ANNEX____Project Design Matrix (PDM) with annotation

Project name: Establishment of Water Resources Information Center
Project Period : June 15, 2002 to June 14, 2005
Project site : Damascus (Ministry of Irrigation)
Target group : Staff of Ministry of Irrigation, Water Resources Information Center, General Directorate of the Barada-Awaj Basin, General Directorate of the Coastal Basin
Date: Oct.23, 2003
Oct 28, 2004 with annotation
Target area: The Barada-Awaj Basin and Coastal Basin

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
Long Term Goal To achieve integrated and sustainable water resources management in the whole basins of the Syrian Arab Republic.			
Overall Goal To achieve integrated and sustainable water resources management in the Barada-Awaj Basin and the Coastal Basin. **(*11)**	1) Appropriate project designs are made in the Barada-Awaj Basin and the Coastal Basin. 2) Master plans for Water resources are made in the Barada- Awaj Basin and the Coastal Basin. 3) Reports for water balance in the Barada-Awaj Basin and the Coastal Basin are made.	1) Report of MOI 2) Master plan of MOI 3) Report of MOI	
Project Purpose To establish a center enabling appropriate management of water resources information.	1) Annual records of Hydrology are published by the year 2005. 2) Water Resources Report for Barada-Awaj Basin and Coastal Basin is published by the year 2005.	1) Annual records of Hydrology 2) Water Resources Report of MOI.	・MOI does not change the policy concerning the Establishment of WRIC. ・Necessary budget is allocated to operate and maintain WRIC after established.
Outputs 1) A water resources information system (hydrological and meteorological observation stations, computer system, and computer network) is established at Main Center and two Basin Centers of WRIC.**(*1)**	The water resources information system is in operation before the completion of the cooperation. 1)-1 Observation equipment is installed and exact observation is carried out at these observatories. **(*2)** 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. **(*3)** 1)-3 In three centers, exact information is transmitted periodically.	1)-1 Observation activity is conducted continuously and accurately at stations in the two Basins, and the rate of operating stations is over 95%. **(*2)** 1)-2 Data book and Monthly report for precipitation, discharge, groundwater, water quality are prepared by using database. **(*3)** 1)-3 The data is transferred in three centers accurately **(*4)**	・Trained technical staff stay in WRIC. ・MOI will keep the staff（quality and quantity） at WRIC **(*9)**
2) The staff of WRIC acquires the necessary techniques for hydrological and meteorological observation, data collection, and data processing. **(*5)**	2)-1 To collect and process meteorological and hydrological data periodically **(*6)** 2)-2 Observation Data in the database is accumulated periodically. 2)-3 To prepare periodical report **(*7)**	2)-1 Observation activity is conducted continuously and accurately at stations in the two Basins, and the rate of operating stations is over 80%. **(*6)** 2)-2 Data book 2)-3 Periodical report	
3) A section is established within WRIC for capacity building, and continuous human resources development is conducted	3)-1 To prepare guidelines for guidance 3)-2 To conduct training by Syrian side	3)-1 Guidelines for guidance 3)-2 Report on staff training	
4) 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. 4)-2 Observation activities is conducted continuously and	4)-1 Operation and management record on system 4)-2 Operation and Management Report on observation equipment and observation	

ANNEX____Project Design Matrix (PDM) with annotation

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
	accurately at stations in the two Basins, and the rate of operating stations is over 80%.**(*8)**	stations	
5) 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.	5) Stock of Monthly reports.	
Activities	**Inputs**		
1)-1 To design equipment for Meteorological and hydrological stations 1)-2 To install the observation equipment at the stations. 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. 1)-4 To design database and establish at Main Center and two Basin Centers. 1)-5 To connect GIS with database systems at Main Center and two Basin Centers. 1)-6 To establish network at Main Center and two basin Centers 2)-1 To prepare a monitoring program of meteorological, hydrological, groundwater, water quality data in the Barada-Awaj Basin and the Coastal Basin. 2)-2 To rehabilitate the hydrological and meteorological observation stations of the Barada-Awaj Basin and the Coastal Basin. 2)-3 To get technique for observation and processing of observed data, etc. at two Basin Centers. 2)-4 To collect and process meteorological and hydrological data 2)-5 To input data to Database 2)-6 To storage and maintenance plan for collected data 2)-7 To prepare periodical report such as monthly report, annual records of Hydrology 2)-8 To prepare periodical Water resources Report 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. 3)-2 To conduct training regularly for observation technique, information technology, and preparation of several kinds of report. by Syrian side 4)-1 To conduct continuous operation and maintenance of Database and GIS 4)-2 To conduct continuous operation and maintenance of network 4)-3 To conduct continuous operation and maintenance of observation equipment 5)-1 To provide decision-makers with Water Resources Information	Syrian Side 1. Personnel Assignment of Counterpart 2. Provision of facilities, equipment ·Headquarter of WRIC, including the office space for Japanese Experts. ·Existing monitoring facilities and equipment. 3. Project implementation cost ·Recurrent cost for project.	Japanese Side 1. Dispatch of Japanese Experts 1) Long-term experts ·Chief Advisor ·Hydrologist ·Coordinator 2) Short-term experts (3 to 4 person per year) 2. Counterpart Training in Japan (at least 3 person per year) 3. Provision of equipment ·Computers including network system ·Computer software ·Hydrological monitoring equipment ·Vehicles	**(*10)** **Pre-conditions** 1) The Syrian Government does not significantly change its policy concerning water resources. 2) Implementation of this Project is agreed upon by Syrian organizations that are concerned with water resources information management in Syria. **Pre-project Obligations** 1) The Syrian side will collect historical data according to the format designed by the Syrian and Japanese sides. MOI will collect necessary data on water resources and water demand from related agencies for input into the database of WRIC before the start of the Project. 2) The number of water resources monitoring points will not decrease. Significant decreases in the number of existing hydrological/ meteorological stations in the two basins will not be allowed to hinder the implementation of the Project.

添付資料　:プロジェクト・デザイン・マトリックス（PDM）

プロジェクトタイトル：シリア水資源情報センター整備計画　　対象グループ：灌漑省、WRIC、GDBAB、GDCB職員　　バージョン：改訂版
期間：2002年6月15日～2005年6月14日　　対象地域：バラダ・アワジ流域と沿岸部流域　　日付：2003年10月

