Mediterranean Water Knowledge Platform

Development of A National Water Information System

Presented by

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Project Objectives

To share data and information related to water issues between and inside water stakeholder's institutions in a flexible, efficient and non-bureaucratic way.

Project Management Activities

1) Inception Phase (Assessment of the Current Situation) (6.0 months)
   Started in November 2015,

2) Re-Engineering Phase + Assessment of the outside Institutions (18.0 months)
   Started in February 2017,

3) Implementation Phase (Connection of all the DATA BASES Inside & Outside (36 months)

Development of A National Water Information System

Definition

- ❑ A comprehensive set of principle, benchmark, criteria, and procedures that will lead to cover all the needs of the partners.
- ❑ Not one single computer or application. But many systems and applications within the governmental sector.
- ❑ Each partner has his own data and information, which need to work together through agreement

Targets

- ❑ Modernizing and streamlining the collection and dissemination of information about water issue.
- ❑ Supporting the decision making process at strategic level

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Partners

1) Ministry of Water and Irrigation (MWI)
2) Water Authority of Jordan (WAJ)
3) Jordan Valley Authority (JVA)
4) Department of Statistics (DOS)
5) Royal Scientific Society (RSS)
6) Ministry of Agriculture (MOA)
7) Water Utilities/Companies (Miyahuna, Yarmouk, Aqaba)
8) Department of Land and Survey
9) Jordan Meteorological Department (JMD)
10) Royal Jordanian Geographic Center (RJGC)

Time Scale

5 years, divided into 3 phases

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Source of Funding

European Union, with 1.5 Million JD

Project Management Structure

➢ **Steering Committee, headed by Secretary General with MWI, WAJ, JVA, and EU**

➢ **Technical Committee, headed by Project Manager, and includes all the partners**

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Accomplishments

1. Assessment and analysis of the current situation were finished, determining the gap analysis between existing systems and required system.

2. A detailed requirements document has been prepared, including information needs from other partners

3. Training needs analysis

4. Reviewing, Updating, and Developing MWI standard operating procedure for data collection, compilation, and dissemination

5. Continue the process of Re-engineering WIS

6. Delivery of the interim WIS-IVg prototype

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C 2.1. Development, installation, testing and commissioning of the WIS-IVg within MWI

C2.2: Upgrading of the Information Systems of other stakeholders' institutions

C2.3: Development of a comprehensive functional design of the NWIS

C2.4: Support the data migration activities as per final approved plan

C2.5: Support the Contracting Authority in the procurement of HW and SW components

C2.6 & C.2.10: Training and Institutional Development Activities

C2.7: Draft plan for the Program Phase II

C2.8: Deploy activities defined in the Risk Management Plan

C2.9: Plan for activating the Memorandum of Understanding (MoU)

Water Business	IT	Water + IT

- **A fully up-grade and functional operational WIS available to the MWI that fulfills stakeholders requisites;**

- **An organization model, with clear definition of roles and responsibilities, that ensures business continuity, technical development and maintenance of the WIS;**

- **A legal biding agreement within the Ministry to ensure the organizational and technical sustainability of the WIS and its fully future deployment at a national level;**

- **Develop a vision for the future development of the "National WIS";**

Project Activities, Outputs, and Results

MAIN ACTIVITIES	OUTPUTS

Water Business Component
 	
• Evaluation of available water resources
 	
• Prepare the functional processes to generate the data series; monthly series, daily, yearly, within WIS-IVg
 	
• Prepare the gap filling process (methods) to be implemented into WIS-IVg
 	
• Prepare the data functional process to control water resources into the WIS-IVg
 	
• Prepare the processes to transform data into indicators and new parameters
 	
• Prepare the technical specification to Water Budget Calculation processes
	• Technical Requirements Specifications for WIS-IVg;
	
	• List of indicators procedures (with formulas)
	
	• Standard Operating Procedures for WIS-IVg;
	
	• Data Management Proposal for WIS-IVg;
	  ✓ Budget procedures;
	  ✓ Data validation procedures.
	
	• Analysis of the prototype under water business vision
	
	• List of KPIs proposed

C2.1. : Development, installation, testing and commissioning of the WIS-IVg within the MoWI

MAIN ACTIVITIES	OUTPUTS
• Prepare the background information: • Study of best practices and preparation of fact sheets; • Definition of NWIS Data-Model; • Definition of NWIS metadabase; • Definition of NWIS data validation rules; • NWIS Software specifications; • Supporting Human Resources	• Background information • A prototype of web application portal has been coded and developed; • A prototype to the integration of all applications that are in the Water Sector have been integrated into a single "one stop shop" web application; • A version of NWIS Data-Model based on WIS-IVg Data-Model • A version of NWIS NWIS metadabase based on WIS-IVg • A version of NWIS data validation rules based on WIS-IVg

C2.3. : Development of a comprehensive functional design of the NWIS

MAIN ACTIVITIES	OUTPUTS

• The description of functionalities of NWIS
 	
• The evaluation of Phase I project
 	
• The definition of scope and activities for Phase II project
	• General definition of Phase II:
	    • Project objectives and scope of work;
	    • Components and related activities
	    • Main outputs and deliverables;
	    • Project time-frame;
	    • Estimation of high-level budget

