is provided
Output 1
Data collection of water resource in Bardia Basin sufficiently
Monitoring sufficient water
Constant data collection
Returning to the database division
Output 5
Modern studies about Badya Basin
Data collection is reliable
Securing HR necessary for data collection
Collecting data in one place
accountably of data
Decision can be made
Effective cooperation among all WRIC stakeholders
Data collection in WRIC need to participate in data processing and to be qualified to use the database and the applications used in data processing in WRIC (because they have better idea about the data
Improve WRIC database
PC and its accessories SU GWME field equipments for local centers
Availability of coordination and desire to work in a participatory way and data exchanging
Availability of regulations that rule the work process among institutions
Providing modern measuring equipments
Using telemetric measuring equipment for data transferring
Using modern measuring equipments
Providing protection for installed measuring equipments
Installing observation stations in safe areas that belong to the government
Qualifying the human resources in the project area
Qualifying HR necessary for data collection
Qualifying HR in the area of the project
Regular data collection
Output 5
Training course on GIS
Hydrological observation execution training
Modeling program of ground and surface water training
Training on database
Water data analysis training
Training on execution hydrological observation

Organization Chart of Water Resources Directorate, GCWR

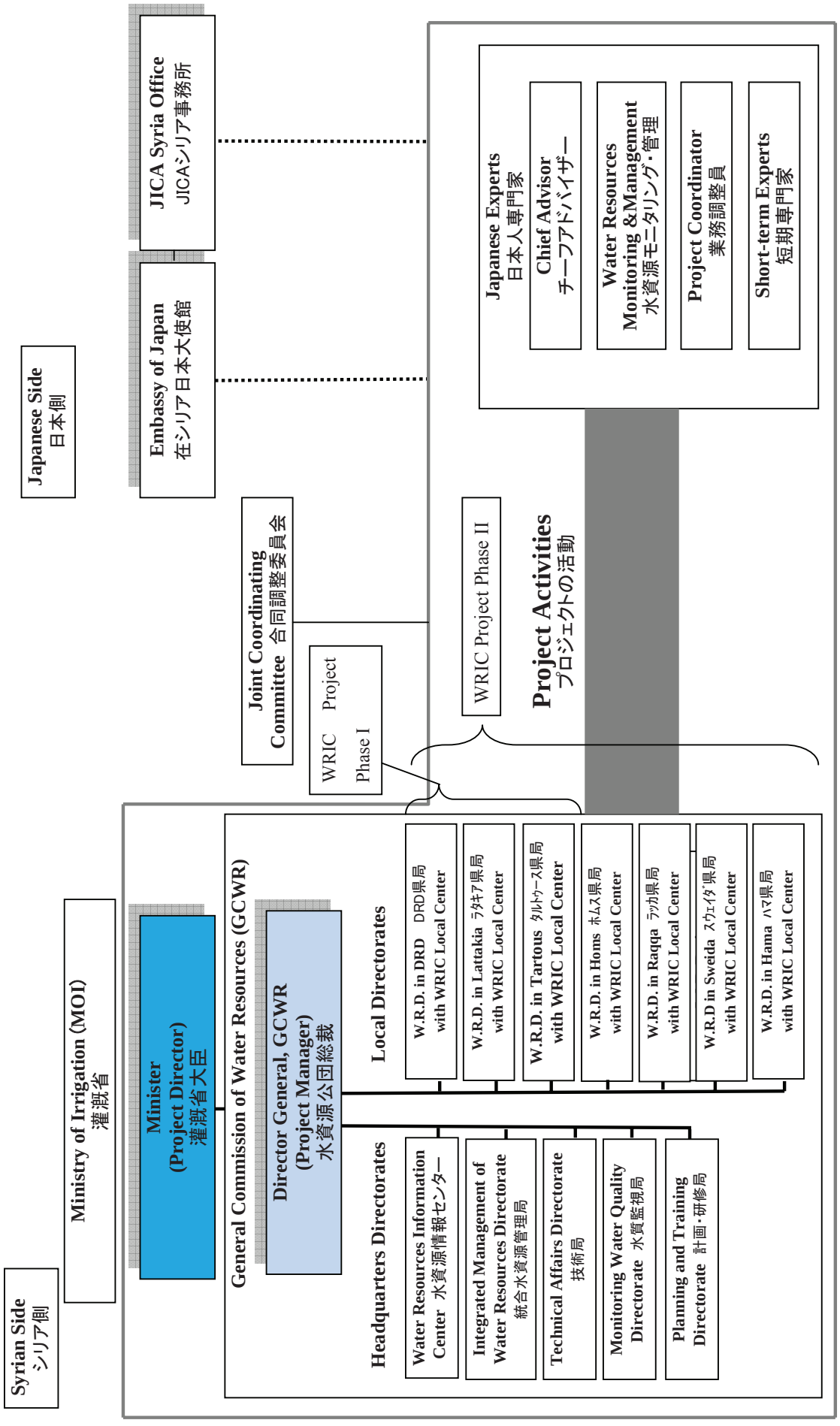
県水資源管理局の組織図

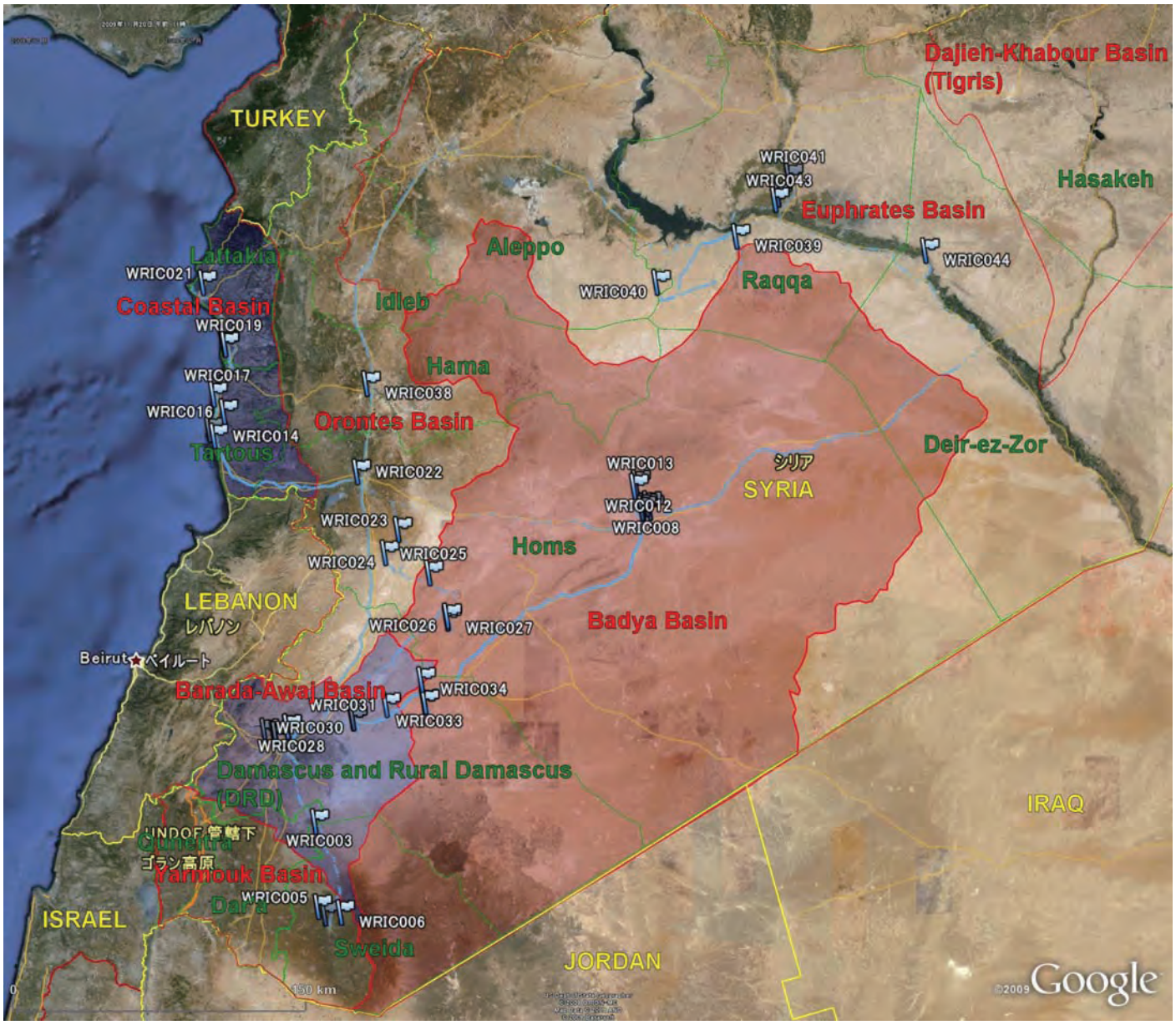


10. 水資源情報センター（WRIC）の組織図



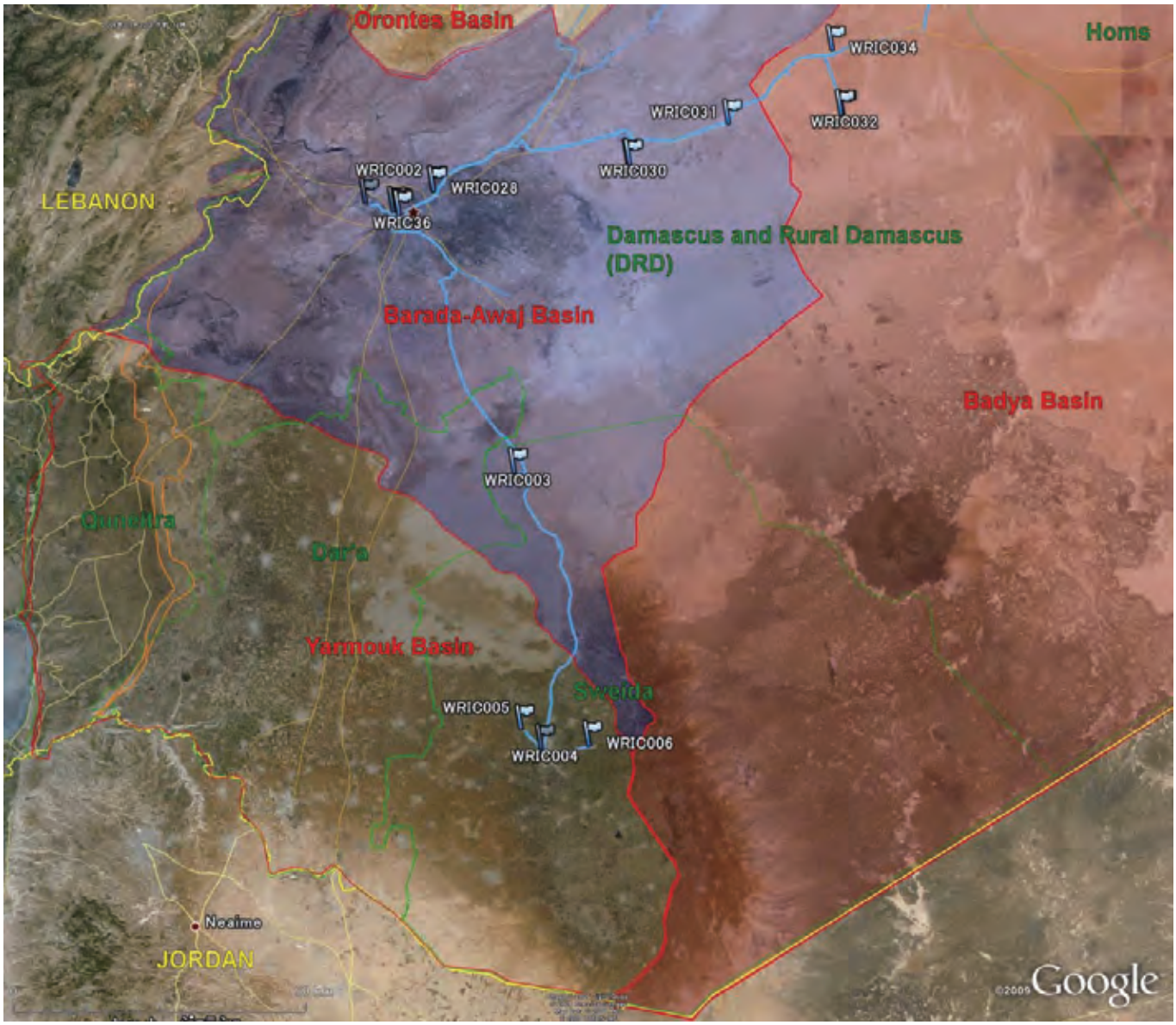
11. プロジェクトの実施体制図





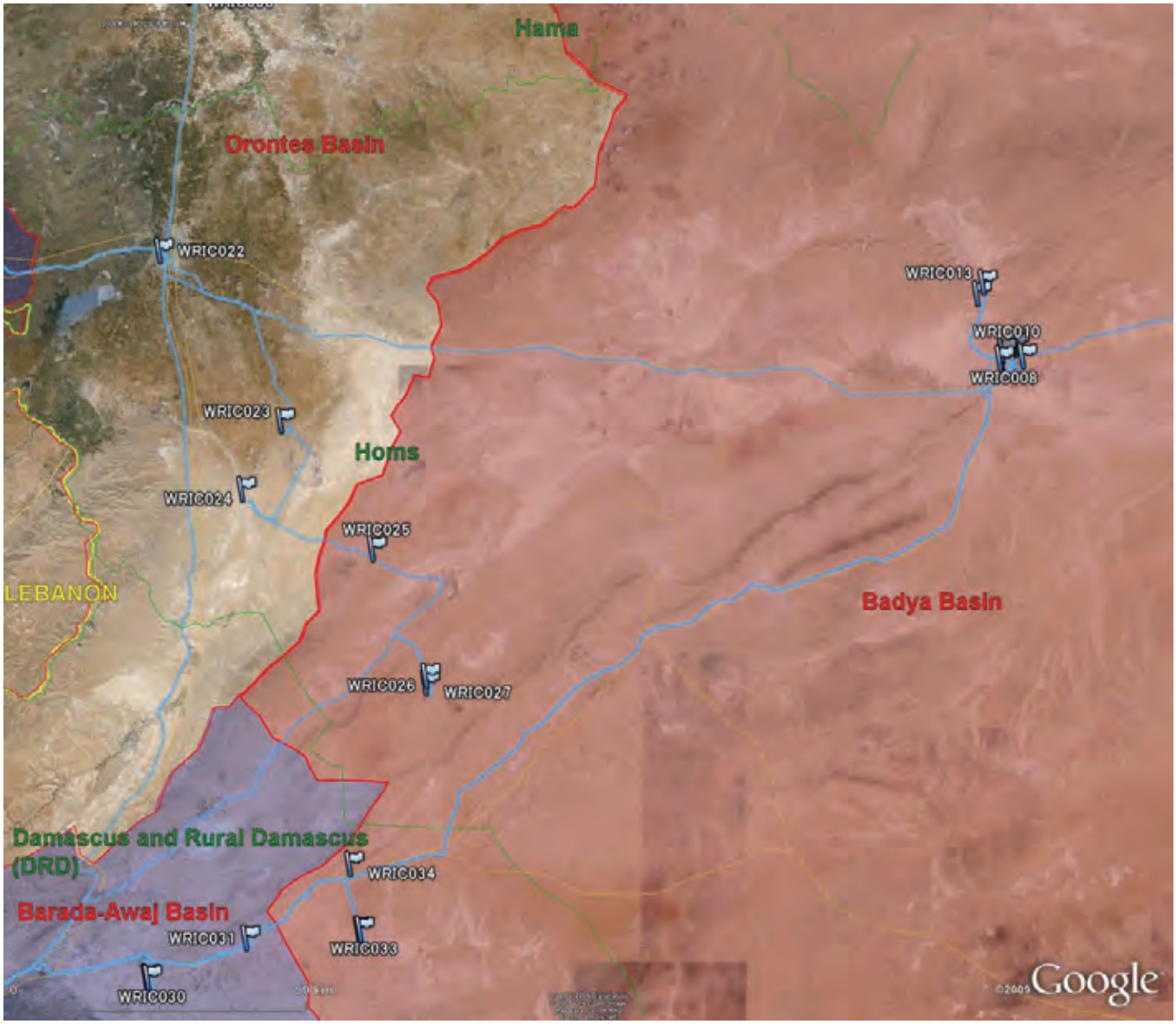
凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域及び沿岸部流域（フェーズ１で対象）