プロジェクトの要約	指標	指標入手手段	制約条件・外部要因
【長期目標】 シリア全流域において総合的かつ持続可能な水資源管理ができるようになること	設定なし		
【上位目標】 バラダ・アワジ流域及び沿岸部流域において総合的かつ持続可能な水資源管理が行われること	1) バラダ・アワジ流域および沿岸部流域における適切なプロジェクトの設計がなされる。 2) バラダ・アワジ流域および沿岸部流域における水資源のためのマスタープランが作成される。 3) バラダ・アワジ流域および沿岸部流域における水収支に関する報告書が作成される。	1) 灌漑省の報告書 2) 灌漑省のマスタープラン 3) 灌漑省の報告書	灌漑省が水資源情報センター設立に関わる政策を変更しない。 水資源情報センター設立後、必要とされる運営・維持管理費用が配分される。
【プロジェクト目標】 水資源情報の適切な管理ができる体制を構築すること	1) 2005年までに水文年表が出版される。 2) 2005年までに灌漑省の水資源レポートが出版される。	1) 水文年表（降水量年表、流量年表、地下水年表、水質年表） 2) 灌漑省の水資源レポート	訓練された技術職員が、水資源情報センターに留まる
【成果】 1) 水資源情報センター本部及び2支部に、水資源情報システム(観測体制、情報処理体制)が構築される	1)-1 観測機器が設置され、これらの観測所において、正確な観測が実施される。 1)-2 3センターにおいて、入手可能なデータがデータベースに蓄積され、かつ必要とされる表、グラフ、地図等の出力が可能となる。 1)-3 3センターにおいて、正確な情報が定期的に転送される。	1)-1 95%以上の観測所において、正確な観測が継続される。 1)-2 データブックの作成及び月例報告書、水文年表（降水量年表、流量年表、地下水年表、水質年表）がデータベースを活用して出力される。 1)-3 データが正確に転送される。	
2) 水資源情報センター職員が気象・水文観測、データ収集、およびデータ処理等に必要な技術を習得する	2)-1 観測所において正確な観測、データ回収が実施される。 2)-2 正確な観測データが定期的にデータベースへ入力される。 2)-3 定期刊行物が作成される。	2)-1 80%以上（現時点で約700箇所）の観測所において正確な観測、データ回収が実施される。 2)-2 データブックの作成 2)-3 定期刊行物（月例報告書、水文年表、水資源レポート）の作成	
3) 水資源情報センターに人材育成を行う体制が構築され、継続的な人材が行なわれる	3)-1 各種マニュアルが整備される。 3)-2 シリア側C/Pにより研修が実施される。	3)-1 各種マニュアル 3)-2 研修報告書	
4) 水資源情報センターに水資源情報システムの維持管理を行う体制が構築され、継続的な維持管理が行なわれる	4)-1 システムの運営が、適切に行われ、システムのダウンの時間が、全勤務時間の１割以下となる。 4)-2 80%以上の観測点において、継続的に正確な観測が実施される。	4)-1 システム運営管理記録 4)-2 観測所、観測機材管理報告書	
5) 水資源情報システムを活用し、水資源管理に必要な情報を政策決定者、計画担当者、および研究者に提供できる体制が構築され、継続的に情報が提供される	5)-1 水資源に関する月例報告書が定期的に政策決定者に提出される。	5)-1 月例報告書	
【活動】 1)-1 気象・水文観測網整備のための機材の設計を行う	【投入】 シリア側	日本側	

プロジェクトの要約	指標	指標入手手段	制約条件・外部要因
1)-2 観測機材を設置する 1)-3 3センターにおいて、システムの設計を行い、ハードウエアの整備、OS等の基本ソフトウエアのインストールを行う 1)-4 3センターにおいて、データベースの設計、構築を行う 1)-5 3センターにおいて、GISとの連結運用を行う 1)-6 3センターにおいて、ネットワークを構築する	1 カウンターパートの配置 2 施設および設備の提供 ・水資源情報センター本部、2流域センター （専門家執務室、機材設置場所等） ・既存の観測用機器、設備 3 プロジェクト実施費用 ・プロジェクトの運営費	1 専門家派遣 1) 長期専門家 ・チーフアドバイザー ・水文専門家 ・調整員 2) 短期専門家 （約4名／年） 2 カウンターパート研修 （約3名／年） 3 機材供与 ・コンピューター機材 ・ソフトウェア ・水文観測機材 ・車輌等	【前提条件】 シリア政府が水資源に関わる政策を変更しないこと 水資源情報管理に関係するシリア側の諸機関がプロジェクトの実施に同意すること 【事前の義務】 想定されるデータベースの内容・フォーマットに合わせて、シリア側が過去のデータを収集すること 水文観測点の数が現状より減少しないこと
2)-1 バラダ・アワジ流域及び沿岸部流域の気象・水文観測計画を策定する 2)-2 バラダ・アワジ流域及び沿岸部流域の気象・水文観測所を整備する 2)-3 正確な観測技術を習得する 2)-4 気象・水文観測データを収集、整理する 2)-5 データベースへデータを入力する 2)-6 気象・水文観測データを維持・管理する 2)-7 定期刊行物（月例報告書、水文年表）を作成する 2)-8 定期刊行物（水資源レポート）を作成する			
3)-1 各種マニュアルを作成する 3)-2 シリア側C/Pによる研修を実施する			
4)-1 データベース、GISを運営・維持管理する 4)-2 ネットワークを運営・維持管理する 4)-3 観測機器を運営・維持管理する			
5)-1 水資源に関する情報を、定期的に政策決定者等に提出する			

ANNOTATION

	Mark	Points	Explanation
Output 1:	*1	Scope of Output 1	• Output 1 targets nine observation stations installed by the Project. • It should be noted that the activities set up for Output 1 and the description of Output 1 are not linked well. Therefore, this should be taken that Output 1 focuses on establishing the basic infrastructure of the Project including the installation of observation stations, software/hardware, and development of database.
	*2	Definition of Indicator 1)-1 Means of Verification	• The description of "Means of Verification" should be placed under "Indicator." Therefore, the Indicator of 1)-1 should be "Observation activity is conducted continuously and accurately at stations in the two Basins, and the rate of operating stations is over 95%." • The description of "Means of Verification" should be "Project records."
	*3	Definition and paraphrase of Indicator 1)-2	• The descriptions of "Indicator" and "Means of Verification" are basically the same. Therefore, the appropriate "Means of Verification" should be "Data book, and Monthly Report." • The description of "Indicator" is not clear enough. This should be paraphrased by "In three centers, the materials (outputs) such as tables, graphs, and maps are produced through the database."
	*4	Description of Means of Verification 1)-3	• The descriptions of "Indicator" and "Means of Verification" are basically the same. Therefore, "the Means of Verification" should be "Project records."
Output 2	*5	Scope of Output 2	• Output 2 targets nine training observation stations of the Project and other stations which the Ministry of Irrigation and other agencies are responsible for in the Barada-Awaj Basin and the Costal Basin. It will be approximately 700 stations. • In addition to the stations above-mentioned, new equipment of 248 which will be installed by the Grant Aid by the end of 2004 need to be targeted. Since the WRIC will be responsible for the new equipment, the Project has to include the activities for the Grant Aid equipment for the remaining cooperation period. (It should be noted that the terminal evaluation excluded the equipment installed by the Grant Aid, because the original plan did not specify the inclusion of the equipment of the Grant Aid. For details, refer to the box below.)
	*6	Description of Indicator and Means of Verification 2)-1	• The description of "Means of Verification" is suitable for the Indicator. Then, the Indicator can be interpreted as "(1) the observed data secures the data accuracy, (2) the WRIC staff can collect the observed data from more than 80% of the target stations at two basins (focusing on the capacity of the counterparts), and (3) the collected data is processed periodically according to the data flow defined by the Project."
	*7	Definition of Indicator 2)-3	• The definition of Indicator would be "the materials for the periodical reports, such as Data book, Monthly report, Annual Records of Hydrology, and Water Resources Report, are prepared by utilizing the database."
Output 4	*8	Definition of Indicator	• This means that more than 80% of the equipment is in good condition (not broken) to obtain the observed data.
Output	*9	Important Assumptions	• The Important Assumption of "MOI will keep the staff (quality and quantity) at WRIC" should be placed on the same row as the Activities, because this assumption would affect the achievement level of the Outputs although all Activities are accomplished as planned.

