

*Regional Workshop
on*

*“Water Resources Management in Lebanon,
Syria and Jordan”*

**JAPAN-JORDAN COOPERATION
ON
WATER SECTOR**

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**PRIORITY AREAS
FOR JAPAN'S ODA TO JORDAN**

**1. Improvement of Infrastructure for
Self-Reliance and Sustainable
Economic Development**

- ① Effective Use of Limited Water Resources
- ② Capacity Development for Environmental Management
- ③ Industrial Human Resources Development

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2. Social Gap Reduction

- ① Provision of Quality Education & Reduction of Regional Gaps for Education
- ② Reduction of Gender Gaps through Reproductive Health
- ③ Provision of Quality Social Service
- ④ Improvement of Livelihood for Palestinians in the Camps

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3. Regional Cooperation

Reduction of Gaps between Arab Countries and Confidence Building in the Region

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Problems Facing the Water Sector

1. Imbalance between supply and demand

“The Shortfall caused by this imbalance is compensated by over abstraction of ground water”

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2. Scarcity of renewable water resources

“Non-renewability and non-sustainability of Jordan's water resources”

The development of new resources is costly when it relies on desalination of sea water or brackish water.

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3. Structural problems of water use

Agriculture consumes more than 65% of Jordan's water resources

Irrigation water use is not being efficiently linked to output

4. Under priced water

Tariff do not cover the unit cost of water supplied

5. High ratio of NRW

(more than 46%)

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Basic Orientation & Approach

- Curbing demand and seeking more effective use of water resources
 - Helping Jordan to reduce its water consumption
 - Improvement of water works management and adopting a water tariff structure to promote water conservation
 - Technical assistance in controlling water supplies "NRW Reduction"
 - Rehabilitation of water networks and water facilities

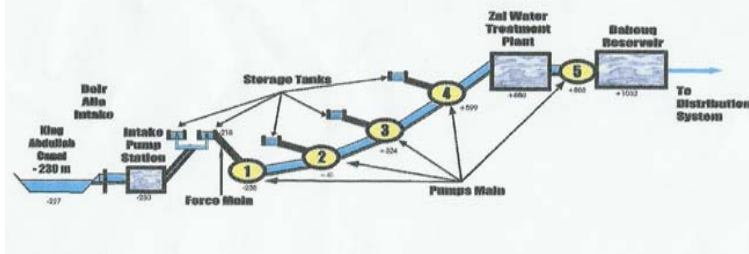
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OUTLOOK OF SOME ODA'S FUNDED PROJECTS

1) The Project for Improvement of Water Supply System to Greater Amman

- Rehabilitation Portion : Restoring the planned water supply of 45 MCM/year for Zai system. (Completed in 1997).
- Expansion Portion : Doubling the capacity of the Zai system to reach 90 MCM/year. (Completed in 2003).

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2) The Project for Water Pollution Monitoring System (completed in 2004)

The Project aims to improve the environmental conditions by means of the introduction of monitoring system for water pollution in the Jordan Valley Area and other selected sites .

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Outline of The Project :

- Install monitoring stations for continuous water quality monitoring at 13 points of locations on the major water sources in Jordan , i.e. Yarmouk River , Jordan River , King Abdullah Canal and Zarqa River .
- Strengthen the chemical analyses equipment in the three major laboratories
(WAJ Lab . JVA lab . and ERC lab .)
- Build a telemetry system containing , at its center , a Monitoring Center for unified control of the monitoring data from those laboratories .
- Provide soft components for guidance on the handling , maintenance and operation of procured equipment and apparatuses .

3) The Project for Improvement of the Water Supply System for The Zarqa District (Phase I) (completed in 2005)

- The Project aims to improve water supply conditions in Awajan area of Zarqa Municipality and Rusaifa Municipality by rehabilitating and upgrading the water supply facilities as a means of contribution to achieving the Water Strategy of Jordan .
- Components of The Project :
*Construction of Transmission Pipelines
 Construction and Expansion of Distribution Reservoirs
 Construction of Distribution Mains*

Cooperation on Control of Non Revenue Water (NRW)

■ Present Situation of NRW

Governorates	Jordan NRW %									
	96	97	98	99	2000	2001	2002	2003	2004	
Amman	49.80	48.34	50.59	50.03	48.26	49.09	47.16	48.53	45.46	
Zarqa	54.60	55.21	56.43	55.34	54.75	54.81	55.81	51.48	51.80	
Ma'raq	74.54	77.96	78.56	76.39	74.57	74.34	70.61	68.21	64.49	
Irbid	53.61	49.10	48.85	45.71	44.34	41.92	42.16	39.57	36.46	
Jarash	49.03	50.27	60.06	42.94	44.71	33.56	37.18	23.80	28.87	
Ajoun	57.42	61.98	60.38	47.96	44.67	37.59	40.56	37.41	26.57	
Balqa	60.03	60.96	62.07	58.27	54.73	47.10	53.94	51.59	54.11	
Madaba	75.77	77.00	77.77	77.73	58.21	58.33	50.00	46.46	45.32	
Karak	54.32	56.74	59.94	56.77	56.35	56.48	51.91	47.47	46.36	
Tafieleh	39.45	46.48	43.92	38.60	41.34	38.33	44.58	43.13	40.62	
Ma'an	65.40	64.54	67.37	62.27	59.86	52.48	52.31	46.78	43.13	
Aqaba	45.88	42.40	36.16	42.55	37.55	40.61	31.26	30.85	0.00	
Total	55.25	54.65	55.85	53.82	51.24	50.39	49.06	47.66	46.56	

Aqaba out , from 1st.aug.2004 cause moved to company

Phase I

(Period from April 1999 to April 2002)

- Long term Expert in the field of Reduction of Non-Revenue Water and two short term experts in the field of Operational and Maintenance of GIS and Water Network Simulation System.

Phase II

(Period from October 2002 to May 2005)

- Two long term Experts in the field of Management of Water Supply / Reduction of Non-Revenue Water.

- **Capacity development project for Non-Revenue Water reduction in Jordan (2005~ 2008)**

The project aims at the capacity development of WAJ staff in terms of designing and implementing NRW countermeasures in ten Governorates so as to Enhance the effective use of water resources in Jordan

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1. Senior Staff of WAJ acquire the knowledge of management, and taking the necessary actions to reduce NRW
2. WAJ engineers and technicians acquire essential technologies for NRW reduction
3. NRW reduction in pilot areas is planned and executed
4. WAJ Staff acquired essential management skills for apparent losses and public awareness
5. Instruments and equipment necessary for NRW are facilitated

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- ☞ The project aims at increasing the capability of municipal water supply through rehabilitation and expansion of networks in the North/Middle Jordan Valley

- ☞ Components of the Project:

- Distribution and Transmission pipelines
- Pumping Facilities
- Water Reservoirs

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- ☞ The project aims to improve water supply conditions in Zarqa district by rehabilitating and upgrading the water supply facilities

- ☞ Components of the Project:

- Construction of Service Reservoirs
- Replacement of Pumping Stations
- Construction of Distribution Mains
- Chlorination Facilities

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Dispatch of Experts

- Water Sector Advisor
(Project Coordination / Project Formulation)
(July 2005 ~ July 2007)

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Capacity Building in Water Resources Management for Palestinians (2006-2008)

- The purpose is to improve water supply system and sewage technology in Palestine
- Conduct training on the following:
 - Operation and Maintenance of Water Distribution Networks
 - Leak Detection
 - Water Pumps Installation and Maintenance
 - Operation and Maintenance of Sewer System and Wastewater Treatment Facilities

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***THANK YOU FOR YOUR
ATTENTION***

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