図１　現地踏査全体位置図



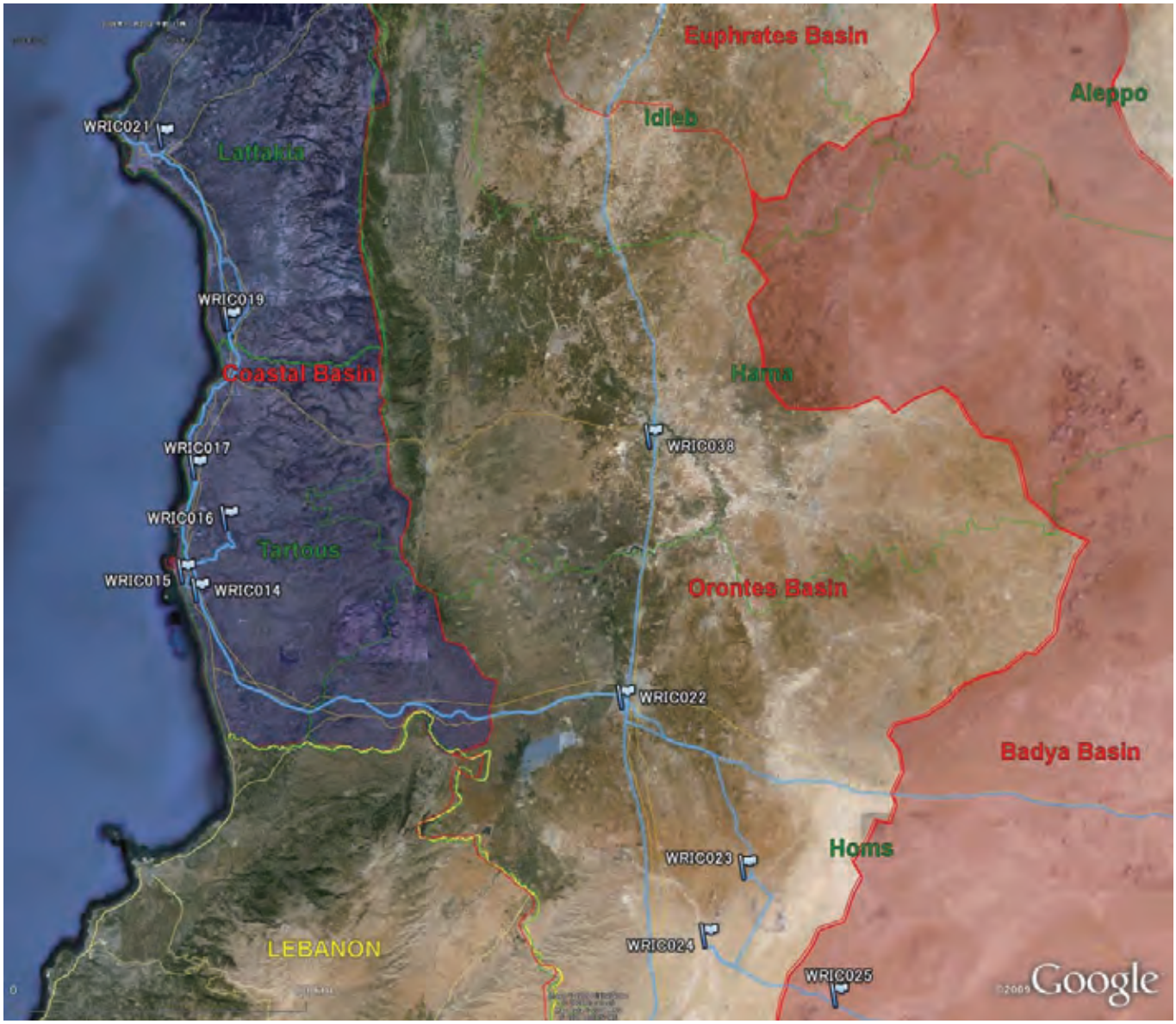
凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域及び沿岸部流域（フェーズ１で対象）

図２　現地踏査位置図（スウェイダ県：バラダ・アワジ流域、ヤルムーク流域およびバーディヤ流域）



凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域及び沿岸部流域（フェーズ１で対象）

図３　現地踏査位置図（ダマスカスとダマスカス郊外（DRD）県：バラダ・アワジ流域および
バーディヤ流域、ホムス県：オロンテス流域およびバーディヤ流域）



凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域及び沿岸部流域（フェーズ１で対象）

図４　現地踏査位置図（タルトゥース県およびラタキア県：沿岸部流域、
ハマ県：オロンテス流域およびバーディヤ流域）

凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域及び沿岸部流域（フェーズ１で対象）

図５　現地踏査位置図（アレッポ県、ラッカ県およびディエルゾール県：ユーフラテス流域およびバーディヤ流域）

表１　現地踏査地点一覧（1/3）

Name of Point	Latitude	Longitude	Elevation (m)	Remarks
WRIC001	33 ° 31 ' 5.63 " N	36 ° 17 ' 2.13 " E	694.4	JICA Syria Office
WRIC002	33 ° 32 ' 59.48 " N	36 ° 21 ' 21.8 " E	723.5	General Commission for Water Resources (GCWR), Ministry of Irrigation (New Building in Harasta)
WRIC003	33 ° 7 ' 37.76 " N	36 ° 30 ' 43.62 " E	659.3	"Al Sawra" Pumping and Distribution Station Although it is located in Barada-Awaj Basin, requested for the candidate meteorological equipment installation site for Badya Basin.
WRIC004	32 ° 42 ' 41.76 " N	36 ° 34 ' 11.03 " E	1,066.2	Water Resources Directorate (WRD) in Sweida
WRIC005	32 ° 44 ' 27.69 " N	36 ° 31 ' 56.7 " E	894.1	WRD Data Center in Sweida (Under Construction)
WRIC006	32 ° 43 ' 3.96 " N	36 ° 39 ' 16.83 " E	1,436.8	"Al Roam Dam" Meteorological Automatic Weather Station (MAWS) - Need for Maintenance -
WRIC007	34 ° 34 ' 5.02 " N	38 ° 17 ' 8.5 " E	423.8	General Commission for Badya Management and Development (GCBMD)
WRIC008	34 ° 32 ' 48.71 " N	38 ° 15 ' 27.58 " E	419.5	"Le MERIDIEN" Manual Observation Well Surface Ground Level: EL. 419.5m (by GPS) Depth of Well: 60m Groundwater Level: 23.5m (Below Surface Ground Level, As of October 2009)
WRIC009	34 ° 32 ' 52.28 " N	38 ° 15 ' 39.43 " E	410.8	Release Point of Pumped-up Water to Roman Irrigation Canal Source of Water: "L9" Well
WRIC010	34 ° 33 ' 31.5 " N	38 ° 15 ' 43.54 " E	422.4	"Horse Racing Track" Manual Observation Well Surface Ground Level: EL. 422.4m (by GPS) Depth of Well: 60m Groundwater Level: 25.65m (Below Surface Ground Level, As of October 2009)
WRIC011	34 ° 33 ' 1.08 " N	38 ° 17 ' 58.51 " E	394.5	Palmyra Water Center
WRIC012	34 ° 38 ' 41.87 " N	38 ° 12 ' 54.98 " E	571.6	Riverbank Erosion Section Seasonal river (wadi) was flooded caused by discharge from upstream dam few days ago and the road was severely damaged by riverbank
WRIC013	34 ° 39 ' 43.65 " N	38 ° 13 ' 33.2 " E	623.1	White Wadi Dam (or White Valley Dam) Dam Crest: EL.610m Reservoir is filled with water due to heavy rain occurred few days ago but water depth is around 1m to 1.5m caused by sedimentation.
WRIC014	34 ° 50 ' 45.65 " N	35 ° 55 ' 19.51 " E	29.4	WRIC Local Center in Tartous (New Building)
WRIC015	34 ° 52 ' 27.55 " N	35 ° 53 ' 41.52 " E	6.4	"Al Gmka River" Automatic Water Level Station Observation equipment was moved from the bridge to approx. 100m upstream to avoid tidal effect 1 month ago.
WRIC016	34 ° 57 ' 23.36 " N	35 ° 58 ' 21.14 " E	255.4	"Alawemya" Meteorological Automatic Weather Station (MAWS)
WRIC017	35 ° 1 ' 58.32 " N	35 ° 54 ' 43.02 " E	9.5	"Mafrak Al Kamseya" Automatic Observation Well - Water Level and Quality - Surface Ground Level: EL. 9.5m (by GPS) Depth of Well: 60m Groundwater Level: 4.0m (Below Surface Ground Level, As of November 4, 2009)

