

Best Practices in the Water Sector in Jordan



Performance

Micro-Private Sector Participation: The case of outsourcing billing and collection in the water sector

Operation and Management Support: Linking micro and macro-level performance improvements of water utilities (4 PPPs)

Development of standards for operation and maintenance in the water utility sector

Telemetry: Automated data management for groundwater monitoring (PPP)

Web-based Water Management of the King Abdallah Canal

Governance

The National Water Master Plan: Long-term planning of the scarce water resource

WEAP: A tool for strategic planning in the water sector

Water Strategy and Water Legislation

ETIP: Evaluation Tool for Investment Planning

PIS: Project Information System

Training Needs Assessment in the Water Sector

Guidelines for Human Resource Management in the Water Sector

Implementation of the National Water Strategy

Conservation

Greywater Recycling: Reducing freshwater consumption in urban development projects (PPP)

Reuse of Treated Wastewater in Agriculture

Guidelines for Risk Monitoring of Agricultural Products Irrigated with Treated Wastewater

Participation and Dialogue

The Highland Water Forum: A stakeholder dialogue for sustainable groundwater management

Behavioural Change Communication: The Water Wise Women Initiative

Participatory Water Management in Irrigated Agriculture: Sharing of responsibilities between Water User Associations and the Jordan Valley Authority

ACWUA: The Arab Countries Water Utilities Association

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BMZ



Federal Ministry for Economic Cooperation and Development



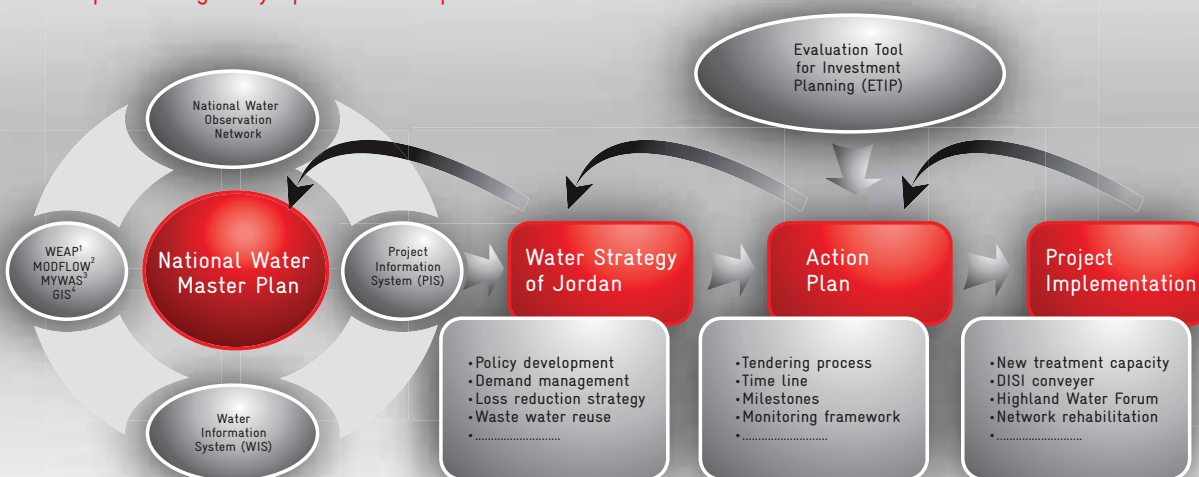
Ministry of Water & Irrigation



Decision and Information Support Centre (DISC)

Background

Jordan's scarce water resources need careful management. The National Water Master Plan sets out the current status of Jordan's water resources and explores different water supply and demand scenarios and potential solutions. The current plan is regularly updated to keep it relevant for decision makers.



¹Water Evaluation and Planning System ; ²Groundwater flow model ; ³Multi-Year Water Allocation System ; ⁴Geographical Information System

Approach

After careful evaluation of different systems, the water resource planning tool WEAP "Water Evaluation and Planning System", including its modules for groundwater flow and cost analysis was selected as an appropriate instrument. The National Water Master Plan will be kept continually up to date by placing all data and modeled scenarios on a web-based information platform - part of the Ministry's wider Decision and Information Support Centre (DISC).

