ANNEX 3-1

Workshops and Trainings

Year	DATE	CONTENTS
2002	2002/7/31	WS DB、GIS etc
	2002/9/5	WS: Network
	2002/9/18	Lec. : Hydrological Observation
	2002/9/30	WS:3 Plans (System Design, System Management, Technical
	2002/10/1	Lec.: Visual Basic(1)
	2002/10/7	WS :Introduction of System (Windows 2000 Server)
	2002/10/8	WS :Introduction System (Office XP)
	2002/10/9	Lec.: Installation and Maintenance manual of observation station and equipment
	2002/10/10	WS : Introduction of System (Oracle 8i)
	2002/10/10	Lec.: Installation and Maintenance manual of observation station and equipment
	2002/10/12	Lec.: Visual Basic(2)
	2002/10/13	WS: System Maintenance
	2002/10/17	Training for flow observation
	2002/10/19	Lec. : Visual Basic(3)
	2002/10/19	WS: Hydrological Analysis
	2002/10/20	Lec.: Installation and Maintenance manual of observation station and equipment
	2002/10/21	Lec.: Installation and Maintenance manual of observation station and equipment
	2002/10/22	Training for flow observation
	2002/10/22	WS: Follow-up for WS on Sep. 30
	2002/10/26	Lec.: Visual Basic(4)
	2002/10/27	Lec.: DB Design and Data Loading
	2002/10/28	Lec.: How to use computer(2)
	2002/11/2	Lec.: Visual Basic(5)
	2002/11/3	Lec.: Hydrological Modeling(1)
	2002/11/4	Lec.: WORD(1)
	2002/11/5	Lec.: Database INPUT
	2002/11/6	Lec. Database INPUT
	2002/11/9	Lec.: Visual Basic(6)
	2002/11/10	Lec.: WORD(2)
	2002/11/16	Lec.: Visual Basic(7)
	2002/11/17	Lec.: EXCEL(1)
	2002/11/23	Lec.: Visual Basic(8)
	2002/11/24	Lec.: EXCEL(2)
	2002/11/30	Lec.: Visual Basic(9)
	2002/12/1	Lec.: EXCEL(3)
	2002/12/9, 10,11	Lec.: Visual Basic(10)
	2002/12/14	Lec.: Visual Basic(11)
	2002/12/17 ,18,19	Lec.: GIS Basic workshop
	2002/12/21	Lec.: Visual Basic(12)
	2002/12/22 ,23,24	Lec.: GIS Basic workshop
	2002/12/29 ,30,31	Lec.: GIS Basic workshop
2003	2003/1/6	Lec.: Hydrological test
	2003/1/11	Lec.: Hydrological test
	2003/1/15	WS: Operation to Database
	2003/1/18	Lec.: (DBMS-GIS (Installation, Preparation)

ANNEX 3-1

Workshops and Trainings

Year	DATE	CONTENTS
	2003/1/19	Lec.: (DBMS-GIS(ArcGIS introduction)
	2003/1/20	Lec.: (DBMS-GIS(Demo presentation, Operation guide)
	2003/1/21	Lec.: (Access(1))
	2003/1/21	Lec.: (Access(2))
	2003/1/22	Lec: (DBMS-GIS (Installation, Preparation, ArcGIS introduction)
	2003/1/23	Lec.: (DBMS-GIS(Demo presentation, Operation guide)
	2003/1/25	Lec.: (DBMS-GIS(Demo presentation, Operation guide)
	2003/1/26	Lec.:Data Loading/Query with OraPut/ SQL(1)
	2003/1/27	Lec.:Data Loading/Query with OraPut/ SQL(2)
	2003/1/28	Lec. : Data Loading/Query with OraPut/SQL(3)
	2003/1/30	Lec. : Data Loading/Query with OraPut/SQL(4)
	2003/2/4	Lec.:Graphic Tools
	2003/2/5	Lec.:Power Points
	2003/2/15	Lec.:Network Administrator
	2003/2/16	Lec.:Network Administrator
	2003/2/27	WS:Periodical Work Shop
	2003/3/2	Lec.:Database use
	2003/3/22	Lec.:Map Drawing
	2003/3/23	Lec.:Map Drawing
	2003/3/26	Lec.:Input Data
	2003/3/27	Lec.:Input Data
	2003/3/31	Lec.:Input Data
	2003/4/2	Lec.:Measurement of Current
	2003/4/7	Lec.:Measurement of Current
	2003/4/16	Presentation:Ms. Suad Obeid Training in Japan
	2003/4/21	Lec.:Input Data(2)
	2003/4/28	Lec.:Input Data
	2003/4/28	Lec.:Map Drawing
	2003/5/14	Lec:Electromagnetic current meter
	2003/5/15	Lec:GPS
	2003/5/19	Ler:Electromagnetic current meter
	2003/5/29	Presentation:Mr. Sufwan Training in Japan
	2004/6/11	Lec:Water Quality kit
	2003/6/14-18	GIS Training
	2003/6/16	Survey Groundwater Observation Stations
	2003/6/18	Lecture: Water Quality Kit 2
	2003/6/22-6/26	Survey Water Quality Observation Stations
	2003/7/1	GIS workshop at Main Center
	2003/7/7	Lecture Groundwater 1 at Main Center
	2003/7/8, 9	GIS workshop at Main Center
	2003/7/12	GIS workshop at GDBAB Center
	2003/7/13	Lecture Groundwater 2 at Main Center
	2003/7/15, 16	Visual Basic workshop 1
	2003/7/20	Lecture Groundwater 2 at GDCB Center
	2003/7/20	Visual Basic workshop 2 at Main Center
	2003/7/22	Visual Basic workshop 3 at Main Center
	2003/7/23	Visual Basic workshop 2 at GDCB Center
	2003/7/24	Visual Basic workshop 3 at GDCB Center
	2003/7/27	Lecture Groundwater 3 at Main Center

2

ANNEX 3-1

Workshops and Trainings

Year	DATE	CONTENTS
	2003/7/29	Visual Basic workshop 4 at Main
	2003/2/7	Training for GIS 8.3 at Main Center
	200/8/2	Visual Basic workshop 4 at GDCB Center
	2003/8/3	Lecture Groundwater 3 at GDCB Center
	2003/8/10	Lecture Groundwater 4 at Main Center
	2003/8/14	Lecture Groundwater 4 at Main Center
	2003/8/16	Using and Creating String Function at GDCB Center
	2003/8/17-18	Lecture Groundwater 4 at GDCB Center
	2003/10/5	Workshop Altimeter at Main Center Data Entry Exercise to Oracle using oraPUT© at Main Center
		Lecture for Hydrological Analysis(1) at GDCB Center
		String and Date Function in VB (A) at Main Center
	2003/10/12,13	Lecture for Hydrological Analysis(1) at GDBAB Center
	2003/10/15,16	Lecture for Hydrological Analysis(2) at GDCB Center
		Lecture: String and Date Function in VB(A) at Main Center
		Kick—Off workshop at Main Center
	2003/10/19,20	Lecture for Hydrological Analysis(2) at GDBAB Center
	2003/10/22,23	Lecture for Hydrological Analysis(3) at GDCB Center
		Lecture for Hydrological Analysis(4) at GDBAB Center
		Lecture for Hydrological Analysis(5) at GDCB Center
	2003/11/9	Network Administrator workshop (9/1) at Main Centre
	2003/11/9,10	Lecture for Hydrological Analysis (5) at GDBAB Center
	2003/11/12	Network Administrator workshop (9/2) at GDCB Center
	2003/11/12,13	Lecture for Hydrological Analysis (6) at GDCB Center
	2003/11/16,17	Lecture for Hydrological Analysis(6) at GDBAB Center
		Procedure for Output Maps production at GDCB Center
	2003/11/19,20	Lecture for Hydrological Analysis(7) at GDCB Center
	2003/11/30	Lecture for Hydrological Analysis(7) at GDBAB Center
		Lecture for Hydrological Analysis(8) at GDCB Center
	2003/12/6	Procedures for Output Maps production at Main Center
		Training for Network Administrator No.10 at Main Center
		Workshop Database Security at Main Center
		Items for preparation (GIS) at GDCB Center
		Seminar for WRIC Activity on 2nd Phase at GDBAB center
2004	2004/1/4	Seminar for Data transmission through ISDN line at Main Center
	2004/1/7	OJT(1) Data collection, Data transfer to PC, Using GPS
	2004/1/10	Kick off workshop of GIS Sample project at GDCB Center