表１　現地踏査地点一覧（2/3）

Name of Point	Latitude	Longitude	Elevation (m)	Remarks
WRIC018	35 ° 15 ' 30.57 " N	35 ° 57 ' 47.19 " E	8.1	"Al Sin" Automatic Water Level Station
WRIC019	35 ° 15 ' 31.91 " N	35 ° 58 ' 5.38 " E	14.1	Al Sin Spring
WRIC020	35 ° 15 ' 56.56 " N	35 ° 57 ' 53.05 " E	17.7	"Al Sin" Automatic Observation Well - Water Level and Quality - Surface Ground Level: EL. 17.7m (by GPS)
WRIC021	35 ° 32 ' 3.42 " N	35 ° 50 ' 1.72 " E	3.3	Water Resources Directorate (WRD) in Lattakia & WRIC Local Center in Lattakia
WRIC022	34 ° 41 ' 53.99 " N	36 ° 42 ' 36.01 " E	524.3	Water Resources Directorate (WRD) in Homs
WRIC023	34 ° 26 ' 37 " N	36 ° 56 ' 21.2 " E	832.9	Water Harvesting Reservoir (Name is not confirmed) Storage Capacity: 30,000 m3
WRIC024	34 ° 20 ' 19.77 " N	36 ° 52 ' 11.24 " E	895.8	Sadad Dam Storage Capacity: 2,000,000 m3
WRIC025	34 ° 15 ' 6.67 " N	37 ° 6 ' 37.95 " E	856.7	"Al Mashaeen" Water Harvesting Reservoir
WRIC026	34 ° 3 ' 39.92 " N	37 ° 12 ' 39.94 " E	861.9	Mehasseh Center for Agricultural Scientific Researches
WRIC027	34 ° 3 ' 0.89 " N	37 ° 12 ' 37.04 " E	866.5	"Mehasseh" Automatic Meteorological Station Under the Department of Meteorology, Ministry of Defense
WRIC028	33 ° 33 ' 4.28 " N	36 ° 21 ' 20.13 " E	719.2	WRIC Local Center in Damascus and Rural Damascus (DRD)
WRIC029	33 ° 35 ' 51.72 " N	36 ° 42 ' 27.12 " E	632.9	"Al Rmadan" Automatic Rainfall Gauge
WRIC030	33 ° 35 ' 48.49 " N	36 ° 42 ' 37.3 " E	633.4	"Al Rmadan" Automatic Observation Well New ID: BA-BW00076 (Old ID: 164RK) Surface Ground Level: EL. 633.4m (by GPS) Depth of Well: 70m Groundwater Level: Approx. 53.5m (Below Surface Ground Level, As of November 7, 2009)
WRIC031	33 ° 39 ' 35.32 " N	36 ° 53 ' 19.31 " E	689.1	"Abshamat" Meteorological Automatic Weather Station (MAWS)
WRIC032	33 ° 40 ' 36.57 " N	37 ° 5 ' 35.14 " E	679.5	"Saikel" Water Harvesting Reservoir Candidate surface water level observation site in WRIC Phase II.
WRIC033	33 ° 40 ' 34.48 " N	37 ° 5 ' 46.42 " E	681.7	Water Harvesting Reservoir near by "Saikel" (Name is not confirmed)
WRIC034	33 ° 46 ' 29.46 " N	37 ° 4 ' 32.86 " E	763.2	"Safa" Pumping Well Candidate meteorological equipment and groundwater level gauge installation site for Badya Basin, however, this well is used for pumping and seemed to be not suitable for groundwater level
WRIC035	33 ° 31 ' 49.39 " N	36 ° 13 ' 59.23 " E	767.3	Water Resources Information Center (WRIC) Main Center
WRIC036	33 ° 30 ' 45.53 " N	36 ° 17 ' 41.56 " E	700.9	Directorate of Monitoring Water Quality, GCWR

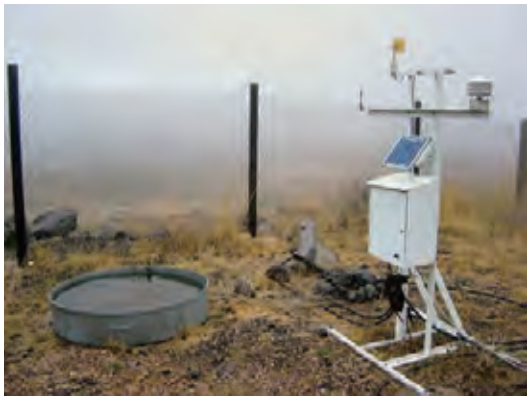
表１　現地踏査地点一覧（3/3）

Name of Point	Latitude	Longitude	Elevation (m)	Remarks
WRIC037	33 ° 30 ' 55.94 " N	36 ° 17 ' 35.73 " E	713.7	General Commission for Water Resources (GCWR), Ministry of Irrigation (Old Building)
WRIC038	35 ° 5 ' 34.84 " N	36 ° 45 ' 10.93 " E	321.9	Water Resources Directorate (WRD) in Hama
WRIC039	35 ° 45 ' 48.12 " N	38 ° 46 ' 30.19 " E	269.5	"Abu Shajara (R-3)" Manual Observation Well Surface Ground Level: EL. 269.5m (by GPS) Depth of Well: 100m Groundwater Level: Approx. 24.0m (Below Surface Ground Level)
WRIC040	35 ° 33 ' 22.18 " N	38 ° 20 ' 9.05 " E	373.4	"Anbaj" WRD Resthouse in Raqqa Request for the candidate meteorological equipment installation site for Badya Basin.
WRIC041	36 ° 2 ' 9.95 " N	39 ° 4 ' 15.74 " E	265.4	"Rahayat" WRD Outdoor Parking Space in Raqqa Request for the candidate meteorological equipment installation site for Badya Basin.
WRIC042	35 ° 57 ' 5.63 " N	39 ° 0 ' 33.15 " E	252.7	Water Resources Directorate (WRD) in Raqqa
WRIC043	35 ° 55 ' 42.88 " N	38 ° 59 ' 31.69 " E	239.3	Bridge over the Euphrates River (Name is not confirmed)
WRIC044	35 ° 41 ' 45.32 " N	39 ° 49 ' 19.05 " E	223.4	Floating Bridge over the Euphrates River (Name is not confirmed)

[WRIC003] "Al Sawra" Pumping and Distribution Station

[WRIC004] Water Resources Directorate (WRD) in Sweida

[WRIC005] WRD Data Center in Sweida (Under Construction)



[WRIC006] "Al Roam Dam" Meteorological Automatic Weather Station (MAWS) - Need for Maintenance -

[WRIC008] "Le MERIDIEN" Manual Observation Well

[WRIC009] Release Point of Pumped-up Water to Roman Irrigation Canal (Source of Water: "L9" Well)

[WRIC010] "Horse Racing Track" Manual Observation Well

[WRIC011] Manual Rain Gauge of Palmyra Water Center

現地踏査写真（1/5）

[WRIC012] River was flooded caused by discharge from upstream dam few days ago and road was severely damaged by bank erosion.

[WRIC013] White Wadi Dam (or White Valley Dam)

[WRIC014] WRIC Local Center in Tartous (New Building)

[WRIC015] "Al Gmka River" Water Level Station Equipment was moved from the bridge to approx. 100m upstream to avoid tidal effect.

[WRIC016] "Alawemya" Meteorological Automatic Weather Station (MAWS)

[WRIC017] "Mafrak Al Kamseya" Automatic Observation Well - Water Level and Quality -

[WRIC018] "Al Sin" Automatic Water Level Station

[WRIC019] Al Sin Spring

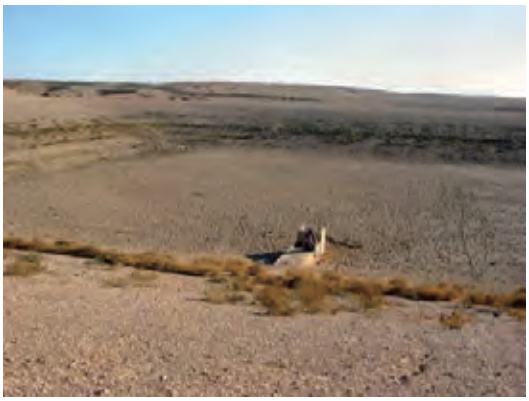
現地踏査写真（2/5）

[WRIC020] "Al Sin" Automatic Observation Well - Water Level and Quality -

[WRIC022] WRD in Homs Sub-basin Map of Badya Basin prepared by USSR

[WRIC023] Water Harvesting Reservoir (Name is not confirmed) Storage Capacity: 30,000 m^3

[WRIC024] Sadad Dam
Storage Capacity: 2,000,000 m^3



[WRIC025] "Al Mashaeen" Water Harvesting Reservoir

[WRIC026] Mehasseh Center for Agricultural Scientific Researches

[WRIC027] Automatic Meteorological Station under the Department of Meteorology, Ministry of Defense

[WRIC028] WRIC Local Center in Damascus and Rural Damascus (DRD)

現地踏査写真（3/5）

[WRIC029] "Al Rmadan" Automatic Rainfall Gauge

[WRIC030] "Al Rmadan" Automatic Observation Well

[WRIC031] "Abshamat" Meteorological Automatic Weather Station (MAWS)

[WRIC032] "Saikel" Water Harvesting Reservoir
Candidate surface water level observation site in WRIC Phase II.

