

TRIP REPORT TO JORDAN IN NOVEMBER, 2002

Date: December 15, 2002

Chief Advisor, JICA expert: Mr. Kazuhisa ITO

Subject: Official Visit to Ministry of Water and Irrigation, Jordan

1. Introduction

The JICA Experts and Syrian C/P visited to observe Jordanian system for reference to make database system in Syria. Jordanian system was established by Ministry of Water and Irrigation, Jordan by the assistance of USAID. We heard the abstract from officers in Water Resources Management Section and observe the WIS System and observation station.

2. Objectives

- 2.1 To observe WIS(Water Information System) in Ministry of Water and Irrigation
- 2.2 To observe Observation station

3. Attendance

Japanese side

- Mr. Kazuhisa ITO, Chief Advisor, WRIC
- Mr. Nobuo, SUGIURA, Coordinator, WRIC
- Mr. Takehiko SOMEYA, Hydrologist, WRIC

Syrian side C/P

- Ms. Suad OBEID, Main Center, WRIC
- Mr. Kasem NATTOUF, GDBAB Center, WRIC
- Mr. Nazeeh BOURISH, GDCB Center, WRIC
- Mr. Mohhkar AL-DANA, MOI
- Driver

4. Trip Activities

- Nov. 27, 2002 Morning: Leave from Damascus to Amman
(Wednesday) Afternoon: Visit to Ministry of Water and Irrigation
Hear from some officer about WIS
Courtesy visit to Assistant Secretary General
Evening: Stay in the hotel
- Nov. 28 Morning: Visit to Ministry of Water and Irrigation

(Thursday) Observe the Water Information System
Afternoon: Syrian C/P leave from Jordan
 Japanese C/P visit to JICA Jordan Office
 Leave from Amman to Damascus

5. People Interviewed

Mr. Fayez BATAINEH, Assistant Secretary General
Mr. Edward Qunqar, Director of Water Resources and Planning
Ms. Suzan Taha, Director of Water Resources Information Section
Ms. Ibtisam Al saleh, Database Administrator
Mr. Nidal Khalifa, Ground water modeler
Some officers in charge of GIS (GTZ Project)
Dr. Ahmad Al Zioud, Head of the surface water monitoring section
Others

6. Results

6.1 Summary

In Jordan, MOWI needed much time and personnel to make database. Especially we need much effort to establish database system in Syria.

6.2 Hearing results

6.2.1 Mr. Edward Qunqar, Director of Water Resources and Planning

- Ministry of Water and Irrigation is in charge of planning of water resources and has following six Directorate.
 - 1) Regulation of legal affairs
 - 2) Water resources and plan (Study and Monitoring)
 - 3) National water master plan
 - 4) Water Information system
 - 5) Finance and public for employment
 - 6) Project and finance
- Total number of staff member related water resources are about 70.
- Several hundred staff member observe hydrological data.
- At present, we do not have GIS section, but in the future we plan to establish new GIS section.
- WAJ (Water Authority of Jordan) and JVA (Jordan Valley Authority) is under supervised by the our Ministry.

- Present Water Information System was started to manage from 1999.
- We developed database till 1997 by using “Fox Flow”(Soft ware) and changed software from it to “ORACLE7” from 1998.
- We can operate only water in the narrow sense in former system which based on Fox flow. In addition to water data, we can input all of water related data like demand and supply, waste water, water quality etc.
- The purpose of the water resources data base is to understand what happens about the water resources.
- It is most important to control data quality in observation.
- It is the quality of the data to be the most important in the data observation.
- If the quality of the data is bad, we can not utilize these data for analysis, planning water policy and other use suitably.
- It is important to collect high quality observation data and check them adequately.
- No one can amend even if wrong point will be found when someone will use the data in the future.
- If a wrong point is found, we must amend it at once.
- We need to make user friendly database system and in addition to that , it is important to make database which is easy to access to database.
- It doesn't need to receive observation data every day, then we get the data every month.
- WAJ has 12 branch offices, but computer network was not prepared. We get the hardcopy or CD of the observation data and we input these data to database.
- On the other hand, JVA owned computer system, and it will connect with the database system of Ministry of Water and Irrigation in the next year.
- As for the transfer of the data, it has already agreed between both organization.
- At present, we collected following observation station data.
 - 1) precipitation 230~240
 - 2) evaporation 30 or 40?
 - 3) surface water 50 - 54
 - 4) spring 700 (this number is changeable in each year)
 - 5) ground water 225 ?
 - 6) water quality 300 - 400
- About observation equipment French expert implement five pilot projects.
- The one of projects is utilization of data transfer system through satellite.
- We make annual report about water resources.