	Mark	Points	Explanation
Activities	*10	Additional Important Assumption	• Since the Project cannot guarantee the accuracy of the data which is provided by the related ministries, the data accuracy should be included in an important assumption of the Project, which affects the achievement level of the Output. The description would be "The data provided by the related-ministries is accurate and reliable."
Overall Goal	*11	Definition of Overall Goal	• At the end of the cooperation period, June 2005, it would be better to reexamine the indicators of the Overall Goal by the Project, making sure the future direction that the Project is preceding. For example, consider what "appropriate project design" means, or what kind of image the MOI has about the Mater plan for water resources in the BAB and CB.

As it may be noted, the Evaluation Team did not include the equipment which would be installed by the Grant Aid in the target for the evaluation. The basic idea for the Team was that this Project and the Grant Aid are the different projects. This makes the terminal evaluation simpler to assess the achievement level of the Project. However, the WRIC (especially at GDBAB and GDCB) is fully responsible for the operation and maintenance of the Grant Aid equipment, and the concerned activities with these sets of equipment will be incorporated into the Project activities for the remaining eight months (by June 2005) and the extension period if it is approved by the Government of Japan.

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

October 13, 2004

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					
	(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 Barada-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 Yarmouk, Steppe, Orontes, Tigris & Khabour, and Euohrates in next five year with the budget of 500 million Syrian pounds.		

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					
Implementation 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).
		- 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)	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.
- 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 very high.
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

付属資料－６　質問表回答結果

QUESTIONNAIRE FOR THE PROJECT ON ESTABLISHMENT OF WATER RESOURCES INFORMATION CENTER

注: 日本人専門家に対する質問票の主な目的がインタビューのための基礎情報収集だったことと、回答が複雑だったので、質問票の結果はここでの集計には含めていない。ただし収集した回答は、評価結果（報告書の内容）に反映させている。したがって、以下の集計結果は、シリア側カウンターパートのみの集計結果である。

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	59	69.4	78.7	78.7
	Female	16	18.8	21.3	100.0
	Total	75	88.2	100.0	
Missing	na	7	8.2		
	System	3	3.5		
	Total	10	11.8		
Total		85	100.0		

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Director	7	8.2	8.6	8.6
	CCS	41	48.2	50.6	59.3
	AS	19	22.4	23.5	82.7
	TS	13	15.3	16.0	98.8
	Administration	1	1.2	1.2	100.0
	Total	81	95.3	100.0	
Missing	System	4	4.7		
Total		85	100.0		

Section Leader

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	74	87.1	87.1	87.1
	Yes	11	12.9	12.9	100.0
	Total	85	100.0	100.0	

Organization

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Main Center	18	21.2	22.0	22.0
	GDBAB	20	23.5	24.4	46.3
	GDCB	29	34.1	35.4	81.7
	Tartus	15	17.6	18.3	100.0
	Total	82	96.5	100.0	
Missing	System	3	3.5		
Total		85	100.0		

Period of working for WRIC:　Max 28 months, Min. 5 months, Average 15.1 months

ACHIEVEMENT

1. What extent do you think the Project Purpose – To establish a center enabling appropriate management of water resources information – will be achieved by the end of the project period (June 2005)? Please answer for each indicator.

Indicator 1: Annual records of Hydrology are published by the year 2005

Please check ONE appropriate answer.

	Frequency	Percent
❑ 4. Definitely, this will be published by the year 2005	59	69.4
❑ 3. Probably, this will be published by the year 2005	17	20.0
❑ 2. This may not be published by the year 2005	4	4.7
❑ 1. I do not know because I am not involved in this issue.	5	5.9
	85	100.0

-- If your answer is "2. This may mot be published by the year 2005," please write the reasons for this.

- There are many problems in work
- The database is not completed.
- The staff is not doing well.
- Some equipment is missing.

Indicator 2: Water Resources Report for Barada-Awaj Basin and Costal Basin is published by the year 2005

Please check ONE appropriate answer.

	Frequency	Percent
❑ 4. Definitely, this will be published by the year 2005	49	61.3
❑ 3. Probably, this will be published by the year 2005	15	18.8
❑ 2. This may not be published by the year 2005	4	5.0
❑ 1. I do not know because I am not involved in this issue.	12	15.0
	80	100.0

-- If your answer is "2. This may mot be published by the year 2005," please write the reasons for this.

Because the method of calculating water resources is not defined yet and items are not clear. 2
The database is not completed.

2. What extent do you think Outputs 1 of the Project will be achieved by the end of the project period (June 2005)?

Output 1: A water resources information system (hydrological and meteorological observation stations, computer system, and computer network) is established at Main Center and two Basin Centers of WRIC

	Frequency	Percent
❑ 4. It will be completely achieved	22	28.2
❑ 3. It will be achieved, but need some works to be completed	50	64.1
❑ 2. It will be less likely to be achieved, and need more works to be achieved	4	5.1
❑ 1. It will not be achieved at all	0	0.0
❑ 0. Do not know (Not sure)	2	2.6
	78	100.0

If your answer is "2," or "1," what are the difficulties?

- Staff's ability

(1) What extent the responsible counterparts are able to carry out **the exact observation** at the observatories which are targeted by the Project?

	Frequency	Percent
❑ 4. We/they are able to carry it out completely	37	47.4
❑ 3. We/they are able to carry it out mostly	20	25.6
❑ 2. We/they are able to carry it out, but need to improve more	20	25.6
❑ 1. We/they are not able to carry it out	0	0.0
❑ 0. Do not know (Not sure)	1	1.3
	78	100.0

(2) The PDM indicates that observation activity is conducted accurately at stations and the rate of operation stations is over 95%. Please provide this data in time-series if the Project has.

	In the early stage of the cooperation period	In the middle of the cooperation period	As of June, 2004
Observatories in MOI (480 stations)	-	-	97.1%
GDBAB	-	-	97.5%
GDCB	93%	95%	96.6%
Tartus	30%	75%	

(3) According to the documents prepared by the Project, still some of the necessary data cannot be outputted through the computer system **due to the delay of the progress of data input.** What are the main reasons that the data input was delayed?

- Staff ability of using computer 5
- The number of staff for data input is not sufficient 5
- Changing the structure of DB, 4
- Because there was no good cooperation between MOI and other organizations 4
- Most of the data was not available
- Obtaining the data from other related organization took time 24
- Collecting the historical data was the most difficult task because of the long period and we had to check it. Sometimes we have to go back to the original observation and measurements when it is available.
- Huge size of data
- Equipment is not sufficient 14 (most of them who put this are the staff of Tartuos)
- Delay of obtaining the maps from GES
- The data itself is not so good (not accurate, not reliable) 15
- The method of input in excel form is not stable

- Because the data needed processing and converting

3. What extent do you think Outputs 2 of the Project will be achieved by the end of the project period (June 2005)?

Output 2: The staff of WRIC acquires the necessary techniques for hydrological and meteorological observation, data collection, and data processing

	Frequency	Percent
❑ 4. It will be completely achieved	0	0.0
❑ 3. It will be achieved, but need some works to be completed	61	78.2
❑ 2. It will be less likely to be achieved, and need more works to be achieved	9	11.5
❑ 1. It will not be achieved at all	5	6.4
❑ 0. Do not know (Not sure)	3	3.8
	78	100.0

If your answer is "2," or "1," what are the difficulties?