[WRIC033] Water Harvesting Reservoir near by "Saikel" (Name is not confirmed)

[WRIC034] "Safa" Pumping Well
Candidate meteorological equipment and groundwater level gauge installation site for Badya Basin, however, this well is used for pumping and seemed to be not suitable for groundwater level observation.

[WRIC035] WRIC Main Center

現地踏査写真（4/5）

[WRIC039] "Abu Shajara (R-3)" Manual Observation Well

[WRIC040] "Anbaj" WRD Resthouse in Raqqa Request for meteorological equipment installation site for Badya Basin.

[WRIC041] "Rahayat" WRD Outdoor Parking Space in Raqqa Also request for meteo-station for Badya Basin.

[WRIC043] Upstream view of Euphrates River from the bridge

現地踏査写真（5/5）

表２　気象・水文観測地点概要表（気象観測、DRD 県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Saikel	DRD	33 ° 40 ' 36.6 " N	37 ° 5 ' 35.1 " E						Yes	現地確認済 <WRIC032> "Saikel"
2	7 Biar	DRD								Yes	現地未確認 "7 Biar"
3	Al-Seis	DRD					346,345.9000	3,685,270.2600		Yes	現地未確認 "Al-Seis"
4	Al-Tanf	DRD					469,860.4700	3,700,976.7100		Yes	現地未確認 "Al-Tanf"
5	Safa	DRD	33 ° 46 ' 29.5 " N	37 ° 4 ' 32.9 " E						???	現地確認済 <WRIC034> "Safa"
								Total Request Number		4	

注）緯度・経度・地盤高：調査団の GPS 情報、XY 座標（ランベルト（Lambert)、ユニバーサル横メルカトル（UTM))：「シ」国提供情報

表３　気象・水文観測地点概要表（気象観測、スウェイダ県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Gharia	Sweida								Yes	現地未確認
2	Al-Hewaia	Sweida								Yes	現地未確認
3	Al-Sawra Al-Kabeera	Sweida	33 ° 7 ' 37.8 " N	36 ° 30 ' 43.6 " E					659.30	Yes	現地確認済 <WRIC003> Barada-Awaj Basin
4	Khazmeh	Sweida								Yes	現地未確認
5	Doma	Sweida								Yes	現地未確認
								Total Request Number		5	

注）緯度・経度・地盤高：調査団の GPS 情報

表４　気象・水文観測地点概要表（気象観測、ホムス県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Sadd Wadi Abiad	Homs	34 ° 39 ' 43.7 " N	38 ° 13 ' 33.2 " E					623.10	Yes	現地確認済 <WRIC013> "White Wadi Dam"
2	Jebab Shaqra	Homs								Yes	現地未確認
3	Jabel Abo Rejmien	Homs								Yes	現地未確認
4	Al-Qariatien	Homs								Yes	現地未確認
5	Sadd Al-Maeizle	Homs								Yes	現地未確認
6	Al-Sukhna	Homs								Yes	現地未確認
7	Sadad	Homs	34 ° 20 ' 19.8 " N	36 ° 52 ' 11.2 " E					895.80	Yes	現地確認済 <WRIC024> "Sadad Dam"
8	T-3	Homs								Yes	現地未確認
								Total Request Number		8	

注）緯度・経度・地盤高：調査団の GPS 情報

表５　気象・水文観測地点概要表（気象観測、ラッカ県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Raqqa (Rahayat)	Raqqa	36 ° 2 ' 9.95 " N	39 ° 4 ' 15.7 " E					265.40	Yes	現地確認済 <WRIC041> Euphrates Basin（左岸側）
2	Enbaj (Anbaj)	Raqqa	35 ° 33 ' 22.2 " N	38 ° 20 ' 9.05 " E					373.40	Yes	現地確認済 <WRIC040> Euphrates Basin（右岸側）
				Total Request Number						2	

注）緯度・経度・地盤高：調査団の GPS 情報

表６　気象・水文観測地点概要表（気象観測、タルトゥース県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Mashta al-helo	Tartous	34 ° 51 ' 44.5 " N	36 ° 13 ' 3.72 " E						Yes	現地未確認
2	Sadd Al-Sorani	Tartous	35 ° 1 ' 9.86 " N	36 ° 5 ' 11.8 " E						Yes	現地未確認
3	WRD location	Tartous	34 ° 51 ' 22.8 " N	35 ° 54 ' 58.6 " E						Yes	現地未確認
				Total Request Number						3	

注）緯度・経度：「シ」国提供情報（位置図）からの推定

表７　気象・水文観測地点概要表（気象観測、ラタキア県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Sakhabe	Lattakia	35 ° 19 ' 43.2 " N	36 ° 10 ' 51.8 " E						Yes	現地未確認
2	Al-Badrosia	Lattakia	35 ° 51 ' 42.1 " N	35 ° 55 ' 53.6 " E						Yes	現地未確認
				Total Request Number						2	

注）緯度・経度：「シ」国提供情報（位置図）からの推定

表８　気象・水文観測地点概要表（表流水観測、DRD 県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Saikel Dam	DRD	33 ° 40 ' 36.6 " N	37 ° 5 ' 35.1 " E					679.50	Yes	現地確認済 <WRIC032> "Saikel"
2	Reishe Dam	DRD								Yes	現地未確認
3	Al-Mankora dam	DRD								Yes	現地未確認
4	Al-Drihame hole	DRD								Yes	現地未確認
5	Sheibike hole	DRD								Yes	現地未確認
6	Radif Theliaje hole	DRD								Yes	現地未確認
7	Al-Mash koka West ho	DRD								Yes	現地未確認
8	Al-Shahme hole	DRD								Yes	現地未確認
								Total Request Number		8	

注）緯度・経度・地盤高：調査団の GPS 情報

表９　気象・水文観測地点概要表（表流水観測、スウェイダ県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Zakef Dam	Sweida								Yes	現地未確認
								Total Request Number		1	

表１０　気象・水文観測地点概要表（表流水観測、ホムス県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Sadd Wadi Abiad	Homs	34 ° 39 ' 43.7 " N	38 ° 13 ' 33.2 " E					623.10	Yes	現地確認済 <WRIC013> "White Wadi Dam"
5	Sadd Al-Maeizle	Homs								Yes	現地未確認
3	Sadad	Homs	34 ° 20 ' 19.8 " N	36 ° 52 ' 11.2 " E					895.80	???	現地確認済 <WRIC024> "Sadad Dam"
								Total Request Number		2	

注）緯度・経度・地盤高：調査団の GPS 情報

表１１　気象・水文観測地点概要表（表流水観測、タルトゥース県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Abrash River	Tartous	34 ° 49 ' 15 " N	36 ° 10 ' 2.09 " E						Yes	現地未確認
2	Al-Hassna	Tartous	34 ° 38 ' 9.06 " N	36 ° 4 ' 58.8 " E						Yes	現地未確認
				Total Request Number						2	

注）緯度・経度：「シ」国提供情報（位置図）からの推定

表１２　気象・水文観測地点概要表（表流水観測、ラタキア県）

No.	Location	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Request for WRIC Phase II	Remarks
					X	Y	X	Y			
1	Al-Sakhabe site	Lattakia	35 ° 19 ' 19.8 " N	35 ° 55 ' 26 " E						Yes	現地未確認
2	16 Nov. Dam	Lattakia	35 ° 39 ' 15.9 " N	35 ° 57 ' 42.7 " E						Yes	現地未確認
				Total Request Number						2	