C 2.7. : Prepare a draft plan for the Program Phase II (to start in September)

MAIN ACTIVITIES	OUTPUTS

• Review existing projects in the MoWI and coordinate activities with WIS IVg;
 	
• Capacity Building Plan (CBP) Review, Update and Approval;
 	
• Implement training sessions and evaluate;
 	
    o Identify target audience per training course and obtain approval from hierarchy;
 	
    o Prepare contents for training and training materials;
 	
    o Sent invitation to trainees;
 	
    o Prepare Sample Test;
 	
    o Prepare and Distribute Evaluation Form (to get feedback from trainees);
 	
    o Organize logistics (room, projector, food, beverage …)
 	
• Organize Seminars;
	• Capacity Building Plan
	
	• Introduction to JDeveloper" for the staff of ICTU has been organized. Total of 11 participants from ICTU attended this training
	
	• A three-day GIS training activity to improve the use of advanced ArcGIS tools in managing WIS related data
	
	• 5 days training on Data Collection and Analysis for MWI Water Business Staff
	
	• Shadow coaching of six developers from ICTU, on development of Dashboards with newest Oracle JDeveloper technology has been conducted in order to ensure sustainability of the project.
	
	• A JDeveloper Training Course started in August for ICTU staff and will continue during September with an aim to build NWIS Development Capacities to assure sustainability of the project.

ACTIVITY C 2.6. : Delivery of Training

MAIN ACTIVITIES	OUTPUTS

• Develop a Directive between MWI and WAJ, JVA
 	
• Develop MOU's drafts between MWI and the following stakeholders:
  ✓ Ministry of Environment
  ✓ Ministry of Agricultural
  ✓ Department of Statistics
  ✓ Jordan Metrological Department
  ✓ Royal Scientific Society
 	
• Share, collect and evaluate feedback & comments on MOU's drafts
 	
• Final versions signed between the designated parties, a signatory ceremony.
	• A Directive between MWI, JVA and WAJ
	
	• 5 Final Drafts of MOU's between MWI and :
	  1. Ministry of Environment
	  2. Ministry of Agricultural
	  3. Department of Statistics
	  4. Jordan Metrological Department
	  5. Royal Scientific Society

C2.9 : Plan for activating the Memorandum of Understanding (MoU)

MAIN ACTIVITIES	OUTPUTS
Data Flow Management (Basins / Licensing / Dams) • Identify key users that manage the data in stakeholders; • Define with key users / stakeholders the data to analyze; • Identify and collect data to analyze quality issues; • Define / review processes to correct raw data and propose solutions for mitigate data quality issues; • Development of procedures / algorithms to obtain SDG and KPI indicators; • Training sessions for adequate data collection and data treatment processes; • Develop workshops that address data quality t	• Dataflow Specification Document (to be delivered end of September)

C2.10 : Institutional Development Activities – Data Flow Management

ACTIVITIES TO DEVELOP BY THE PROJECT TEAM	REQUIREMENTS

WIS Management Model

- Design the structure / functions of the WIS-IVg Organization;
- Describe Profiles, Roles and Responsibilities;
- Review and update Workflow and Procedures to operate, develop and maintain the WIS-IVg;
- Identify and review available procedures per type of data collected;
- Review / Update / Prepare Workflow Charts per Selected Water Indicator;
- Meetings with key users to present Designed Data; Workflows and Procedures and make any necessary adjustments;
- Train and supervise the execution of Data Workf̲ and Procedures;
- Present the Design of the WIS IVg to stakeholde̲ key-users;

REQUIREMENTS

- Identify current structure, roles & responsibilities, procedures and documentations related to WIS management in the stakeholders;

C2.10 : Institutional Development Activities – WIS Management Model Definition

ACTIVITIES TO DEVELOP BY THE PROJECT TEAM	OUTPUTS
Business Requirements & Communication • Conduct work sessions with all concerned parties to Review & Discuss the prototype • Review business requirements • Develop a Specification Document clarifying the changes/upgrades required • Work closely with the Project IT Developer and the ICTU Staff to incorporate those changes/upgrades	• System Requirement Specification Document (to be delivered in October)

C2.10 : Institutional Development Activities – Business Requirements & Communication

MAIN ACTIVITIES	OUTPUTS
• Data base connections; • Definition of processes to audit data; • Implementation of approved processes to validate data within WIS IVg; • Implementation of data processes to calculate new data (parameters as discharge using water level measurement, etc.) within the WIS IVg; • Prepare the data access for the MWI Technical Team • Prepare access to processes and operations to audit data. Technical Team; • Prepare access to processes and operations to produce new data. Technical Team;	• A developed prototype with capabilities to: ✓ Access to data bases connected; ✓ Stations - Manage Data. Entry/edit forms ✓ Stations Dashboards to: • review daily climatological, rainfall , daily groundwater, daily wadi, daily discharge ; evaluate parameters by graph, list, etc.; detect gaps ; export data to excel files ; calculate statistics parameters based on existing data. • Prototype user manual • Prototype source code • Access for the MOWI Technical Team, team, ICTU team

C2.1. : Development, installation, testing and commissioning of the WIS-IVg within MWI

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www.semide.net/initiatives/MWKP

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