- The staff motivation is not enough 2
- The Staff could not speak and write in English
- The workshop is less useful
- We need more training (in all aspects) 2
- The staff do not have clear idea about the future and implementation of acquired skills in the project

(1) Do you think the staff of WRIC acquired the necessary techniques for hydrological and meteorological observation, data collection, and data processing?

	Frequency	Percent
❑ 4. We/they acquired those techniques completely and can conduct it without any assistance from Japanese experts	0	0.0
❑ 3. We/they acquired those techniques mostly but need assistance from Japanese experts to some extent	46	59.0
❑ 2. We/they acquired those techniques to some extent, but still need assistance from Japanese experts in most of the activities	21	26.9
❑ 1. We/they did not acquired those techniques at all	0	0.0
❑ 0. Do not know (Not sure)	11	14.1
	78	100.0

-- If your answer is **"3," "2,", or "1,"** please provide the reasons which hamper acquisition of the techniques.

- Need Japanese support in Modeling, data analysis, and GIS (or analysis programs – postput) 24
- Need more training on maintenance of the equipment 2
- Need more training on maintenance of the computer 6
- Need more techniques for data processing
- Need assistance in data analysis because the period is not enough to complete this activities 2
- Up to now, Japanese Experts are our reference in many problems
- Little trainings
- Because we need the support to obtain the outputs of the project
- Need more stations for all observatories and training for them
- Need more trainings for new equipment installed by the Grant Aid
- Because most of the trainings were provided in Damascus

- English ability of the staff
- The willing and motivation of the staff

(2) Is the observation data in the database accumulated periodically?

	Frequency	Percent
❑ Yes	47	60.3
❑ No	16	20.5
❑ Do not know	15	19.2
	78	100.0

-- If "NO," please state the reasons for this.

- DB is not ready (we have new software, PostgreSQL and still building the new structure), 7
- Because the database is not ready to input the data in the template or forms
- The historical data is still being checked
- The data flow is not continuous

4. What extent do you think Outputs 3 of the Project will be achieved by the end of the project period (June 2005)?

Output 3: A section is established within WRIC for capacity building, and continuous human resources development is conducted

	Frequency	Percent
❑ 4. It will be completely achieved	3	3.8
❑ 3. It will be achieved, but need some works to be completed	60	76.9
❑ 2. It will be less likely to be achieved, and need more works to be achieved	7	9.0
❑ 1. It will not be achieved at all	5	6.4
❑ 0. Do not know (Not sure)	3	3.8
	78	100.0

If your answer is "2," or "1," what are the difficulties?

- Until now, we did not hear anything, 3

(1) The Project prepared various manual. Has these manual been utilized?

	Frequency	Percent
❑ Yes	64	82.1
❑ No	3	3.8
❑ Do not know	11	14.1
	78	100.0

If NO, what are the difficulties to do so?

- It is better if the manuals are written in Arabic.

(2) Do you think that the continuous human resources development is conducted?

	Frequency	Percent
❑ Yes	61	78.2
❑ No	6	7.7

❑ Do not know	11	14.1
	78	100.0

If NO, what are the difficulties to do so?

- There are many works

5. What extent do you think Outputs 4 of the Project will be achieved by the end of the project period (June 2005)?

Output 4: A section is established within WRIC to maintain the water resources information system, and the continuous maintenance is conducted

	Frequency	Percent
❑ 4. It will be completely achieved	0	0.0
❑ 3. It will be achieved, but need some works to be completed	54	69.2
❑ 2. It will be less likely to be achieved, and need more works to be achieved	11	14.1
❑ 1. It will not be achieved at all	0	0.0
❑ 0. Do not know (Not sure)	13	16.7
	78	100.0

If your answer is "2," or "1," what are the difficulties?

- Because many problem appears without solution 2
- We need more training especially for equipment maintenance and network 2
- We faced serious difficulties without solution

(1) Does the Project develop the checklist to monitor (check) the condition of the observation equipment?

	Frequency	Percent
❑ Yes	44	57.9
❑ No	14	18.4
❑ Do not know	18	23.7
	76	100.0

6. What extent do you think Outputs 5 of the Project will be achieved by the end of the project period (June 2005)? ***<This question is asked for only Directors>***

Output 5: 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

	Frequency	Percent
❑ 4. It will be completely achieved	0	0.0
❑ 3. It will be achieved, but need some works to be completed	6	85.7
❑ 2. It will be less likely to be achieved, and need more works to be achieved	1	14.3
❑ 1. It will not be achieved at all	0	0.0
❑ 0. Do not know (Not sure)	0	0.0
	7	100.0

(1) Do you think that WRIC established the system to provide necessary information on water resources management to decision-makers, planners and researchers?

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0.0
❑ Do not know	0	0.0
	7	100.0

If NO, what are the difficulties to do so?

IMPLEMENTATION PROCESS

Process of implementation

7. Were the Activities which you have been engaged in carried out as planned?

	Frequency	Percent
❑ 4. All activities were carried out as planned	5	6.4
❑ 3. Most of the activities were carried out as planned	54	69.2
❑ 2. Some of the activities were carried out as planned	10	12.8
❑ 1. None of activities were carried out as planned	1	1.3
❑ 0. Do not know (Not sure)	8	10.3
	78	100.0

If your answer is "2," or "1," please specify the reasons that the activities were not carried out as planned.

- Many obstacles appear suddenly, 3
- Computer ability
- The staff at Tartus branch could not attend all activities efficiently due to the distance
- We have been faced problems like no clear plan, conflict of tasks between the staff

Project management

8. Do you think that the role or job descriptions of yours and other staff members of the Project are clearly determined?

	Frequency	Percent
❑ Yes	64	75.3
❑ No	8	9.4
❑ Do not know	13	15.3
	85	100.0

9. Does the Project prepare any tools for monitoring of the project or prepare the activity plan? (a question for C/Ps)

	Frequency	Percent
❑ Yes	66	78.6
❑ No	11	13.1
❑ Do not know	7	8.3
	84	100.0

9. How do you monitor the progress of the Project activities and the Outputs? (a question for Directors)

<Director>

- By holding a regular meeting with the WRIC section managers in order to review the work progress and by preparing a monthly project monitoring system, and also by attending a regular management committee.

- Through PMS, O/M-reports
- Hold regular meetings, receive the monthly reports from the manager of different sections through workshop and daily activities.

- Through receiving the monthly report
- We discuss it with the Main Center and use it in the correct way.

- By holding meetings with the WIRC staff to receive the work progress and solving the problems and difficulties which might occurred during the project implementation
- By attending the JCC

9-1.How do you feedback the monitoring results to the project implementation?

- weekly reports (reporting the director) 15
- monthly reports 4
- Prepare regular report about the progress of the project activities and outputs and define the achievement level

<Director>
- Monitoring activities – Reporting GD of GDBAB and chief advisor
- Defining the problem and difficulties to solve it to achieve the goals and to keep the achievement 2
- Provide regular reports and supply the staff with necessary assistance to work effectively.