注）緯度・経度：「シ」国提供情報（位置図）からの推定

表１３　気象・水文観測地点概要表（地下水観測、DRD 県）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	K18	DRD										Yes	現地未確認 "Al-Mankora"
2	172	DRD	33 ° 40 ' 36.6 " N	37 ° 5 ' 35.1 " E					679.50			Yes	現地確認済 <WRIC032> "Saikel"
3	K3	DRD					349,523.3200	3,713,892.6800				Yes	現地未確認 "Al-Reishe"
4	162	DRD					346,345.9000	3,685,270.2600				Yes	現地未確認 "Al-Seis"
5	K55	DRD										Yes	現地未確認 "7 Biar"
6	164	DRD					378,387.2600	3,707,002.9400				Yes	現地未確認 "Al-Heil"
7	N60	DRD					395,422.7000	3,675,940.7500				Yes	現地未確認 "Jeliagem"
8	160	DRD					383,081.4500	3,682,479.6300				Yes	現地未確認 "Al-Radma"
9	N39	DRD					425,010.5900	3,723,619.6100				Yes	現地未確認 "Al-Shahma"
10	N52	DRD					444,988.1000	3,696,112.4500				Yes	現地未確認 "Wadi Al-sahailat al-Garbi"
11	N53	DRD					428,543.8000	3,679,137.2400				Yes	現地未確認 "Al-Mohaiar"
12	59	DRD										Yes	現地未確認 "Al-Mashkoka"
13	K1	DRD					469,860.4700	3,700,976.7100				Yes	現地未確認 "Al-Tanf"
14	Safa	DRD	33 ° 46 ' 29.5 " N	37 ° 4 ' 32.9 " E					763.20			???	現地確認済 <WRIC034> 揚水井戸(ポンプ有)
15		DRD					463,775.0100	3,727,915.7300					
16		DRD					459,193.6500	3,727,934.1700					
17	169	DRD					380,292.4400	3,737,592.7300					
18	173	DRD					319,210.3000	3,735,197.2000					"173"="Safa"の可能性有
											Total Request Number	13	

注）緯度・経度・地盤高：調査団の GPS 情報、XY 座標（ランベルト（Lambert)、ユニバーサル横メルカトル（UTM)）:「シ」国提供情報

表１４　気象・水文観測地点概要表（地下水観測、スウェイダ県）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	Unknown 1	Sweida										Yes	現地未確認
2	Unknown 2	Sweida										Yes	現地未確認
											Total Request Number	2	

表１５　気象・水文観測地点概要表（地下水観測、ホムス県）（1/2）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	L8K	Homs										Yes	現地未確認
2	L13P	Homs			360951	285133	409,625.5131	3,819,550.6284	476.80	167.00	N2+Q	Yes	現地未確認 （H9開調でデータ使用）
3	T5	Homs			375000	286000	423,687.5790	3,820,187.9467	420.00	125.00	(2+1) مختلط	Yes	現地未確認
4	بئر المَيْدَم	Homs	34 ° 32 ' 48.7 " N	38 ° 15 ' 27.6 " E	383150	288950	431,885.0011	3,823,004.3963	418.69	60.00	K CM	Yes	現地確認済 <WRIC008> "Le MERIDIEN"
5	L9	Homs			381700	289500	430,444.1484	3,823,578.0523	420.00	200.00	K2S + CM	Yes	現地未確認
6	L20P	Homs			379800	288400	428,526.3539	3,822,509.2366	431.89	55.00	K2 S	Yes	現地未確認
7	L11K	Homs			379400	301000	428,332.5738	3,835,114.5277	589.10	15.00	Q + N2	Yes	現地未確認
8	BM27	Homs			395400	384300	445,699.3699	3,918,139.6257	472.00	151.00	K2	Yes	現地未確認
9	L14P	Homs			413554	301196	462,485.5338	3,834,751.2751	483.40	120.00	K2CP	Yes	現地未確認
10	L15T	Homs			389605	288468	438,331.3970	3,822,416.8821	380.75	20.00	N2	Yes	現地未確認
11	L7T	Homs			386025	284848	434,692.6147	3,818,855.8355	381.80	18.00	Q	Yes	現地未確認
12	L8T	Homs			386030	284841	434,697.4997	3,818,848.7546	381.80	61.00	N2+Q	Yes	現地未確認
13	L7TA	Homs			386901	284850	435,568.5484	3,818,843.5142	381.80		Q+N2	Yes	現地未確認
14	L8TA	Homs										Yes	現地未確認
15	L9T	Homs			387586	282265	436,211.2142	3,816,247.6135	377.30	16.00	Q	Yes	現地未確認
16	L10T	Homs			387580	282265	436,205.2149	3,816,247.7116	377.30	60.00	N2+Q	Yes	現地未確認
17	L17TA	Homs			391901	281211	440,508.4721	3,815,123.2123	380.00	100.00	K2	Yes	現地未確認
18	818	Homs			388467	280158	437,057.6764	3,814,126.4616	382.24		K2	Yes	現地未確認 （H9開調でデータ使用）
19	L33T	Homs			389190	279730	437,773.5964	3,813,686.6975	377.60	36.00	Q	Yes	現地未確認
20	T6	Homs			384344	282550	432,974.2389	3,816,585.5689	376.78	60.00	(2+1) مختلط	Yes	現地未確認
21	646A	Homs			380500	283400	429,144.5422	3,817,498.3033	397.61	60.00	J	Yes	現地未確認
22	L1T	Homs			381582	281489	430,195.1987	3,815,569.8212	376.40	15.00	Q	Yes	現地未確認
23	L2T	Homs			381579	281483	430,192.1010	3,815,563.8709	376.50	4.80	K2	Yes	現地未確認
24	L4T	Homs			382918	278539	431,482.8558	3,812,598.3112	391.28	32.00	K2	Yes	現地未確認
25	T1	Homs			398255	291381	447,027.9846	3,825,188.0277		75.00	(2+1) مختلط	Yes	現地未確認
26	T2	Homs			389064	289646	437,809.7269	3,823,603.5934		75.00	(2+1) مختلط	Yes	現地未確認
27	T3	Homs			386793	288362	435,517.9860	3,822,356.8829		75.00	(2+1) مختلط	Yes	現地未確認
28	T4	Homs			384617	288951	433,351.8596	3,822,981.4044		75.00	(2+1) مختلط	Yes	現地未確認
29	SP4	Homs			396644	347325	446,334.5542	3,881,150.8757	660.00	350.00		Yes	現地未確認
30	S1	Homs			287137	235014	334,995.5851	3,770,629.4151	858.71	100.00	K2	Yes	現地未確認
31	بئر السخنة الكبرى	Homs			439000	327000	488,350.1769	3,860,134.4381	475.00	85.00	K2	Yes	現地未確認
32	بئر البغالة	Homs			472000	339500	521,549.0373	3,872,092.1420	322.00	125.00	1-N	Yes	現地未確認