6.2.2 Ms. Ibtisam Saleh, Database Administrator

- As for the input, it is a user-friendly system that it can be chosen easily by using the mouse.
- There are 70 people in this organization , the insides 18 officers are in charge of survey, and 52 officers are monitor ring charges.
- Data are data on the month unit mainly, and data are sent to them in the end of the month.
- As for the Digital data, they are changed by the code which she made, and the changed data are inputted to Oracle database system.
- As for the analog data, data are inputted after other section officer check.

6.2.3 Ms. Suzan Taha, Director of Water Information System

- About GIS utilization situation based on database, it is the stage which can show information such as a map, it doesn't reach the stage which can be used as an analytic tool.

6.2.4 Mr. Nedal Khaliha, Ground water modeler

- I understand the aquifer condition, and moreover predict in the future.
- It is important first to clear an analytic purpose.
- This project started from end of 80's, and develops at present.
- In the first, there is only simple and local model of one dimension, after that, it has been developing with two dimensions and three dimensions.
- Difficulty in analysis of ground water is invisible compared with surface water.
- Modeler need knowledge hydrogeology for ground water modeling and consider relation each aquifer and seepage of vertical direction.
- There are some analytical software like "Process Model-flow ", "Free Flow (Japan)" and others. We choose suitable software as the analytic purpose.
- These models based on continuous equation and Darcy flow formula.
- We set up boundary condition like river, lake and others in the ground water modeling
- To set geological structure, we collect boring core data.
- When We can not collect past data sufficiently, result of calculation should be considered rough estimation value.

6.2.5 Mr. Fayez BATAINEH, Assistant Secretary General

- Mr. ITO explained him WRIC project simply.
- We confirmed that MOI and MOWI will exchange information each other.

6.2.6 Some officers in charge of GIS, GTZ Project

- Three (the employee of the outside) employed woman by GTZ(?) is carrying out work.
- Statistics data make use of data on past Census.
- Some scenario are set up, and demand for each area can be estimated.
- Each officer's roles are following.
 - (1) Domestic water, industrial water and treated water data
 - (2) Irrigation water data
 - (3) Monitor ring data
- The unit of the use of the irrigation water based on past study and research results by the each related organization.
- The input of the observation data and the general data of observatory is done by others section officer, and they are in charge of management charges of the data.
- We use software ACCESS or EXCEL.
- Data processing about demand for water is done in the month unit.
- When the some problem arise, it is improved by the charge's engineer.

6.2.7 Dr.Ahmad Al Zioud, Head of the surface water monitoring section at Jerash Observation Station

- Observation Equipment as following.
 - 1) water level gauge (Digital type and Analog float type)
 - 2) Water temperature meter
 - 3) Current meter for Flood situation (permanent setting by wire cable to the opposite bank)
 - 4) rain gauge (Manual type and Digital type)
 - 5) thermometer
- Data are transferred systems by using the satellite. (Data are sent to Germany at present.)
- Temperature, water level data are observed in each five minutes, and rainfall data are observed in each half hour, and these data are transferred in every three hours.
- Water velocity is observed every day, and it is observed twelve times per one flood.
- EU bear the cost of observation equipment and French expert is in charge of setting it.
- We saw "King Talal Dam" from the distance in its way home.
 - The storage capacity of the dam is about 80 million m³. (Question, Answer, Problem, Devised points in the operation, Organization, Personnel, Budget, Operation & Maintenance etc)

Acknowledgements

We would like to thank Ministry of Water and irrigation, Jordan, JICA Syria office, JICA Jordan Office and Mr. Sasaki for their support.

Reference 1 C/P report (Digest) (Omission)

2 Photographs

End