3

ANNEX 3-1

Workshops and Trainings

Year	DATE	CONTENTS
	2004/1/11	Network Administrator Meeting at Main Center
	2004/1/14	OJT(2) Data collection, measurement velocity
	2004/1/21	OJT(3) Data collection. Data transfer to PC
	2004/1/27	Presentation result of Egypt trip at Main Center
	2004/1/28	OJT(4) Data collection, Using data processing software
	2004/1/29	Periodical Workshop at Main Center
	2004/2/18	OJT(5) Monthly data graph, Rating curve
	2004/2/25	OJT(6) Making map
	2004/3/3	OJT(7) Data transfer to DB
	2004/3/11	OJT(8) Examination
	2004/3/24	Lecture how to use application "Ora-get"
	2004/3/31	Workshop "Monthly Observation in GDCB Area" at Main Center
	2004/4/6	Lecture "Guidance and general water material circulation" at Main
	2004/4/13	Lecture(2) "Basic matters and disease germ, their origin and standards" at Main Center
	2004/4/19	Lecture(3) "Nutrients, their origin and standards" at Main Center
	2004/4/26	Practice(4) "Measurement by analysis kit" at Main Center
	2004/5/3	Practice(5) "Measurement by analysis lit" at Main Center
	2004/5/10	Lecture(6) "Heavy Metals" at Main Center
	2004/5/17	Lecture(7) "Environmental Hormones" at Main Center
	2004/5/24	Lecture(8) "Principles of Atomic absorption Spectrometry and Gas-Chromatography method" at Main Center
	2004/5/31	Lecture(9) "Water quality management" at Main Center
	2004/6/7	Lecture(10)"Water quality management (final)" at Main Center
	2004/6/8-	Summarized Lecture "Water quality management" at GDCB Center
	2004/7/21	Kick-Off WS
	2004/8/1	Meeting of GIS Digitizing
	2004/8/1	WS(VBA)
	2004/8/3	WS(Ground Water Contouring)
	2004/8/15	WS(Linux)
	2004/8/18	WS(PostPut)
	2004/8/19	WS(Linux Advanced) WS(DataFlow)
	2004/8/22	WS(GIS Digitizing/Groundwater Contouring)
	2004/8/22	WS(PostGreSQL Installation)
	2004/8/23	WS(PostGreSQL Installation)
	2004/8/25	WS(Dataform with VBA in Excel)
	2004/8/25	WS(PostGreSQL Installation)
	2004/8/29	WS(Dataform for main center and GDBAB center)
	2004/8/30	WS(Data Modeling, RDB)
	2004/9/2	WS(SetUp of LINUX Server,GDBAB)
	2004/9/2	WS(Excel VBA and data processing)
	2004/9/5	WS(Provision of pg Admini3)
	2004/9/5	WS(System and Network Administration)
	2004/9/9	C2C Work Shop
	2004/9/16	WS(How to Back UP)
	2004/9/19	WS(Admini Tool)
	2004/9/26	WS(Preparation for P4P Work Shop)
	2004/9/30	WS(Coordinates Conversion, GDBAB)
	2004/9/30	WS(Coordinates Conversion, Main)

ANNEX 3-2

PREPARED MANUALS AND GUIDELINES

(as of July 2004)

Prepared Manuals and Guidelines	Issued date
Installation / Maintenance of Hydrological and Meteorological Instruments	Oct-02
Manual of Data Input in the Form	Nov-02
Maintenance /Operation Manual of Supplied Instrument by JICA	Jan-03
Basics of Groundwater and Computer Simulation	Sep-03
Computers (for Beginners)	Oct-02
Manual s of Business-software (MS Windows, MS Office Applications and Other)	Oct-02
Data Modeling Method Guide (Manual of CASE Tools: ERWin)	Nov-02
Graphing Tools (Tutorial of Grapher)	Dec-02
3D Tools (Tutorial of Surfer)	Dec-02
ArcGIS Manual (Arc MAP Manual)	Dec-02
ArcGIS Manual (Arc Catalogue Manual)	Dec-02
Drawing Well Log (Tutorial of Rock Works)	Dec-02
Manual s of Database Operation (Oracle Operations Manuals and Others)	Dec-02
Manuals of Database Management (Oracle DBA Manuals and Others)	Dec-02
Basic of Groundwater Simulation (Tutorial of MODFLOW)	Mar-03
ArcGIS Manual (ArcGIS Extension)	Mar-03
Basics of Programming (Data Processing Using with VBA)	Dec-03
Basics of Programming (Database Connection)	Dec-03
Operation and Maintenance Manual of 2nd System (Network)	Feb-04
Operation and Maintenance Manual of 2nd System (Oracle 9i)	Feb-04
Operation and Maintenance Manual of 2nd System (GIS)	Feb-04
Operation and Maintenance Manual of 2nd System (oraPUT/oraGET Manual, Program Code, Dictionary of Technical Terms)	Feb-04
Supplemental Manual for System Operation and Maintenance (PostGreSQL)	Sep-04
Supplemental Manual for System Operation and Maintenance (LINUX)	Sep-04

ANNEX 3-3

PROGRESS OF DATA INPUT

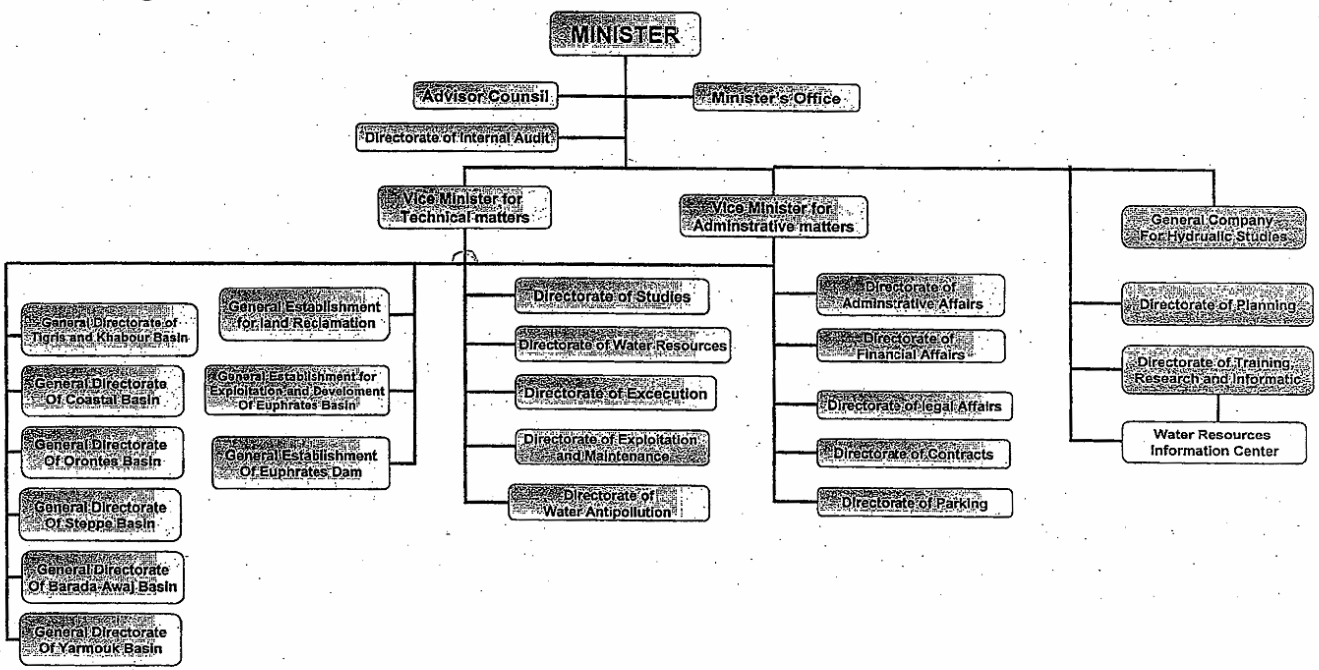
(as of Sep. 2004)