注）緯度・経度：調査団の GPS 情報、XY 座標（ランベルト（Lambert）、ユニバーサル横メルカトル（UTM））・地盤高：「シ」国提供情報

表１５　気象・水文観測地点概要表（地下水観測、ホムス県）（2/2）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
33	KO-1	Homs			436750	361800	486,670.8081	3,894,964.8607	460.00	110.00	1-N	Yes	現地未確認
34	KO-2	Homs			432350	361800	482,271.7121	3,895,036.9989	448.00	110.00	1-N	Yes	現地未確認
35	R-32	Homs			389075	383906	439,369.2003	3,917,850.0131				Yes	現地未確認
36	L1P	Homs			289100	254700	337,276.9401	3,790,286.3491	933.02	80.00	P	Yes	現地未確認
37	L15	Homs			284100	249200	332,187.1731	3,784,866.4546	804.09	120.00	K2	Yes	現地未確認
38	534P	Homs										Yes	現地未確認
39	P3	Homs			288350	252800	336,496.0626	3,788,398.2244	759.60	120.00		Yes	現地未確認
40	L2P	Homs			287200	250300	335,305.4340	3,785,916.4768	777.40	100.00	P	Yes	現地未確認
41	L5P	Homs			292800	252300	340,938.5628	3,787,826.1026	738.48	54.00	P	Yes	現地未確認 （H9開調でデータ使用）
42	534A	Homs			287300	234200	335,145.4876	3,769,812.6866	856.01	140.00		Yes	現地未確認
43	S4	Homs			287320	235032	335,178.8981	3,770,644.4680	861.85	209.00		Yes	現地未確認
44	L3P	Homs			289600	255300	337,786.7312	3,790,878.3335	747.85	52.00	P	Yes	現地未確認
45	L2	Homs			294012	254030	342,178.7339	3,789,536.6847	718.16	540.00	P	Yes	現地未確認
46	Phosphate mines	Homs										Yes	現地未確認
47	بئر المضمار	Homs	34 ° 33 ' 31.5 " N	38 ° 15 ' 43.5 " E	383700	290500	432,460.2934	3,824,545.2353	417.58	60.00	K2	???	現地確認済 <WRIC010> "Horse Racing Track"
48	M5	Homs			258950	255900	307,140.1196	3,791,974.6420	980.00	30.00			
49	M6	Homs			258950	255850	307,139.3108	3,791,924.6282	980.00	30.00			
50	M7	Homs			259100	255700	307,286.9259	3,791,772.1606	980.00	80.00			
51	M1	Homs			260200	260950	308,472.2139	3,797,005.7965	928.00	12.00			
52	M2	Homs			260200	260925	308,471.8089	3,796,980.7896	928.00	100.00			
53	M3	Homs			260200	260850	308,470.5938	3,796,905.7691	931.00	30.00			
54	L9P	Homs			270400	252200	318,533.1137	3,788,088.5520	931.07	51.00	P		
55	L17P	Homs			271800	258200	320,030.5234	3,794,067.2089	892.66	61.00	P		
56	L8P	Homs			272200	256200	320,398.2229	3,792,060.2976	902.15	30.00	P		
57	L7P	Homs			273000	253900	321,161.1680	3,789,746.8617	952.80	55.00	K-M		
58	M8	Homs			273300	254200	321,466.0849	3,790,042.0702	945.00	130.00			
59	L6P	Homs			273400	254700	321,574.1971	3,790,540.5561	933.02	60.00	K2M-D		
60	L11P	Homs			273800	256000	321,995.3234	3,791,834.3519	897.00	32.00	P		
61	L12P	Homs			274500	255800	322,692.2297	3,791,622.9777	896.67	60.00	P		
62	L18P	Homs			275600	257500	323,819.9828	3,793,305.5094	870.95	123.00	P		
63	L44	Homs			287026	234961	334,883.7169	3,770,578.1974	858.77	333.00	K2		
64	L45	Homs			287183	235271	335,045.7330	3,770,885.7061	858.71	162.00	K2		
65	534B	Homs			287186	235089	335,045.8000	3,770,703.6348	856.78	138.00	K2		
66	P1	Homs			289200	253200	337,352.6599	3,788,784.5178	756.15	80.00			
67	L508	Homs			308470	273163	356,949.0118	3,808,436.7945	583.51	198.00	N+Q		
68	L11	Homs			330000	295400	378,843.1317	3,830,323.4399	601.53		K2		
69	L7K	Homs			351632	288161	400,356.4899	3,822,730.7695	484.65	75.00	N2		
70	SM17	Homs			376098	269195	424,511.0287	3,803,366.6493	425.00	400.00	K2		
71	SM5	Homs			379389	277867	427,943.2557	3,811,984.0288	396.83	235.00	K2		
72	603	Homs			380200	303300	429,170.1603	3,837,401.1968	627.76		K2(m+d)		
73	L13	Homs			381400	307100	430,432.2888	3,841,181.1511	672.09	470.00	J+K2		
74	L38	Homs			388467	280158	437,057.6764	3,814,126.4616	382.24		K2		
75	بئر الحفنة	Homs			413556	301198	462,487.5662	3,834,753.2420	438.36	250.00	K2		
76	SP2	Homs			456090	370352	506,146.7240	3,903,198.2985	350.00	805.00			
											Total Request Number	46	

注）緯度・経度：調査団の GPS 情報、XY 座標（ランベルト（Lambert）、ユニバーサル横メルカトル（UTM））・地盤高：「シ」国提供情報

表１６　気象・水文観測地点概要表（地下水観測、ラッカ県）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	R-1	Raqqa			415.5	411.8			301.77	90.00	1-N	Yes	現地未確認 "Ghadad"
2	R-2	Raqqa			419.5	415.25			289.00	98.00	1-N	Yes	現地未確認 "Jideen"
3	R-3	Raqqa	35 ° 45 ' 48.1 " N	38 ° 46 ' 30.2 " E	428.65	422.85			237.00	100.00	1-N	Yes	現地確認済 <WRIC039> "Abu Shajara"
4	R-4	Raqqa			427.5	413.5			290.00	95.00	1-N	Yes	現地未確認 "Shweihan"
5	R-5	Raqqa			428.5	400.6			304.00	100.00	1-N	Yes	現地未確認 "Hussein Al-Rashed"
								Total Request Number				5	

注）緯度・経度：調査団の GPS 情報、XY 座標（ランベルト（Lambert)、ユニバーサル横メルカトル（UTM))・地盤高：「シ」国提供情報

表１７　気象・水文観測地点概要表（地下水観測、ハマ県）

No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	SP9	Hama			321.261	349.955	370,953.0000	3,883,660.0000	617.00			Yes	現地未確認 "Qasafel"
2	SP17	Hama			277.335	335.173	326,302.0000	3,871,931.0000	451.50			Yes	現地未確認 "Ghawi"
3	Ra5	Hama			305.416	366.004	356,231.0000	3,900,745.0000	377.00			Yes	現地未確認 "Amieh"
4	SP10	Hama			309.976	369.496	361,082.0000	3,905,534.0000	410.00			Yes	現地未確認 "Msherfet Al-Mweleh"
5	SP18	Hama			298.989	366.102			449.60			Yes	現地未確認 "Abu Al-Fayad"
6	Ra17	Hama			321.494	390.678	373,942.0000	3,924,274.0000	356.00			Yes	現地未確認 "Jeb Abyadh"
7	SP12	Hama			288.066	379.509	339,688.0000	3,916,217.0000	395.00			Yes	現地未確認 "Ibn Wardan"
8	Ra3	Hama			287.115	392.644	339,775.0000	3,928,563.0000	292.00			Yes	現地未確認 "Jeb Al-Hintah"
9	SP13	Hama			279.317	381.989	330,785.0000	3,918,960.0000	388.60			Yes	現地未確認 "Hawayes Hdeib"
10	SP16	Hama			284.825	357.335	330,433.0000	3,896,471.0000	465.00			Yes	現地未確認 "Sheheib"
11	Unknown 1	Hama			328.222	354.002	378,172.0000	3,887,227.0000	591.00			Yes	現地未確認 "Tahameez"
								Total Request Number				11	

注）XY 座標（ランベルト（Lambert)、ユニバーサル横メルカトル（UTM))・地盤高：「シ」国提供情報

表１８　気象・水文観測地点概要表（地下水観測、タルトゥース県）

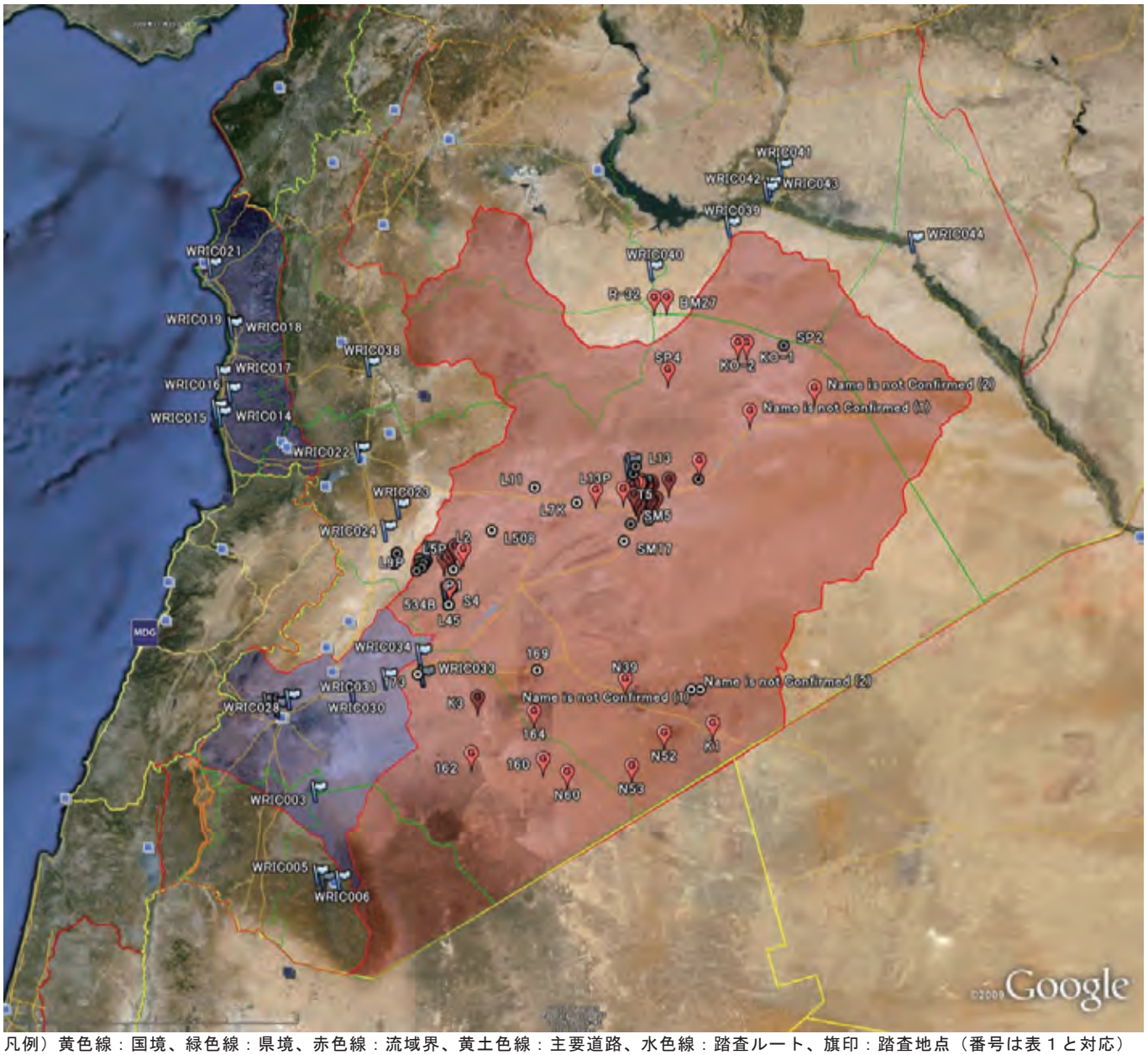
No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	Telet al-khodr	Tartous	34 ° 43 ' 28.9 " N	36 ° 6 ' 30.5 " E								Yes	現地未確認
2	Wakaf al-sheikh Aiash	Tartous	34 ° 47 ' 16.7 " N	35 ° 59 ' 57.9 " E								Yes	現地未確認
3	Mashta al-Helo	Tartous	34 ° 52 ' 39.7 " N	36 ° 14 ' 36.4 " E								Yes	現地未確認
4	Mashta al-Helo	Tartous	34 ° 52 ' 39.7 " N	36 ° 14 ' 36.4 " E								Yes	現地未確認
5	Saya	Tartous	35 ° 2 ' 40.2 " N	35 ° 56 ' 1.77 " E								Yes	現地未確認
6	Ain alkarm	Tartous	34 ° 49 ' 48.1 " N	36 ° 3 ' 48.2 " E								Yes	現地未確認
7	Beit Komona	Tartous	34 ° 51 ' 46.8 " N	35 ° 56 ' 28.9 " E								Yes	現地未確認
8	Al-Waheeb Factory	Tartous	34 ° 55 ' 5.08 " N	35 ° 52 ' 58.7 " E								Yes	現地未確認
9	Al-shiekh Badr	Tartous	35 ° 2 ' 3.53 " N	35 ° 55 ' 26.2 " E								Yes	現地未確認
10	Matro	Tartous	34 ° 53 ' 24.1 " N	36 ° 2 ' 37.9 " E								Yes	現地未確認
								Total Request Number				10	