Achievements

- Web platform established with user rights
- Training manual and corporate identity developed
- Concepts for the integration of web-GIS prepared
- Internal user network established
- Telemetry stations established
- Data collection procedures in place

Future activities

- Establishing links to external databases (e.g. Jordan Valley Authority)
- Regular training of staff for updating DISC
- Updating DISC becomes part of the daily work process
- Integrating web-GIS into DISC
- Expansion of telemetry network



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National Water Master Plan (NWMP)

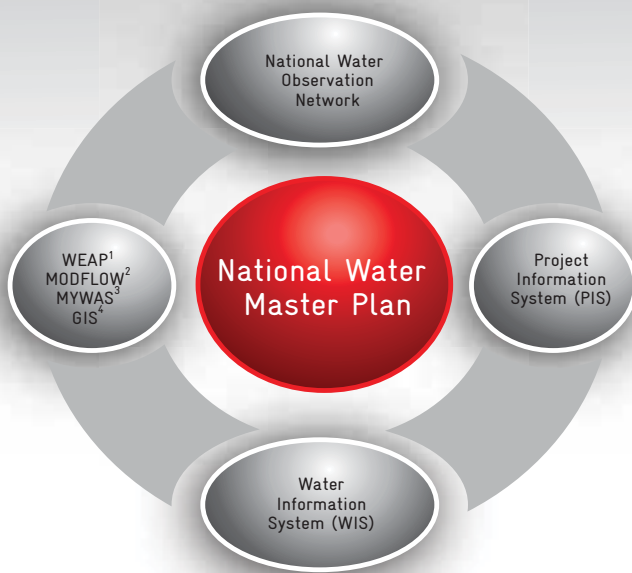


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Achievements

- 90% of the relevant areas in Jordan are developed and calibrated
- A methodology for using satellite image information for the models developed and successfully tested
- Concepts for the integration of other models prepared
- A national and international user network established
- Data from telemetry network used to update hydrology profile of the National Water Master Plan

Future activities

- Complete individual surface water basins & merge to create country-wide WEAP model
- Link groundwater flow model with WEAP in selected basins
- Explore fiscal policies by integrating financial module into WEAP
- Update National Water Master Plan on the Ministry's Decision and Information Support Centre (DISC)

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Water User Associations



Vision

Sustainable management of irrigation water resources in the Jordan Valley.

Goal

Farmers in the Jordan Valley (JV) organize themselves into Water User Associations (WUA) and into a federation in order to represent their interests in front of the Government and other institutions. Farmers take over the tasks of retail water distribution management according to a specific bylaw.

WUA Development Phases



Achievements

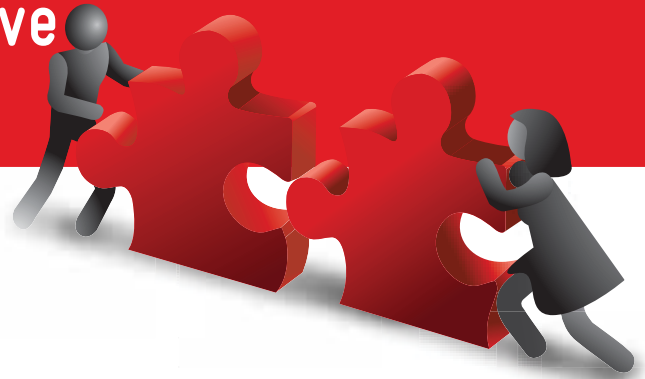
As per April 2010, 22 WUA in the Jordan Valley have been established, which cover almost 80% of the irrigated area in the JV. This has led to:

- A more efficient and decentralized irrigation water distribution.
- A more stabilized network water pressure and water structure.
- A decreased percentage in penalties related to illegal water use and in maintenance cases.
- An increased trust and cooperation between JVA and farmers.
- The transfer of water distribution tasks from JVA to 11 WUA.