10. Do the members of the Project meet regularly? How often ?

Name of meeting	Frequency	Your attendance*
		5 4 3 2 1
		5 4 3 2 1
		5 4 3 2 1

* For "your attendance," please choose one appropriate answer from the list below and circle the relevant number.
5. Regularly attended
4. Sometimes attended
3. Rarely attended
2. Never attended
1. I was not a member

<Answer>

	No of respondents	Average of respondent's attendance
Weekly Meeting	33	4.36
Management Committee	11	4.55
JCC	5	5.00
Monthly Meeting with GD	24	4.96
Section Meeting	25	4.56
TTS DBA	2	4.50
Steering Committee	3	5.00

11.Could the Project team gain necessary support from the concerned organizations? (C/P, D)

	Frequency	Percent
❑ Yes	52	66.7
❑ No	12	15.4
❑ Do not know	14	17.9
	78	100.0

- Often no, because till now, there are problems without solution 2

- Sometimes, 9
- Partially 3
- Mostly 16
- Generally yes 1
- Often not

<Director level>
- Yes, fully support. (GDBC)

Linkage with the Grant Aid

12. Do you think the Grant Aid – The Project for the Development of Hydrological and Meteorological Observation Network – is/was effective to promote the Project activities or the effects of the Project? (D)

	Frequency	Percent
❑ 4. Very effective	7	100.0
❑ 3. Effective to some extent	0	0.0
❑ 2. Not effective much	0	0.0
❑ 1. Not effective at all	0	0.0
❑ 0. Do not know	0	0.0
	7	100.0

--If your answer is "4" or "3," please write how it is/was effective. If your answer is "2," or "1," please write why it is/was not effective.

- Because this grant aid would develop the skills of our staff with regards to their tasks. In addition, the more measurement equipment we will have, the enough data would be available for better data analysis. Therefore, accurate outputs can be obtained to some extent.
- We want to test the established system, especially after installing the equipment. We have a great chance to apply what we obtained from Japanese experience.
- Because it enable us to get a good database and supply us with equipment and new ways to measure all water resources (ground, surface, river) and to get digital maps by GIS program.
- Because the GA would develop the skills of our staff with regards to their tasks, in addition, the more measurement equipment we will have, the enough data would be available for better data analysis, and therefore accurate outputs.

13. Do you think the timing of providing the Grant Aid was appropriate?

	Frequency	Percent
❑ 3. Very appropriate	1	14.3
❑ 2. Appropriate, but it could be provided earlier or later	6	85.7

❑ 1. Now appropriate, and it should have been provided earlier or later	0	0.0
❑ 0. Do not know	0	0.0
	7	100.0

If your answer is "**1**," please write how the provision of the Grant Aid should have been?

RELEVANCE

Consistency with the policy

14. Are the Long-term Goal, Overall Goal and the Project Purpose still consistent with the Syria's water resource policy, specifically the 9th Development Plan, or the Ministry's Acting Strategy? (D)

	Frequency	Percent
❑ Yes	6	85.7
❑ No	0	0.0
❑ Do not know	1	14.3
	7	100.0

Appropriateness of project approach and strategy

15. Are all Outputs selected still effective means to realize the Project Purpose? (C/Ps, D)

	Frequency	Percent
❑ Yes	76	90.5
❑ No	1	1.2
❑ Do not know	7	8.3
	84	100.0

- Yes, they will serve the project 3
- Yes, but we have to reconfirm the output2 to achieve the selected goals, especially to make water resources strategy and policy.

Appropriateness of the target groups

16. Do the staff members of Main Center, GDBAB, and GDCB feel the needs of upgrading their skills of observation, data collection, or data analysis? (C/Ps, D)

	Frequency	Percent
❑ Yes	72	85.7
❑ No	2	2.4
❑ Do not know	10	11.9
	84	100.0

- Need to upgrade out skills in data analysis 2
- (Yes, analysis section staff feel this, because the step of analysis data and drawing the plans missed till now.)

17.Please explain what kinds of skills, technology, or knowledge have you been acquired through the project activities? (C)

- Computer skills (including data input) 20
- Data collection techniques 14
- Data processing 1
- Hydrology knowledge and skills (observation, analysis) 23
- Learned about water quality and how to use the equipment
- Knowledge about meteorological stations
- Skill of database 5
- Skill of data analysis 3
- Presentation
- Working with experts

- Working with different software 2
- Establishing database 2
- Data management 2

- Management 2

- LAN, or network management 3
- Hardware maintenance 2
- Network design 2
- System maintenance and management
- Transfer data using ISDN – FTP file transfer protocol 2
- Working on GIS 6
- GIS processing
- GIS program and input data in logplot program,
- VB, VBA, Database 2

- Training on water quality

18.Please list up the benefits (good aspects) you obtained through the project activities, other than the things answered in the above question. (C)

- Working as group (team work) 13
- Coordination of the work
- How the experts think for solving the problem
- The meeting

- Be accurate in work
- English
- Using computer
- Learning language
- Gained the knowledge of computer

Appropriateness of the target areas

19. Are the Barada-Awaji Basin and the Costal Basin appropriate as target areas for the Project? (D)

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0.0

❑ Do not know	0	0.0
	7	100.0

19-1. If "NO," please describe your opinion spherically.

EFFECTIVENESS

Contribution of the Outputs to realizing the Project Purpose

20. Do you think all Outputs were inevitable to realize the Project Purpose? In other words, please consider whether the realization of the Outputs will/did result in the effect of the Project (=the Project Purpose). (D)

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0.0
❑ Do not know	0	0.0
	7	100.0

20-1. If "NO," please describe your opinion spherically.

Occurrence of the important assumption

21. In the PDM, two important assumptions are identified to realize the Project Purpose: **"Trained technical staff stay in WRIC"** and **"MOI will keep the staff (quality and quantity) at WRIC."** Do you think these assumptions were secured during the project period?

		Frequency	Percent
Did trained technical staff stay in WRIC?	❑ Yes, they staff stay in WRIC	66	77.6
	❑ No, they did not stay in WRIC	19	22.4
	Total	85	100.0
MOI will keep the staff (quality and quantity) at WRIC	❑ Yes, MOI kept the staff at WRIC	64	76.2
	❑ No, MOI did not keep staff at WRIC	20	23.8
	Total	84	100.0

--- If your answer is **"No,"** do you think this fact affect the realization of the Project Purpose?

22. Are there any other external factors/conditions which affected the Project Purpose and not mentioned in PDM?

	Frequency	Percent
❑ Yes	11	13.1
❑ No	25	29.8
❑ Do not know	48	57.1
	84	100.0

<Director level>

- Changing the database system from ORACLE to PostgreSQL (with Linux) 2
- Time
- Sickness of hydrological expert
- Changing of database system and leaving some Japanese experts (which made a work cut for some activities)

Factors contributing or hampering to the effectives of the project

23. Are there any contributing or hampering factors to realizing the Project Purpose?

- Full support of training 4
- Training courses
- Need more support
- Course in Modeling and analysis
- Supporting more than now
- Rules in WRIC are not clear
- Staff needs more training 2
- Need more time
- US Economic Sanctions, resulting in changing the database system from ORACLE to PostgreSQL

<Director Level>

- US Economic Sanctions 2
- Extra time is needed for the WRIC staff to be familiar on working with new software 2
- The big distance between the Main Center and GDCB, which results in losing too much time to attend the necessary workshops with were held in Damascus. 2
- One factor- time is not enough to realize the goal (making water resources plan, strategy, etc.)