注）緯度・経度：「シ」国提供情報（位置図）からの推定

表１９　気象・水文観測地点概要表（地下水観測、ラタキア県）

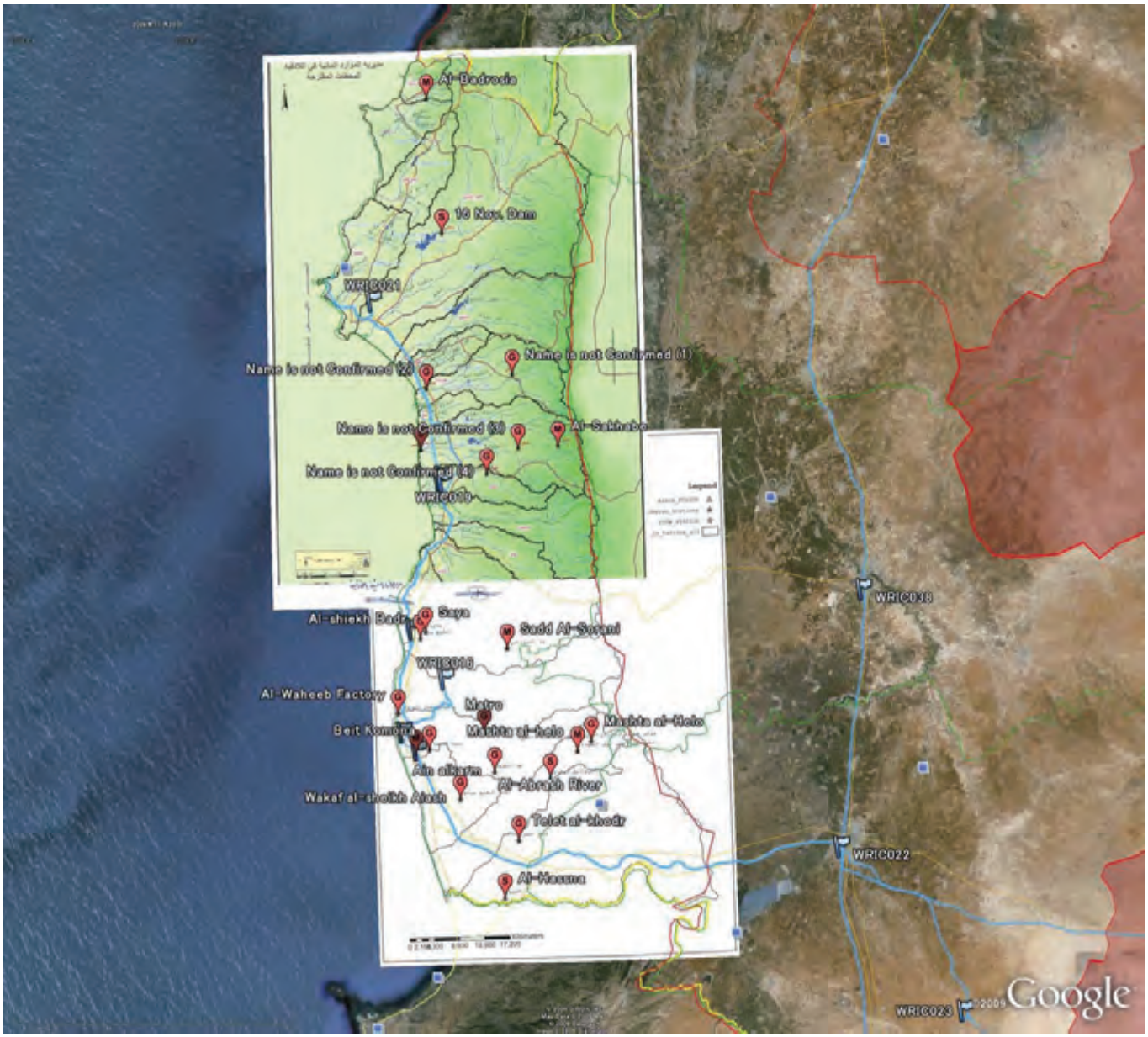
No.	Name of Well	WRD	Latitude	Longitude	Coordinate (Lambert)		Coordinate (UTM)		Ground Level (EL, m)	Casing Depth (m)	Aquifer Type	Request for WRIC Phase II	Remarks
					X	Y	X	Y					
1	Name is not Confirmed 1	Lattakia	35 ° 26 ' 17.7 " N	36 ° 5 ' 42.4 " E								Yes	現地未確認
2	Name is not Confirmed 2	Lattakia	35 ° 24 ' 58.1 " N	35 ° 56 ' 2.54 " E								Yes	現地未確認
3	Name is not Confirmed 3	Lattakia	35 ° 19 ' 30.6 " N	36 ° 6 ' 22.6 " E								Yes	現地未確認
4	Name is not Confirmed 4	Lattakia	35 ° 17 ' 13 " N	36 ° 2 ' 51.9 " E								Yes	現地未確認
5	Unknown 1	Lattakia										Yes	候補地未決定
6	Unknown 2	Lattakia										Yes	候補地未決定
7	Unknown 3	Lattakia										Yes	候補地未決定
8	Unknown 4	Lattakia										Yes	候補地未決定
9	Unknown 5	Lattakia										Yes	候補地未決定
10	Unknown 6	Lattakia										Yes	候補地未決定
11	Unknown 7	Lattakia										Yes	候補地未決定
											Total Request Number	11	

注）緯度・経度：「シ」国提供情報（位置図）からの推定



凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域および沿岸部流域（フェーズ１で対象）
（M）：気象観測、（S）：表流水観測、（G）：地下水観測

図６　水文・気象観測地点図（バーディヤ流域、ただしホムス県と DRD 県のみ）



凡例）黄色線：国境、緑色線：県境、赤色線：流域界、黄土色線：主要道路、水色線：踏査ルート、旗印：踏査地点（番号は表１と対応）
赤地：バーディヤ流域（フェーズ２で新たに対象）、青地：バラダ・アワジ流域および沿岸部流域（フェーズ１で対象）
（M）：気象観測、（S）：表流水観測、（G）：地下水観測

図７　水文・気象観測地点図（沿岸部流域）