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Water Wise Women Initiative

Towards Gender Equality

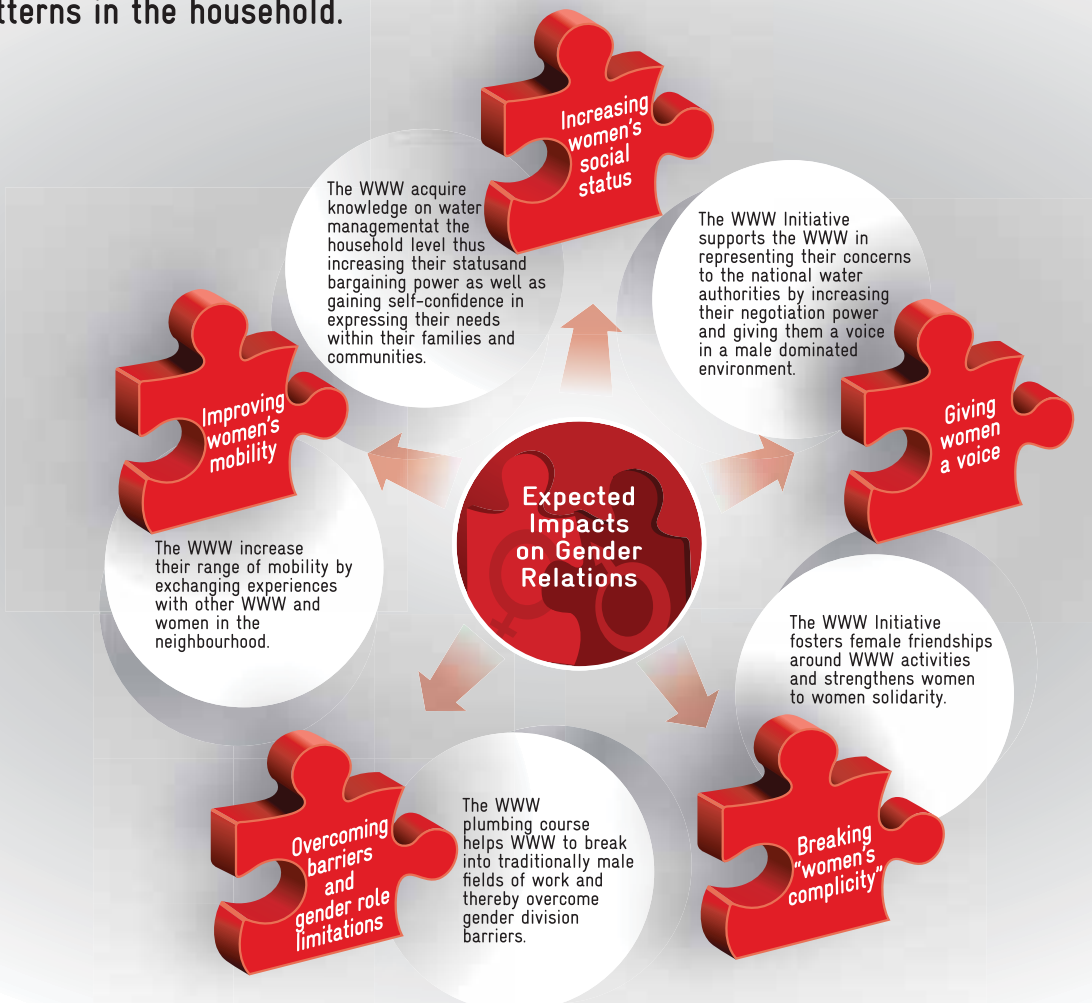


In Jordan, water management in households is characterized by clear gender divisions and uneven control over resources.

Traditionally, women are responsible for all household-internal water management duties while men deal with water providers and plumbers as well as the payment of water bills.

WWW Initiative intends to change these patterns and is designed to enable women to:

- Raise their voice on water related issues and break gender barriers by presenting their concerns to national water authorities and non-governmental parties.
- Manage available water in an efficient and economic way by changing the water use patterns in the household.