Observation / Station	Basin	Completion of Data Loading	Works of Pre-processing of Data Loading
Meteorological Station	Barada/ Awaj	1948-1998 (total 107 station)	Inputting data for the record of 1998-2004
	Coastal	–	Inputting data for the record of 1998-2004 1963-2004(89 stations)
River Discharge	Barada/ Awaj	1930-1999 (total 38 station)	Inputting data for the record of 1999-2004
	Coastal	1990-2002 (total 24 station)	Inputting supplemental data to DB for the period shown in left column
Spring Discharge	Barada/ Awaj	1950-2004 (total 78 station)	Inputting supplemental data to DB for the period shown in left column
	Coastal	1990-2002 (total 48 station)	Inputting supplemental data to DB for the period shown in left column
Groundwater	Barada/ Awaj	1948-1998 (total 190 station)	Inputting data for the record of 1998-2004
	Coastal	1993-2002 (total 101 station)	Inputting data for the record of 1999-2004
Water Quality	Barada/ Awaj	–	Inputting data for the record of 1999-2003
	Coastal	–	Collecting latest data
Village Inventory	Barada/ Awaj	2000 (total 25,000 data)	Collecting the data surveyed in 2002
	Coastal	–	Collecting latest data
Well Inventory	Barada/ Awaj	2000 (ca. 35,000 data)	Collecting latest data
	Coastal	–	Collecting latest data
Agriculture Inventory	Barada/ Awaj	2002 (ca. 200 villages)	Planning to collect the data surveyed in 2003
	Coastal	–	Planning to collect the data surveyed in 2003
Extraction for Drinking Water Supply	Barada/ Awaj	–	Inputting data for 2001-2003
	Coastal	–	Planning to collect latest data
Extraction for Industrial Use	Barada/ Awaj & Coastal	–	Planning to collect latest data
Water Facility	Coastal	–	Collecting latest data