Other

24.Do you think that the planned three-year cooperation period was appropriate to achieve the Project Purpose – To establish a center enabling appropriate management of water resources information- ?

	Frequency	Percent
❑ Yes	12	14.1
❑ No	50	58.8
❑ Do not know	23	27.1
	85	100.0

24-1. If "NO," please describe your opinion specifically.

- Because the staff quality and quantity are low and the expert number is not enough 3
- We need full training 2
- Need more time 19
- need more time to realize the overall goal
- To establish a good center, need more training and time
- Still unable to make water balance
- We need more time for analysis and for final outputs
- We started the project without any skills 2

<Director> level

- New system and begin familiar with the up-to-date techniques and gained good skills would require much more time, especially when some of there software were changed 2
- Create database: entering/checking data needed time

- Building human resources needed time
- Building hydrological system needed time
- We faced many difficulties, changing database from ORACLE to PostgreAQL. Delay in getting data, we need training in analysis and processing data.
- Time is not enough to establish a good system to manage the water resources
- We need more time.
- Big distance between the main center and GDCB, too much time is needed for transpiration besides the frequency is very high (the time is running out).

EFFICIENCY

Conversion of inputs to outputs

25. Do you think all input in the Project have been fully utilized for the project activities?

	Frequency	Percent
❑ Yes	54	64.3
❑ No	15	17.9
❑ Do not know	15	17.9
	84	100.0

- No, there is some equipment and software not used till now. 4
- Yes, especially in the last three months.
- Yes, especially in 2004.

Appropriateness of quality and quantity of Inputs

26. Please choose one appropriate answer for each question.

	Very appropriate 4	<----------> 3	2	**Not appropriate at all** 1

	<Average>
- Period of cooperation	2.51
- Number of the assigned counterparts	2.60
- Quality of equipment provided by the Project	3.63
- Quantity of equipment provided by the Project	3.04
- Number of long-term experts	2.84
- Number of short-term experts	3.15
- Specialty of Japanese experts	3.46

27.Please choose one appropriate answer for each question. The following question is with regard to whether the following inputs delivered in timely manner.

	Very timely 4	<----------> 3	2	**Not timely at all** 1

	<Average>
- Assignment of counterparts	3.26
- Provision of equipment	3.27
- Counterpart training in Japan	3.57
- Your own assignment	3.33
- Short-term JICA experts	3.24

28. Do you think that the technical level required in the Project matched with that of the Syrian counterparts?

	Frequency	Percent
❑ 4. Matched very much	2	2.4
❑ 3. Matched to some extent	70	82.4
❑ 2 Did not matched to some extent	7	8.2
❑ 1 Did not matched at all (too high, or too low)	2	2.4
❑ 0 Do not know	4	4.7
	85	100.0

Counterpart Training

29. Do you think the counterpart training supplied by the Project contributed to achieving the Outputs of the Project?

	Frequency	Percent
❑ Yes	70	82.4
❑ No	6	7.1
❑ na	9	10.6
	85	100.0

--- If your answer is "Yes," please write how it contributed to the project implementation.

- We were provided with necessary information which can contribute to project implementation. 12
- We implement all what we leaned that is monthly report and compute skills.
- It produced the outputs more efficiently and rapidly

<Director level>
- They shared the skills which were gained from the Japanese experts with other involved staff. 2
- The rate of O/M (hydrological system) is good
- Training C/P to C/P is indicator to nationalize the project.
- OJT is so useful, workshop also useful, because the activities were conducted under supervision of experts.

30. Did you attend the counterpart training?

❑ Yes
❑ No

	Frequency	Percent
❑ Yes	24	33.3
❑ No	48	66.7
	72	100.0

--- If your answer is **"Yes,"** please answer the following questions.

Name of country: _____
Period for training _____

30-1. How do you assess the training you participated?

	Frequency	Percent
❑ 4. Very effective	9	33.3
❑ 3. Effective	14	51.9
❑ 2 Not effective much	4	14.8
❑ 1 Not effective at all	0	0.0
	27	100.0

---Please write your opinion which supports your answer above.

- Got good training about Hydrological observation 2
- Obtaining more experience
- Software training
- Japanese experience
- The period was very short, but I obtained the view of water resources management in Jordan

<Negative>
- Most of the subjects were about flood, but there is no flood in Syria.

<Director level>
- We leaned about new technology related to water resources development and got good knowledge about advanced Japanese experiments. We will transfer this knowledge and technology and promote our achievement of hydrological observation.
- To see the Japanese experience in the field of WRM is very useful for us to manage and WR.
- We got useful knowledge about administrating the activities and staff.
- We obtained a good knowledge how to manage and control the water resources
- We had been introduced with the most developed techniques which are currently applied in the field of IWRM.

Important Assumptions

31.Was there any influence of external conditions which affected the achievement of the Output?

- There are some conditions that get data from many organizations.
- Delay of obtaining data 4
- Inaccuracy of the data 2

<Director level>
- The big distance between the main center and GDCB, which results in losing too much time to attend the necessary workshops which were held in Damascus 2
- The workshops were short, so they were very intensive. (new software). 2
- Yes: getting the data from the different organizations.
- US Economic Sanction Law

32. Did **Preconditions and Pre-project Obligations described in PDM** affect the achievement of Outputs of the Project?

	Frequency	Percent
❑ Yes	16	18.8

❑ No	41	48.2
❑ Do not know	28	32.9
	85	100.0

If your answer is "Yes," please explain the specific situation:

- Pre-conditions were not satisfied.
- The data collection takes time (due to the fragmented data)
- Since not all necessary data from the related agencies were available, which took a long time to collect them.

Preconditions:

1. The Syrian Government does not significantly change its policy concerning water resources
2. Implementation of this Project is agreed upon by Syrian organizations that are concerned with water resources information management in Syria

Pre-project Obligations:

1. The Syrian side will collect historical data according to the format designed by the Syrian and Japanese sides. MOI will collect necessary data on water resources and water demand from related agencies for input into the database of WRIC before the start of the Project.
2. The number of water resources monitoring points will not decrease. Significant decreases in the number of existing hydrological/meteorological stations in two basins will not be allowed to hinder the implementation of the Project.

Alternatives

33.Have you ever recognized any other means/approaches (alternatives) which could have produce the Outputs more efficiently and more rapidly? For instance, the Project should have contract out the part of application development for database to the private company, and so on.

	Frequency	Percent
❑ Yes	2	2.4
❑ No	28	33.3
❑ Do not know	54	64.3
	84	100.0

Communication between Syrian counterparts and Japanese experts

34.Were the communication between Syrian counterparts and Japanese experts smooth and efficient for the Project activities?

	Frequency	Percent
❑ Yes	68	81.0
❑ No	5	6.0
❑ Do not know	11	13.1
	84	100.0

If your answer is "No," please explain what the difficulties were.