ANNEX 4-1

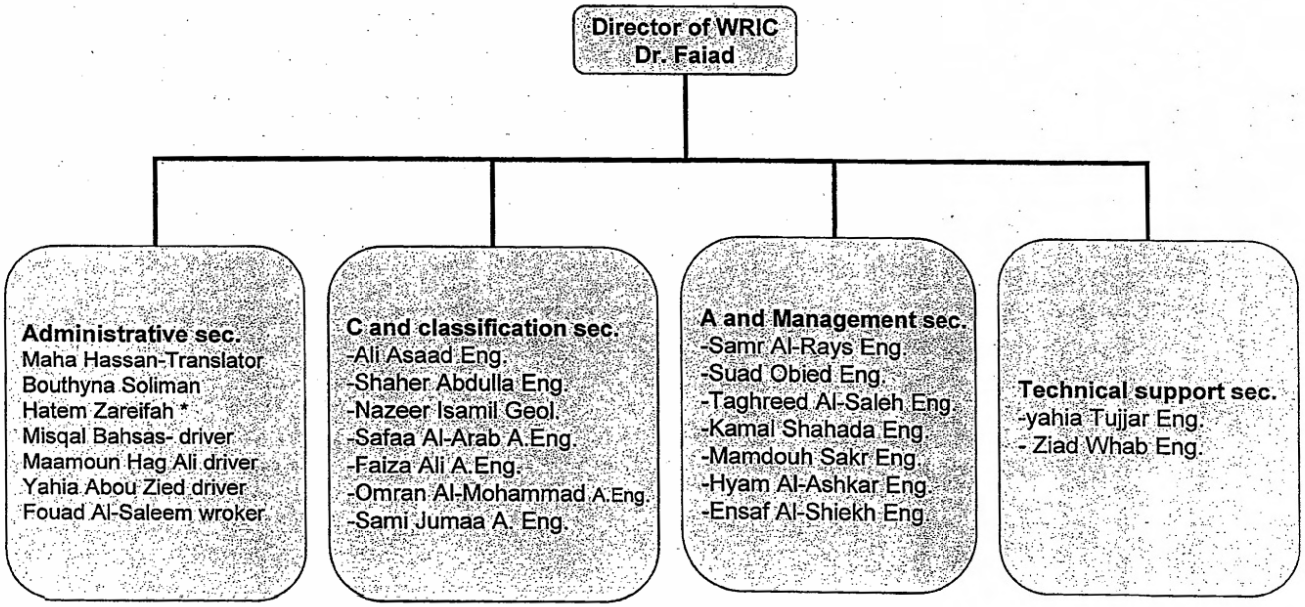
as of October 17, 2004

Organizational Chart of MOI



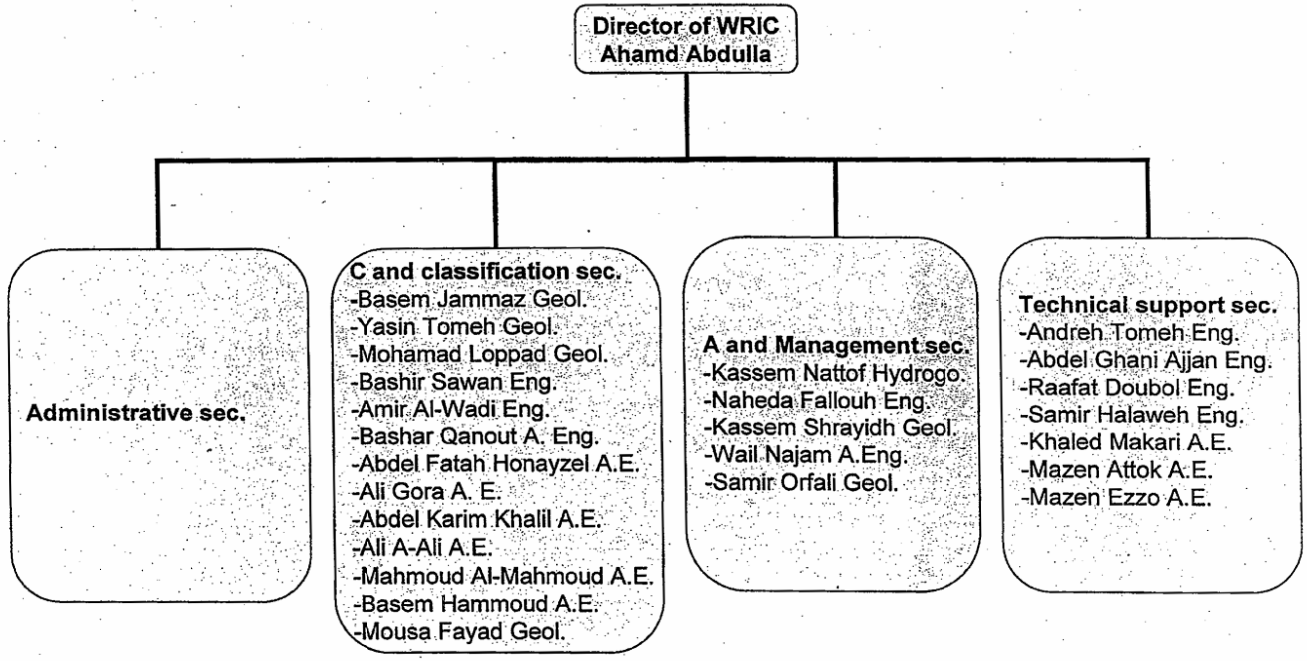
ANNEX 4-2-1

Organization chart of WRIC



ANNEX 4-2-2

Organization chart of WRIC-BAB



ANNEX 4-2-3

General Directorate of Coastal Basin

Water Resource Information Center

Manager
Eng. Abdulhakim Boissa

Deputy Manager
Eng. Nimer Assad

Drivers	*Administrative Sec.* Eng. Shrouk Yousef	*Technical Support Sec.* Eng. Nazeeh Bourish	*Data Analysis Sec.* Eng. Mazen Naaman	*Data Collection & Classification Sec.* Eng. Muhammad Sal	
1 Hasan Boushieh 2 Muhieddeen Al-Achkar 3 Nazem Ammahan	1 Roudaina Hawat	1 Eng. Osama Al-Kaddar 2 Tec. Adnan Suleiman	1 Eng. Abeer Mehjazi 2 G. Ramez Nassour	1 Eng. Ansam Chareef 2 Eng. Tamim Ali 3 Eng. Ihsan Makhlouf 4 Eng. Issa Ali 5 As. Eng. Bashar Ibrahim 6 As. Eng. Sima Tarraf 7 As. Eng. Yara Jdeed 8 As. Eng. Ismail Shbib 9 As. Eng. Ramadan Deeb 10 As. Eng. Samah Makhlouf 11 As. Eng. Mohsen Rawan 12 As. Eng. Yesra Katrawi 13 Fuad Al-Farwi	LATTAKIA
1 Yaseen Ibrahim	1 G.Ahmad Yousef	1 Eng.Bassam Jamala 2 Eng.Nazek Mulhem 3 Eng.Kamel Ibrahim 4 Eng.Shaban Ibrahim	1 Eng.Fadi Barakat 2 Eng.Zeinab Mousa 3 G.Saadallah Wannous 4 Eng.Maarouf Ganem	1 Eng.Munir Alaji 2 Eng.Nawar Almhammad 3 Eng.Shuaib Abbdulkarim 4 Eng.Gaith Alhassab 5 Eng.Yarub Saleh 6 Eng.Hanadi Yousef 7 As.Eng. Thaer Saleh 8 As.Eng. Husein Hasan 9 As.Eng. Badea Khayleh 10 As.Eng. Lubana Mahmoud 11 As.Eng. Lamis Mansour	TARTOUS

ANNEX 5: Accomplishment of Activities

Activities	Status	Results
1)-1 To design equipment for meteorological and hydrological stations	Completed	The design of equipment for meteorological and hydrological stations in nine sites[1] which had been planned to install by this Project was completed in October 2003. The Project also coordinated the design of the equipment for the Grant Aid coordination.
1)-2 To install the observation equipment at the stations	Completed	The installation for meteorological and hydrological stations in nine sites was completed in November 2003.
1)-3 To conduct a basic design for computer system and install hardware and software such as OS at Main Center and two Basin Centers	Completed	Most of the installation of hardware was finished in September 2002 and completed in March 2003 except the delay of delivering the scanners or some pieces of the equipment. The installation of software was completed in March 2003 as planned. Afterward, the Project had to shift the database software from ORACLE to PostgreSQL due to the US Economic Sanction Law signed by the President of the USA in December 2003. This caused the delay of the progress of the activity substantially.
1)-4. To design database and establish at Main Center and two Basin Centers	Completed	Once the database was designed by October 2003 in the cooperation with Japanese expert and Syrian counterpart on ORACLE basis. However, due to the US Economic Sanction Law, the software had to be shifted from ORACLE to PostgreSQL. This activity was finished in September 2004, meaning that the development of database was delayed approximately one year compared with the original plan.
1)-5. To connect GIS with database systems at Main Center and two Basin Centers	Completed	The progress of activities regarding GIS was delayed for approximately one and half years due to the difficulty in obtaining the digital map from the GES, which was the Pre-project obligation in PDM. The digital map was finally bought in December 2003. However, the map has the inaccuracy of contour line which hampered the progress of the project as well. The connection between GIS with the database systems could not be established as originally planned due to the change of the database software[2]. However, the GIS

[1] The four types of equipment were installed for GDBAB and GDCB. Those are the observation stations for ground water (water level and water quality), surface water, meteorology, and water level of dam.

[2] To connect GIS software (ArcGIS) with the database systems, the software of ArcSDE was installed in December 2003 at Main Center and two Basin Centers. However, ArcSDE, which is the connection software for ORACLE, could not be utilized for PostgreSQL. This meant that the efficient (direct) connection between the PostgreSQL and GIS software could not be established. Currently, GIS software can load the necessary data from the database, but GIS data cannot be linked with the database. As a result, the level of connection between them did not reach the level which was originally planned.

Activities	Status	Results
		software can load the necessary data from the database at least. Therefore, it can be judged that the minimum level of the intended activity is accomplished.
1)-6. To establish network at Main Center and two basin Centers	Completed	The LAN and WAN systems were established at three centers. At the planning stage of the Project, it was not expected to use the ISDN line to establish the network between the Main Center and two Basin Centers. Afterward, the ISDN line became available in Syria and the Project applied to ISDN. In August 2004, the network through ISDN line was completed and the data transmission has been conducted between Main Center and two Basin Centers weekly.
2)-1 To prepare a monitoring program of meteorological, hydrological, groundwater, water quality data in the Barada-Awaj Basin and the Coastal Basin	Completed	The monitoring program of meteorological, hydrological, groundwater, and the water quality data in two Basin Centers was prepared. This program specifies the necessary number of staffs, the responsibilities of each position and the frequency of data collection. In the future, the monitoring plan for the new equipment which will be installed by the Grant Aid will be included.
2)-2 To rehabilitate the hydrological and meteorological observation stations of the Barada-Awaj Basin and the Coastal Basin	Completed	The Register Book of Observation Stations was produced around December 2003. This activity took almost one and half years because of the difficulties in identifying the location of the stations, such as confusion of the station name, or inaccuracy of the axis of coordinates of the stations. After new equipment is installed by the Grant Aid, some of the observation stations in two Basin Centers will be replaced and the Registry Book will be updated.
2)-3 To get technique for observation and processing of observed data, etc. at two Basin Centers	On going	The counterparts at two Basin Centers acquired the basic skills for observation. The remaining task is to improve the checking system to obtain the accurate data from the stations, such as finding and checking the discrepancy.
2)-4 To collect and process meteorological and hydrological data	On going	The system to collect and process the data was defined at three centers. The monitoring form filling in the field data and data entry form on Excel were defined and put into practice. The remaining task is to put this process into practice firmly and to train the counterparts to decrease the mistakes in data input. Digitalizing the historical data of the MOI was completed. Since not only did it take time to obtain the historical data from other agencies such as the

Activities	Status	Results
		Ministry of Defense and the Ministry of Agriculture and Agrarian Reform, but also there were the problems of data accuracy, this data is still in the process of digitalizing. Moreover, the Project needs to train the counterparts on data collection and processing for the new equipment installed by the Grant Aid.
2)-5 To input data to Database	On going	The historical data obtained from the MOI was inputted into the database already. The data obtained from nine sets of equipment installed by the Project and the data acquired from other agencies such as the Ministry of Defense and the Ministry of Agriculture and Agrarian Reform was in the process of digitalizing. (ANNEX 3-3 for progress of Data Input)
2)-6 To storage and maintenance plan for collected data	On going	The meteorological and hydrological data already inputted to the database has been stored and maintained. However, there were many cases that the IDs of the stations or the data tables were duplicated. Therefore, the checking system of data should be strengthened.
2)-7 To prepare periodical report such as monthly report, annual records of Hydrology	Partially started	The monthly report utilizing the data acquired from nine JICA training observatories was produced regularly. The annual record of Hydrology for 2001-2002 was produced as well. The various materials such as tables, graphs and maps are in preparation for the Water Resource Report. The specific activities for this report will be started from November 2004 in cooperation with a short-term expert of Water Resource Policy.
3)-1 To prepare guidelines for guidance of establishment of new basin center, capacity building plan, observation techniques, processing, processing technique of observed data, and information technology (IT),preparing several kinds of report, including annual hydrological report and monthly report.	On going	The 25 different guidelines and manuals were prepared in the Project (ANNEX 3-2). In the remaining period, the manual of "how to plan the training programs" will be prepared. The manuals were in use among some counterparts. However it seems to be rear that the manual were stored in the bookshelf and available for every staff members whenever they need to consult refer to the manuals.
3)-2 To conduct training regularly for observation technique, information technology, and preparation	On going	To date, approximately 200 trainings or workshop were conducted at the initiative of Japanese Experts. The training or workshop on the operation of the basic software such as Word or Excel, and GIS/database has been carried

Activities	Status	Results
of several kinds of report. by Syrian side		out by the counterparts. Those trainings will be continuously conducted. In addition, the report on the training should be produced.
4)-1 To conduct continuous operation and maintenance of Database and GIS	On going	The basic skills of operation and maintenance of the database and GIS has been transferred to the counterparts. The maintenance work needs to become routine at three centers.
4)-2 To conduct continuous operation and maintenance of network	On going	The Network Administrator Meeting was formed and held occasionally. The actual operation and maintenance of network has been conducted and they acquired the basic skills for troubleshooting. The Project will form the System Manager Meeting for the future and make the Network Administrator Meeting to be held monthly.
4)-3 To conduct continuous operation and maintenance of observation equipment	On going	The manual for operation and maintenance for the equipment installed by the Project was prepared. However, the essence of the operation manual of the observation equipment should be translated into Arabic. Since the situations of the breakdown of the equipment, no change of dead battery or missing data were sometimes observed, the counterparts need to be trained on the operation of the equipment.
5)-1 To provide decision-makers with Water Resources Information	On going	The monthly reports were distributed to the concerned personnel such as the Minister and the Vice Minister of Irrigation, and concerned Basin Directorates. The contents of the report will be revised when it includes the data collected from the equipment installed by the Grant Aid in the remaining period.

32

Annex 6: Evaluation Grid of "Project on Establishment of Water Resources Information Center"

Achievement and Implementation Process

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
Achievement/Performance						
- Degree of achievement on Outputs	(1) To what extent a water resources information system is established at Main Center and two Basin Centers of WRIC (The Output 1 targets nine of the equipment installed by the Project)	(1)-1 Observation equipment is installed and exact observation is carried out at these observatories	- Observation activity is conducted continuously and accurately at stations in two Basins and the rate of operating stations is over 95%	Currently, two pieces of equipment among 9 JICA training observation stations were under repair. This makes the rate of operating stations nearly 80% (7 are working out of 9). This is the condition as of now, so that it is expected that all equipment will be in good condition by June 2005. The data of the observation stations has been collected as planned. The counterparts in C&C sections acquired the basic skills to observe the data from the observation equipment to date, and their technical level improved during the cooperation period.	To make sure the timing when the equipment udner repair will be recovered and to check whether those works properly. To provide the trainings on the operation of equipment more, such as understanding the meaning of the figures showed in the indicator, and checking the discrepancy by the logger, since the technical transfer was partially completed.	None
		(1)-2 In three centers, inputs the available data to Database and outputs of available data, such as a table accumulated and needed for a database, graph, and a map , are attained	- Data book and Monthly Report for precipitation, discharge, groundwater, water quality are prepared by using database	The Project is successful for this matter. To date, the Data Books and the Monthly Reports were produced by utilizing Excel, but the development of the database is completed and it is available to output the necessary materials from the database.	To make a plan the timing when to include the data of nine JICA training observation stations into the database.	None
		(1)-3 In three centers, exact information is transmitted periodically	- In three centers, exact information is transmitted periodically	The data transmission became available between the Main Center and two Costal Basin Centers through ISDN line and the data transmission has been carried out weekly. Since the original plan of the Project did not intend to utilize ISDN line, the achievement level of this item is very high.	None	None

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
	(2) To what extent the staff of WRIC acquires the necessary techniques for hydrological and meteorological observation, data collection, and data processing (Output 2 targets approximately 700 stations including those which belong to other ministries.)	(2)-1 To collect and process meteorological and hydrological data periodically	- Observation activity is conducted continuously and accurately at stations in two Basins, and the rate of operating stations is over 80%	(The assessment for this item, the stations which belong to other ministries are excluded.) Observation activity has been conducted continuously. The rate of operating stations which belong to the MOI (total 480 stations) is 97.1% as of June 2004. Likewise, the rate at GDBAB is 97.5% and that at GDCB is 96.6%. Therefore those rates satisfied the target of 80% set up as an indicator.	To improve the accuracy for observed data, three areas should be emphasized: (1) Identification of errors at the field: The counterparts need to acquire the skills to identify the error factors of the observed data (the patterns of errors occurred), and then after, how to take action to obtain the correct data. (2) Enhancement of check-up system of the data: It is necessary that the data flow system which was defined in August 2004 is firmly put into practice at three centers. For this, it may be good to assign the responsible persons for the data check or to set up the rule that the data cannot be transmitted/transferred without his/her check-mark (signature). (3) Identification of discrepancy: It may be good to enhance the ability of finding the discrepancy through visualizing the data or making the graphs. **<Grant Aid>** The Project needs to adjust the data collection and the data process system (rules) for the data acquired from the Grant Aid equipment.	None
		(2)-2 Observation data in the database is accumulated periodically	- Data book	The data which belongs to the MOI were already inputted into the database and the continuous data input have been carried out. Moreover, the Data Books have been produced by utilizing the database. However, the data accuracy still needs to be improved. The data obtained from the concerned ministries such as precipitation data is in the process of data entry.	To improve the data accuracy, the data flow system should be put into practice as mentioned in 2)-1. In addition, it is suggested that a specific activity plan for the remaining 8 months be formulated (what should be done, by when, who/which section is responsible, and what are the results), by prioritizing the activities until June 2005. **<Grant Aid>** It is necessary to revise the data items on the database considering new data obtained from Grant Aid equipment.	To make sure the data accuracy obtained from the other ministries **<Grant Aid>**To cope with the amount of the data acquired from the Grant Aid equipment and to process the data without any problem

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
		(2)-3 To prepare periodical report	- Periodical report	The Monthly Reports have been produced regarding 9 JICA training stations. The annual record of surface water and ground water for 2001-2002 was produced through Excel, and that for 2002-2003 is in the process of production by utilizing the database. Moreover, the Register Book of Observation Stations was produced regarding approximately 800 observation stations in GDBAB and GDCB. The preparation of the Water Resources Report will be started in November 2004.	To continue to produce and to revise the contents of the Monthly Reports. To produce the annual records of surface and ground water by utilizing the database. Since the project purpose is to publish the Water Resources Report annually, it is very important to make a plan including the detailed steps and time frame to produce the Water Resources Report by June 2005.	To enhance the contents and quality of the Water Resources Report. That is, to improve the ability of various analysis including the that of water balance, and the quality of the visualized materials such as the maps outputted by GIS. <Grant Aid> After the installation of new equipment by the Grant Aid, the contents of the Monthly Report need to be revised (setting up the timely or topical theme monthly).
	(3) To what extent a section is established within WRIC for capacity building, and continuous human resources development is conducted	(3)-1 To prepare guidelines for guidance	- Guidelines for guidance	Twenty-five (25) different manuals were prepared in the Project to date and the technical glossary book was produced in Arabic.	The manuals should be kept in the bookshelf and be available to refer for every staff members whenever they need to consult with the manuals. The guarantees for the equipment are also stored properly. Another point to be considered is that it maybe good to utilize the manuals for preparing the training materials.	None
		(3)-2 To conduct training by Syrian side	- Report on staff training	To date, more than 200 trainings or workshop were carried out by the Japanese experts. The training programs on the database and GIS just started to conduct by the Syrian side in September, 2004.	It is necessary to discuss what kinds of OJT, workshop or trainings are needed for the WRIC staff. To establish the continuous human resource development system, it is necessary that the WRIC makes a plan for the trainings focusing on what training is needed, and who/which section/other directorates (or National Training Center) conduct the trainings. It is also necessary to give the feedback of the results of the trainings by producing the reports on trainings.	