- Because there were not experts who stayed in GDCB.
- Not all of the counterparts were able to attend the training in Damascus. 2
- Not all of the JICA experts know English well.
- The language sometimes

IMPACT

Contribution of the Project Purpose to Overall Goal

35. Will "the establishment of a center enabling appropriate management of water resources information" contribute to achieving integrated and sustainable water resources management in the Barada-Awaj Basin and the Costal Basin? (D)

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0
	7	100.0

- Yes, it will, but we need the analysis step to achieve the main goals.

36. Do you predict any other positive impact because of the project implementation?

	Frequency	Percent
❑ Yes	54	65.1
❑ No	3	3.6
❑ Do not know	26	31.3
	83	100.0

- Yes, all basins will be included in this center. (the establishment of WRIC in other basins) 15
- Achieving the integrated and sustainable water resources management in two Basins
- Connecting the decision makers with upgraded information
- Expanding the project to other basins 3
- To help Syria in water resources management
- The cooperation between Syria and Japanese people
- I gained new system in general
- We work as a team
- Capacity building
- Work as team
- Sharing data with others
- Lean more about Japan (culture) 2

Other Impacts

37. Do you recognize any unexpected Positive/Negative impacts other than the above to date?

No specific answers.

Factors to lead the Overall Goals

38. Do you predict any contributing or hampering factors to lead the Overall Goal – to achieve integrated and sustainable water resources management in the Barada-Awaj Basin and the Costal Basin?

- Positive prediction, especially when some incentives are to be allocated to the WRIC staff. 2
- Time factor

39. What are the necessary conditions to lead the Overall Goal or Long-term Goal in the future?

- Increasing the time of contacting and communicating with Japanese experts would be of great importance for achieving the Overall Goal of the project (more training courses). 2
- Extra training courses for the WRIC staff would positively contribute to achieving the above-mentioned Goal. 2
- Time factor 2

- Use our equipment in the correct manner
- Getting the regular reports
- Cooperating with other concerned organizations

SUSTAINABILITY

Prospects of appropriate utilization of the Output and continuation of the Project Activities

40. Do you think the activities implemented in the Project are likely to be continued after the Project?

	Frequency	Percent
❑ Yes	79	94.0
❑ No	0	0.0
❑ Do not know	5	6.0
	84	100.0

--- If "NO," what are the difficulties to sustain the activities?

Institutional/Policy Aspects

41. Is the Ministry of Irrigation likely to support WRIC and its activities after the project ends, especially, to diffuse established model into other areas? (D)

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0.0
❑ Do not know	0	0.0
	7	100.0

41-1. If "NO," please describe your opinion spherically. Also write your comments below.

42. Are WRIC activities likely to obtain the support from or cooperation with other concerned agencies such as the Ministry of Defense, the Ministry of Agriculture and Agrarian Reform, the Ministry of Housing and Public Utilities, and so on.

	Frequency	Percent
❑ Yes	58	69.0
❑ No	1	1.2
❑ Do not know	25	29.8
	84	100.0

42-1. If "NO," please describe your opinion spherically. Also write your comments below.

43. How the organizational restructuring (reform) will affect the position or raison d'etre of WRIC?

- It will have positive affect, since the project would provide the decision-makers with necessary data by which appropriate decisions would be taken (different water0usage fields.) 2
- The WRIC will not be affected 2

Financial Aspects

44. Is the financial resources for WRIC's activities likely to be secured after the completion of the project? (D)

	Frequency	Percent
❑ Yes	7	100.0
❑ No	0	0.0
❑ Do not know	0	0.0
	7	100.0

44-1. If "NO," please describe your opinion spherically. Also write your comments below.

Technical Aspects

45. Will gained technology or skills of counterparts sustained or expanded to others after the cooperation period ends?

	Frequency	Percent
❑ Yes	80	95.2
❑ No	0	0.0
❑ Do not know	4	4.8
	84	100.0

45-1. If "NO," please describe your opinion spherically. Also write your comments below.

46. To maintain the skill level of the counterparts, what measures will be taken after the cooperation period ends?

- Continue the same work to develop our skills 16
- Develop our skills and train others 2
- Training courses 6
- Continue the training 8
- Updating the knowledge and skills continuously 5
- More support
- Experience 2

<Director level>

- Increasing the number of measurement points, supporting the WRIC with qualified staff, and keeping training courses on different and relevant subjects. 2
- Different kinds of training courses to be done.
- Training courses should be conducted
- Workshops should be conducted 2
- We can continue working in the same work and develop it to other basins.

47. Are the maintenance tools, staff, and budget for the equipment which provided by the Project secured after the cooperation period ends?

	Frequency	Percent
❑ Yes	58	69.0
❑ No	7	8.3
❑ Do not know	19	22.6
	84	100.0

47-1. If "NO," please describe your opinion spherically. Also write your comments below.

付属資料－７　活動実績

活動	状況	実績
1)-1 気象・水文観測網整備のための機材の設計を行う	完了	本プロジェクトで設置した 9 ヶ所[1]の水文・気象観測所（訓練用）の設計は計画どおり 2003 年 10 月に完了した。プロジェクトでは無償資金協力によって設置される観測機器の調整も実施している。
1)-2 観測機材を設置する	完了	訓練用の 9 ヶ所の水文・気象観測機器の設置が 2003 年 11 月に終了した。
1)-3 3 センターにおいて、システムの設計を行い、ハードウェアの整備、OS 等の基本ソフトウェアのインストールを行う	完了	スキャナーと他の機材の調達が一部遅れた以外は 2003 年 3 月に全てのハードウェアの設置が完了した。ソフトウェアのインストールは 2003 年 3 月に終了したが、2003 年 12 月に米国の対シリア経済制裁が適用されデータベース（DB)のソフトウェアをオラクルからポストグレエス・キュー・エルに変更せざるを得なかった。これによって DB の構築の完了が遅れた。
1)-4. 3 センターにおいて、データベースの設計、構築を行う	完了	2003 年 10 月に、日本人専門家とシリア側カウンターパートの共同作業によって、一旦オラクルを活用した BD の構築は完了していた。しかし米国の経済制裁法のため、ソフトウェアを変更せざるを得なくなり、実質的に DB の構築は 2004 年 9 月に完了した。したがって DB の構築は予定よりも約 1 年遅延したことになる。
1)-5. 3 センターにおいて、GIS との連結運用を行う	完了	GIS に関する活動の進捗は測量局(GES)からのデジタル地図の入手が遅れたため、約 1 年半遅延した。デジタル地図の入手は、PDM でプロジェクト開始前に満たされるべき「事前の義務」として認識されていたが、実際に入手（購入）できたのは 2003 年 11 月だった。さらにデジタル地図の等高線が正確ではなく、これを補正するのにも時間を要した。 GIS とデータベースを連結する予定だったが、DB のソフトウェアを変更したため、当初予定していたような直接的な連結が不可能になった[2]。現在、少なくとも GIS では DB から直接必要なデータを呼び出すことは可能になっている。したがって最低限の連結は確保できたと考えられる。