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
	(4) To what extent a section is established within WRIC to maintain the water resources information system, and the continuous maintenance is conducted	(4)-1 Appropriate operation do and system down time is less than 10% of total working hours	- Operation management records on system	For the network and database, the operation and maintenance activities were conducted as planned. The Operation and Management reports are submitted to the management committee every two weeks. The counterparts are likely to acquire the basic skills of daily maintenance. The time of system down was below 10% of the total working hours on average, and this satisfiedthe target of 10% of the total working hours.	The maintenance work should become routine at the centers. The C/Ps need to make sure that they can deal with the troubleshooting internally and they can procure the spare parts timely. Since the system maintenance of the hardware and the software is contracted out, the WRIC needs to carefully assess if this outsourcing works well.	
		(4)-2 Observation activities is conducted continuously and accurately at stations in two Basins, and the rate of operating stations is over 80%	- Operation and Management Report on observation equipment and observation stations.	The result of verifying the indicator seems good. The operation and maintenance process for observation equipment was already defined and the activities have been conducted. However, the minor mistakes were found, such as the battery for logger was dead. Therefore, the Project needs to enhance the operation and maintenance system more firmly.	The Project is planning to prepare the format for maintenance (like a checklist) and to produce the Operation and Management Report. <**Grant Aid**> The C/Ps will receive the trainings for calibration of Grant Aid equipment.	<**Grant Aid**> The WRIC needs to revise the maintenance manuals including the Grant Aid equipment.
	(5) To what extent a system is established to enable the staff of WRIC to provide necessary information on water resources management to decision-makers, planners and researchers by utilizing the water resources information system	(5)-1 Monthly reports of water resources information are submitted to decision-makers periodically	- Stock of Monthly Report	The Monthly Reports regarding nine JICA training stations were already published. These reports have been distributed to the Minister, the Vice Minister of irrigation, and concerned Basin Directorates. Moreover, the hydrological data are published on the web site of WRIC.	To utilize the Monthly Report as PR for the WRIC. It is also better to establish the delivery system of the Monthly Report to the concerning ministries, the basin directorates/centers, and the donors. <**Grant Aid**> Since the data from the Grant Aid equipment should be included in the Monthly Report, the Project needs to discuss and revise the contents and the format of the Monthly Report. Therefore, the specific activity plan for the revision of the Report should be formulated (when, what, how, and who). Moreover, the contents of web site may be enhanced by including the data from Grant Aid equipment.	<**Grant Aid**> To revise the contents of the Monthly Report including the data from the Grant Aid equipment.
- Prospect of degree of achievement on Project Purpose	- The extent to which the project purpose of "to establish a center enabling appropriate management of water resources information" will be achieved	(1) whether the annual records of Hydrology will be published by the year 2005	- Annual records of Hydrology	The annual record was already published. The first publication of annual record of Hydrology for 2001-2002 was produced and the second annual record for 2002-2003 is in the process of production at this moment by utilizing the database developed by the Project. It is certain that this will be published by 2005.	To make sure that the WRIC can **publish** the annual records of Hydrology by themselves, and improve the quality of the annual records.	
		(2) Whether Water Resources Report for Baraca-Awaj Basin and Costal Basin will be published by the year 2005	- Water Resource Report of MOI	To publish the first publication of the Water Recourses Report for two basins, the options of the data outputs will be presented to the policy-makers and the contents (what kinds of outputs and points should be included) of the report will be discussed in November 2004. Currently the Project is preparing for this workshop.	Based on the result of the workshop mentioned left, it is necessary to decide the contents of the Water Resources Report and to make a specific activity plan to produce the Report until June 2005. The detailed steps and a specified period of time should be included and the expected level of the report should be determined.	To upgrade (improve) the contents and the quality of the Water Resources Report year by year.

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
- Prospect of achievement on Overall Goal	- The extent to which the overall goal "To achieve integrated and sustainable water resources management in the Barada-Awaj and the costal Basin" will be achieved	(1) Appropriate project designs are made in the Barada-Awaj Basin and Costal Basin (2) Master Plans for Water resources are made in the Barada-Awaj Basin and Costal Basin (3) Reports for water balance in the Barada-Awaj Basin and Costal Basin are made		After achieving the project purpose, the overall goal of "integrated and sustainable water resources management in BAB and CB" is likely to be achieved in the future if all project activities are maintained and promoted more. By the end of the cooperation period, the WRIC will prepare various kinds of reports including the Water Resources Report although some reports need to be elaborated year by year, and this will contribute to realizing the overall goal. For the remaining period or in the future, it is significant to reconsider how to utilize the information provided by the WRIC for the decision-making on the water resource management. In order to do so, it is necessary to evaluate the first pulication of Water Resources Report and to make it clear what steps should be taken after thsi evaluaton.		
- Prospect of achievement on long-term goal	- The extent to which the long-term goal will be achieved	(1) To achieve integrated and sustainable water resources management in the whole basins of the Syrian Arab Republic		The fist step of the long-term goal is likely to be taken in next five years. The MOI has intention to expand WRIC activities nationwide and the 10th five-year national development plan includes the statement that the WRIC activities will be expanded to five other water basins such as Yamouk, Steppe, Orontes, Tigris & Khabour, and Euohrates in next five year with the budget of 500 million Syrian pounds.		

37

Items to be checked		Indicators (Criteria /Method for assessment)	Means of verification	Actual Achievement (up to October, 2004)	Tasks for the remaining period (until June 2005)	Challenging after the cooperation period ends (after July 2005)
Main points	Specific Questions					
mplementation Process						
- Progress of activities	- Whether the activities were taken as planned	- Comparison between the plan and the actual performance		Since the project has eight more months to complete the cooperation period, many activities are ongoing. It was recognized that some activities were relayed due to various reasons. For detail. refer to "Annex 5: Accomplishment of Activities."		
- Monitoring	- Whether the monitoring system of the project is appropriate and effective	- Whether the monitoring system was established		To share the information and to check the progress of the Project, the Management Committee is held every other week, the weekly meeting at the Main Center is held.		
		- Whether the monitoring system was effective to check the progress of the activities		The various kinds of meeting was effective to share the information and the progress of the activities. However, the activity seems not to have the specific goal (check point/milestone) defining the specific period of time. Since the individual detailed schedule was prepared, it would be better to have the monitoring system to check the overall progress of the Project and the linkage between activities, by integrating the individual schedule.		
		- Whether the monitoring system was utilized to revise PDM or PO		The meeting records might be utilized to revise the PDM in 2003.		
- Relationship between Japanese experts and Syria counterparts	- Whether the communications between them was established well and intensive	- Whether the regular meetings were held effectively (frequency, effects on problem solving)		For the meeting, the situation is as above-mentioned. The communications were promoted through the meetings.		
- Ownership of Syria side	- Degree of participation in management by the responsible person	- Participation in the Management Committee Degree of communication with		The personnel of the managerial level attended the regular meeting such as JCC regularly and Management Committee, and their participation level was effective to promote the project activities.		
	- Allocation of budget necessary for the activities	- Whether the budget by Syria side was disbursed timely and as planned		The budget was likely to be allocated enough: however the procedures of execution took more time than expected, which affected the project progress, such as obtaining the fuel for the cars for the observation work or the consumable goods.		
	- Attitude of the counterparts	- Whether C/Ps are self-motivated toward the project activities - Whether C/Ps understand the significance of project		The C/Ps understood the significance of the Project well. However, the turnover of C/Ps was high and the training for new staff had to be provided from the beginning. Since the working conditions in Syria does not provide sufficient incentives to the staff members, it seemed to be difficult to motivate some of them.		
- Linkage with other projects	- Linkage with Grand Aid	- Whether the linkage with Grant Aid is effective to enhance the achievement of the project purpose or overall goal		248 pieces of new equipment will be installed by the Grant Aid cooperation and it is expected to increase the data accuracy and to contribute to the quantity of the data necessary for decision-making regarding the water resources.		