[1] 地下水（水位・水質）、表流水、気象、ダム水位を計測できる 4 種類の観測機器が GDBAB と GDCB に導入されている。

[2] GIS のソフトウェア（ArcGIS）と DB の連結ソフトの ArcSDE が 2003 年 12 月にメインセンター、GDBAB、GDCB にインストールされた。しかし ArcSDE はオラクル専用の連結ソフトなので、ポストグレエス・キュー・エルではその機能を活用できなかったのでポストグレエス・キュー・エルと GIS ソフトでは効率的（直接的）な連結が構築できなかった。現在は、DB から必要なデータを GIS ソフトからロードすることは可能だが、GIS データを DB へ直接インポートすることができない。その結果、当初想定していたようなレベルの連結が構築できなくなった。

活動	状況	実績
1)-6. 3 センターにおいて、ネットワークを構築する	完了	LAN と WAN システムは 3 つのセンターで構築されている。計画段階では、メインセンターと 2 流域センター間のネットワークを ISDN 回線で構築する予定ではなかったが、プロジェクト開始後 ISDN 回線が利用可能となり、ISDN を導入することが決定された。2004 年 8 月までにメインセンターと 2 流域センターが ISDN でつながり[3]、毎週データ転送が実施されている。
2)-1 バラダ・アワジ流域及び沿岸部流域の気象・水文観測計画を策定する	完了	GDBAB、GDCB センターにおける既存の気象観測計画（人員、体制、データ回収頻度等を含む）が整理された。今後は、無償資金協力で設置される機器（観測所）を含めて気象観測計画を見直す必要がある。
2)-2 バラダ・アワジ流域及び沿岸部流域の気象・水文観測所を整備する	完了	2003 年 12 月に灌漑省所管の観測所、他省庁、他部局所管観測所(合計約 800 箇所）の調査を実施し、観測所台帳を整備した。観測所の名前の記述方式が統一されていなかったり、観測所が移動した後も同じ観測所と認識されていたり、観測所の座標軸が異なったりしたため、台帳の整備に約 1 年半程度費やした。今後は、2 つの流域センターの機材のいくつか（100 程度予定）は無償資金協力の機材と交換されるので、観測台帳も更新する必要がある。
2)-3 正確な観測技術を習得する	実施中	まだ改善の余地はあるが、2 流域センターのカウンターパートは基礎的な観測技術を習得したといえる。今後は、観測データの精度を高めるため、観測データの異常値を発見し修正する技術やそのための組織的な活動（データのチェックシステム）を定着させる必要がある。
2)-4 気象・水文観測データを収集、整理する	実施中	観測データの収集・処理システム（データフロー）は 3 つのセンターで定義・確認された。野外調査データを記入するモニタリングシートやデータエントリー・フォームもエクセルベースで作成され、活用されている。今後は、WRIC 内でデータフローを確実に実践できるようにこのシステムを定着させ、データ収集・処理におけるミスが削減されるようカウンターパートをトレーニングする必要がある。 灌漑省保有の過去の観測データをデジタル化する作業は完了した。しかし、他省庁所管（国防省、農業農地改革省等）の過去のデータを収集するのに甚大な時間と調整が必要だったため、過去のデータをデジタル化する作業はまだ終了していない。さらに関連省庁のデータにもデータ精度の

[3] メインセンターとバラダ・アワジ流域センターでは ISDN 回線について問題なかったが、沿岸流域センターではシリアの電話会社側の対応が遅れ、2004 年 8 月になってようやく ISDN 回線が利用可能になった。

活動	状況	実績
		問題があり、デジタル化の作業が遅延している原因になっている。さらに今後、プロジェクトでは無償機材から上ってくるデータの収集・処理方法についてカウンターパートをトレーニングする必要がある。
2)-5 データベースへデータを入力する	実施中	灌漑書所管の過去のデータは既に DB にインポートされた。訓練用の 9 つの観測所から得られる観測データと、国防省、農業農地改革省から提供されたデータは終了時評価時点で DB へのインポート作業中だった。(付属資料－1、ANNEX3-3 参照)
2)-6 気象・水文観測データを維持・管理する	実施中	気象・観測データは DB に既にインポートされ、維持・管理されている。しかし、観測所の ID が重複したり、同じデータ・テーブルが複数作成されたりするケースが発生しているため、データのチェックシステムを引き続き定着・強化する必要がある。
2)-7 定期刊行物（月例報告書、水文年表）の作成	実施中	訓練用の 9 つの観測所から上ってくる観測データを活用して月例報告書が作成されている。2001-2002 年版の水文年表も既に作成された。しかしこれらはプロジェクトで構築した DB を活用してではなく、エクセルベースでの作成に留まっている。2002-2003 年度版は DB を活用して作成中である。
2)-8 定期刊行物（水資源レポート）を作成する	一部開始	水資源レポートに関しては準備段階に入っており、様々な表、グラフ、図が準備されつつある。2004 年 11 月には水資源政策の短期専門家が派遣され、具体的な活動計画を立案する予定である。
3)-1 各種マニュアルを作成する	実施中	25 編の技術マニュアルが作成された（付属資料―1、ANNEX3-2 参照）。今後は、センター整備マニュアルや研修計画策定マニュアル等を作成する予定である。作成されたマニュアル類を活用しているカウンターパートもいるが、いずれも個人ベースの活用であり、いつでも誰でも閲覧できるようにマニュアル類が整備されていない。
3)-2 シリア側 C/P による研修を実施する	実施中	今日まで、日本人専門家によって 200 回以上のワークショップや研修が実施された。カウンターパートによる研修は、ワードやエクセルの基本操作に関する研修等は実施されてきたが、当初想定していた GIS・データベースに関する研修等、本格的な研修は 2004 年 9 月に開始されたばかりである。今後はシリア側によるトレーニングが継続的に実施され、さらに研修結果の報告書を作成し、今後の研修計画にフィードバックする必要がある。

活動	状況	実績
4)-1 データベース、GISを運営・維持管理する	実施中	カウンターパートは基本的なデータベースと GIS の運用・維持管理スキルを習得したといえる。メンテナンス作業に関しては、今後 WRIC でルーティン化される必要がある。
4)-2 ネットワークを運営・維持管理する	実施中	システムの運営、維持管理は実践されており、気本的なスキルはカウンターパートへ移転されたといえる。ネットワーク管理者会議を不定期（毎月にする予定）に実施している。問題発生時の対策も実施しているが、今後も継続してトラブルシューティング対応ができるようにスキルを向上する必要がある。プロジェクトでは今後システム・マネージャー会議を開催する予定である。
4)-3 観測機器を運営・維持管理する	実施中	観測機器の維持管理マニュアルは整備された。しかし、英語で作成されているので、要点をアラビア語に翻訳する必要がある。未だに観測機器の故障やバッテリーの交換が適切に行われないなどの細かい問題が散見されるので、継続してカウンターパートの運営維持管理能力を向上させる必要がある。
5)-1 水資源に関する情報を、定期的に政策決定者等に提出する	実施中	月例報告書は灌漑省大臣、副大臣、関連流域総局へ配布されている。無償機材から得られる気象・観測データを月例報告書に取り込むために、報告書の内容を改訂する予定である。

付属資料－８　CP人数の推移

■ カウンターパートの人数の推移

	メインセンター	GDBAB	GDCB（内タルトゥース）	合計
2003. 6.1	15	13	22(na)	50
2003.12.1	23	18	22(10)	63
2004. 4.1	21	23	38 (19)	82
2004.10.19	18	26	35 (na)	79

*ワーカーとドライバーは除く

参考資料：四半期報告書