Annex 6: Evaluation Grid of "Project on Establishment of Water Resources Information Center"

Five Evaluation Criteria

Items to be checked		Criteria /Method for assessment	Result
Main points	Specific Questions		
Relevance			
- Consistency with the development policy in Syria	- Whether the project is still line with the Development Plan in Syria	- Whether the project purpose (actual performance) still keeps the consistency with the contents of the 9th Development Plan (2001-2005)	The Long-term Goal, Overall Goal, and the Project Purpose are still consistent with the Syrian government's policy on water resources stipulated in the Ninth Five-year Development Plan (2001-2005). The Plan refers to the effective use of limited natural resources (such as cultivated land, water and oil) and identifies it as an important agenda for national economic development. Moreover, the Plan, in the section of Water Activity, refers to the necessity to prepare the water map for the country to identify the water resources and to apply modern technologies and program such as GIS in the study and documentation of water networks. These indicate that the importance of water resource management is clearly recognized in Syria. Therefore, the Project still has consistency with the Syrian government policy.
		- Whether the prospect overall goal and long-term goal of the project still keeps the consistency with the contents of the 9th Development Plan (2001-2005)	
- Consistency with Japanese policy	- Whether the project is still line with the Country Strategy developed by Japanese Government	- Whether the water resource Information is prioritized in Japanese policy	According to the Country Strategic Plan revised in June 2004, JICA announced the policy to emphasize "to support the Syrian Government policies of improving the level of people's life including water, education, health, and social welfare." Furthermore, JICA commits to supporting the areas of "water resources management and efficient usage of water"as prioritized areas. Therefore, JICA's policy has consistent with the purpose of the project which aims to establish the water resources information.
- Appropriateness of selection of target groups	- Whether the selection of target groups was appropriate	- To check the target group receive the benefits from the project directly	To strengthen the water resources management in Syria, centralizing and integrating the water-related information was one of the good options. In this respect, establishing the specialized center of water resources information was essential. Therefore, the target groups had to be the staff members of this center and the staff of the MOI which is the user of the information collected by the Center.
- Appropriateness of selection of target areas	- Whether the selection of target areas, namely Barada-Awaj Basin and Costal Basin was appropriate	- To confirm the significance or relevance mentioned in the project document was still identified	According to the project documents, two target areas were selected based on the appropriate reasons.
- Meeting with the needs of beneficiaries	- Whether the project purpose meets the needs of target groups	- To confirm the actual situation	In Syria, since one of the priorities was to establish the effective water resources management system, the Long-term Goal, the Overall Goal, and the Project Purpose were matched with the needs of the water-related agencies and decision-makers. It was also essential to enhance the capacity of its human resources in order to strengthen the function of the WRIC. Therefore, this Project matched the MOI and WRIC staff's needs.
- Comparative advantage of technology provided by Japanese side		- To confirm whether Japanese side had the know-how to achieve this project purpose	In Japan, the Ministry of Land, Infrastructure and Transport, and related organizations have accumulated decades of experience in such areas as data collection, analysis, and utilization of water resources information and water recourse management. The technical level of the Ministry in this field is sufficient to guide the counterparts. Moreover, the know-how of the private company was utilized in development and management of the database. Therefore, the comparative advantage of the technology provided by Japan was
Effectiveness			
- Probability of achieving the project purpose	- Whether the Project Purpose is likely to be achieved by the end of the project completion	- To verify the degree of achievement based on the indicators of project purpose in PDM	The Project Purpose is likely to be achieved to some extent by June 2004. However, there are some points to ensure the achievement of the Project Purpose for the remaining eight months. For the detail, refer to "Achievement" in the Evaluation Grid.

Items to be checked		Criteria /Method for assessment	Result
Main points	Specific Questions		
	- Whether the project purpose is shared among C/Ps	- To check the meaning of "to establish a center enabling appropriate management of water resources information", especially the meaning of "appropriate management"is understood by C/Ps	The purpose of the Project was clearly shared among the C/Ps and Japanese Experts.
- Contribution of the outputs to the project purpose	- Whether the effects (project purpose) are generated by the achievement of project outputs	- To check the logic of PDM	Since the Project has eight months to complete, it is premature to assess the contribution of the Outputs to the Project Purpose. However, it is certain that when all five outputs are achieved, the Project Purpose will be achieved according to the interview with the MOI, WRIC staff and Japanese Experts.
- Influence of the important assumption	- Whether important assumptions occurred. - If so, check how they affected the project implementation, what measures the project took	- Whether "trained technical staff did not stay in WRIC" Whether "MOI kept the staff (quality and quantity) at WRIC	There are two important assumptions set for the achievement of Project Purpose: (1) "Trained technical staff stay in WRIC," and (2) "MOI will keep the staff (quality and quantity) at WRIC. These factors rather affects the efficient conversion of input/activities to outputs, these points will be assessed in Efficiency. In terms of the assignment of the counterpart, the qualified counterparts were not assigned in the first half of the Project: However the situation has been improved gradually.
- Promoting / hampering factors	- If the Project Purpose is likely to be achieved by the end of the project completion, identify the promoting factors	- The same as left mentioned	The key personnel of the Project such as the Directors of WRIC, and Section Leaders at three centers fully understood the significance of the Project and the roles of WRIC in the water sector in Syria.
	- If the Project Purpose is not likely to be achieved by the end of the project completion, identify the hampering factors	- The same as left mentioned	Hampering factors: 1) Not sufficient number of the qualified counterparts was assigned timely, 2) The working conditions in Syria would not promote the motivation of some of the staff members at the WRIC. This affected the progress of the activities and limited the level of the technical transfer to the counterparts, 3) Converting the Input/Activities to Outputs was not likely to be efficient due to the delay of the progress of project activities. This substantially affected the achievement level of the Outputs (refer to "Efficiency"), and this also affected the achievement level of the Project Purpose.
Efficiency			
- Conversion of the input to the outputs	- Whether the Outputs are reasonable for the amount of input(resources)	- Comparison of plan and actual	Overall, the Outputs are reasonable for the amount of inputs. However, the conversion of the Inputs to the Outputs were not efficient as expected because several external factors were occurred. Refer to the Promoting/Hampering factors below.
	- Whether the inputs are fully used to generate the outputs	- Whether any inputs for the project is utilized for other purposes - Comparison of plan and actual	Most of the inputs were utilized for the Project, except software of ORACLE and the connection software of ArcSDE due to the US Economic Sanction Law.
	- Whether the contract-out of the partial activities (tasks) to the consulting firm was effective or efficiency to generate the outputs	- to be specified (if there are the similar projects as WRIC, the comparative analysis would be available.)	Since the consulting firm has the comparative advantage of developing the systems such as the database programming, it was reasonable to contract out the application development to the consulting firm.
- Promoting / hampering factors	- Whether the timing of inputs was appropriate	- Comparison of plan and actual	Mostly the timing of the input was appropriate except some short-term experts such as the experts of Data Processing and Ground Water Management since the project progress was delayed.
	- Whether the amount or quality of equipment was appropriate	- Comparison of plan and actual	The amount and quality of equipment was assessed as appropriate.

Items to be checked		Criteria /Method for assessment	Result
Main points	Specific Questions		
	- Whether important assumption influenced to converting input to outputs	- To check whether important assumptions occurred	**Unsatisfied Pre-project obligation:** Two Pre-project Obligations were set in the PDM as "(1) the Syrian side will collect historical data according to the format designed by the Syrian and Japanese sides, and (2) the MOI will collect necessary data on water resources and water demand from related agencies for input the database of WRIC before the start of the Project." These were not satisfied before the project started (except GDCB). This means that the Project had to cover this condition in the project activities, resulting in the delay of the progress of the project implementation and lowering the project efficiency.
			Influence of the External Factors (Important Assumption): One of the Important Assumption of "Trained technical staffs stay in WRIC" affected the progress of the project activities. From October 2003 to date, the staff members who were expected to be the core members and to transfer the acquired skills to other counterparts were resigned or transferred to other organizations or sections. This influenced the project progress and limited the level of technical transfer to the counterparts. Furthermore, the frequent turnover of the counterparts was recognized since the Project started, meaning that the training has to be provided to the new staff members from the beginning. This hampered the project progress and lowered the efficiency of the Project.
			The US Economic Sanction Law was imposed on Syria: Due to this sanction, the Operation System for the database and the database software had to be changed, resulting in the delay of completing the database development. This affected the project progress enormously. Moreover, some procured materials such as Oracle software and ArcSDE (connection software for Oracle) are not in use due to this sanction law.
			Procedure of the budget execution: The delay of the budget execution inhibited the smooth implementation of the Project. For example, the Project could not purchase the fuel for the vehicle to go to the observation stations, or could not print out the necessary outputs from the A0 printer due to out of the paper.
			Monitoring the project activities: The Project held various kinds of meeting among concerned personnel and shared the information and the project progress. These approaches were very effective to monitor the activities. In addition, it would be better if the Project breaks down each activity stated in the PDM into more detailed level and specifies the milestone/check-points of each activity setting the solid deadline. This could make the linkage clear among the activities, since many of them are deeply interrelated in the Project.
Impact			
- Probability of achieving the overall goal	- Whether the overall goal will be achieved because of this project	- Based on the results of the confirmation of project achievement	If the achievement of the Project Purpose is ensured, the overall goal will be certainly achieved. However, it is premature to predict the degree of the achievement of the overall goal at this moment.
	- Whether the achievement of the project purpose will contribute to achieving the Overall Goal	- To check the logic of PDM	Although the situation does not allow to predict its achievement level, the logic of the project design is appropriate according to the project documents.
- Probability of the contribution to the development policy	- Whether the achievement of the overall goal will contribute to the development policy in Syria		Since the project is originally designed to prepare the effective and useful information on water resources to the policy makers, the project will definitely contribute to the development policy in Syria. The conditions to realize this may be that the policy makers can fully utilized the data/information which WRIC prepares.

Items to be checked		Criteria /Method for assessment	Result
Main points	Specific Questions		
- Other impacts	- Whether there will be / are other impacts (positive/negative) generated by the project implementation		According to the interview with the director level of WRIC, the internal impact was observed: through the Project, the team work among the Syria counterparts has been built up. To develop the concrete data flow, three sections such as the Data Collection and Classification Section, the Analysis Section, and the Technical Support Section have to cooperate one another. This promoted the team work building which was not recognized before the Project.
Sustainability			
(1) Prospect of the effects generated by the project	- Whether the effects generated by the project are likely to be kept after the project completion	- Whether the budget will be allocated, the staff member will be assigned, or the WRIC activities will be maintained, etc.	Since many activities are in process, meaning that the skills of counterparts are in the process of being developed. To secure this, the project needs more time to complete the technical assistance to the MOI in Syria.
(2) Institutional/political aspects	- Whether the government will maintain the policy on water resource management as it is now.		The institutional sustainability is likely to be secured. The restructuring of government ministries and agencies is planned in next year. Under the new structure, the new agency named as "the Ministry of Water Resources and Land" is planned to be established integrating all water-related agencies. It is certain that the WRIC will take a significant role in the water resource management under the new structure, and there is also an idea that the Minister will supervise the WRIC directly. These are still under planning and the final decision has not been made as of the terminal evaluation. If this structure is confirmed and put into practice, it is certain that the position and significance of the WRIC will be substantially enhanced.
	- Whether WRIC activities are likely to obtain the support or cooperation with related agencies	- Whether the steering committee or other coordination meeting will be functioned	
	- Whether the organizational reform will affect WRIC	- The mission and responsibilities of WRIC is defined clearly under the new structure - The positioning of WRIC will be clearly defined and matches with the project purpose	
	- Whether the C/Ps remain at WRIC	- Specific plan for human resource management	As of the terminal evaluation, the turnover of the WRIC staff became below and the core members have been trained substantially. Moreover, new staff members tend to be assigned at WRIC.
(3) Financial aspects	- Whether the fund or financial measures will be taken/secured after the project completion	- Future plan for budget allocation on WRIC by MOI	It is expected to allocate the sufficient budget for the future activities of WRIC itself, such as purchasing the spare parts of the observation equipment, and upgrading the hardware and the software of the network/database systems which are very costly. Moreover, the budget should be secured for the outsourcing for the maintenance of hardware and software.
(4) Technical aspects	- Whether the skills/techniques acquired in the projects will be maintained after the project completion - If not, what are the current level? - If not, what are the reasons for this? - If not, what measures should be taken for the	- Specific training plan is formulated - System for staff training is established	To date, the Project made remarkable progress: however there are some more works which need to be carried out to secure the sustainability of the Project. Those are to enhance the ability of analysis such as estimating the water balance, to enhance the capacity of operation and maintenance skills for the systems and the observation equipment, and to put the data flow system into practice firmly to improve the data accuracy.
	- Whether the counterparts have any tools or means to upgrade the skills/techniques acquired through the project after the project completion.	- There are some opportunities to upgrade the technical/skill levels by themselves, such as attending the training provided abroad, etc.	At this moment, this point seems not clear enough since the Project has eight months to complete. Some options to strengthen the computer skills are available such as the training programs held in Egypt and other countries.
	- Whether the equipment will be maintained well	- Budget allocation for equipment, skill of maintenance staff	The C/Ps acquired the basic skills for the maintenance of the equipment, but need to more training on the operation for the remaining period to ensure the skill level. Moreover, the maintenance skills for new equipment of 248 observatories have to be transferred to the C/Ps in next year.

MOI: Ministry of Irrigation
MOAAR: Ministry of Agriculture and Agrarian Reform
MOD: Ministry of Defense
MOHU: Ministry of Housing and Public Utilities

Annex 7

List of the Observatories for Training

Observatory Name	Basin	Parameter
HARASTA	GDBAB	Groundwater Level
FASRIA	GDBAB	Groundwater Level and Quality
ATTKIA	GDBAB	Surface Water (BARADA River)
ZABADANI	GDBAB	Meteorological
JOYBAT	GDCB	Groundwater Level
MENTAR	GDCB	Groundwater Level and Quality
MARKIA	GDCB	Surface Water (MARKIA River)
BITANA	GDCB	Meteorological
16 NOVEMBER DAM	GDCB	Water Level