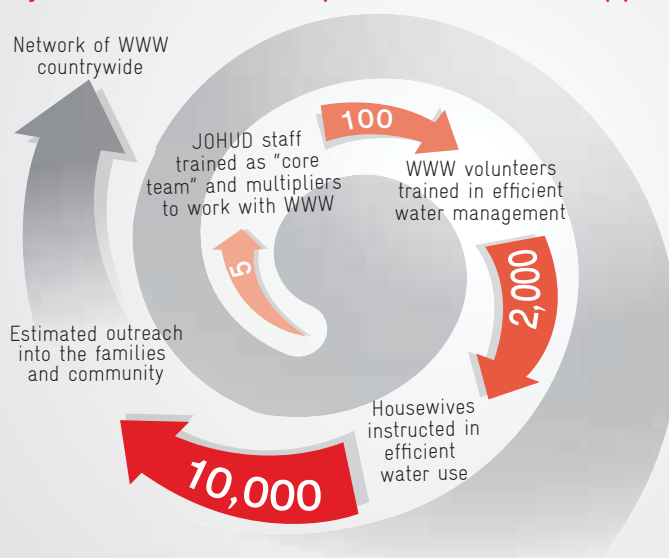


Behavioural Change Communication

Water Wise Women Initiative

The WWW Initiative is establishing a sustainable mechanism of awareness raising that leads to change in water related behaviour and improved water use efficiency at household and community levels.

The WWW Initiative is implemented at the level of seven local communities throughout Jordan by GIZ on behalf of BMZ and JOHUD in Madaba, Al-Kafrein, Zarqa, Sheikh Hussein, Al-Balqa, Ajloun & Amman. Implementation is supported by MWI and WAJ.



Mrs. Aqrabawi Zarqa:

"I do not need to hire a worker in the garden anymore, and I do now all the plumbing in the house by myself. I am sure this will also reduce our water consumption and finally our bills."



Mrs. Ma'ay'ah Madaba:

"We are now almost self-sufficient with vegetables. I hope to save at least 30% of the household money for water and vegetables from the market. My husband and children were proud of me and encouraged me to try what I have learned in our home."



Mrs. Sharif Zarqa:

"Nowadays, I am working as a plumber together with my husband. Many women do not like to have male plumbers coming to their houses during the day. Therefore, I decided to work as a plumber during the day, while my husband does that when men are at home."



Mrs. Yaseen Madaba:

"At the beginning of the training course I was mainly interested in managing the water in my own household. Then I recognized that I also had an important role to play to talk to women in the neighborhood about more efficient water management."

Behavioural Change Communication

Water Wise Women Initiative



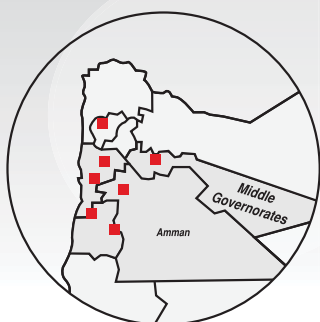
What is the Water Wise Women Initiative?

- a mechanism for sustainable behavioural change in household water management
- implemented at the level of seven local communities throughout Jordan by GIZ on behalf of BMZ and JOHUD
- supported by MWI and WAJ

WWW Initiative's Objectives:

1. Raise the awareness of women to manage the water available at their households in an efficient and economic way and adapt their water related behaviour accordingly
2. Enable the Water Wise Women to represent the interest of their communities in water vis a vis government

WWW Locations



- AL Kafrein
- Sheikh Hussein
- Madaba
- Zarqa
- Salt
- Amman
- Ajloun



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 BMZ: German Federal Ministry for Economic Cooperation and Development
 JOHUD: Jordanian Hashemite Fund for Human Development
 MWI: Jordanian Ministry of Water and Irrigation
 WAJ: Water Authority of Jordan

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Federal Ministry for Economic Cooperation and Development



Ministry of Water & Irrigation



الصندوق الأردني الهاشمي للتنمية البشرية
The Jordanian Hashemite Fund for Human Development

Development Partnership with the Private Sector (DPP) for Modern Greywater Reuse

Promoting to use water thrice



Background

The GIZ Water Programme promotes efficient use of water resources. A new approach facilitates in-house greywater reuse in the domestic and tourism sector.

Approach

In a Development Partnership with the Private Sector (DPP), Hansgrohe AG and GIZ joined hands to introduce the first state-of-the-art greywater systems in Jordan. In 2009 two systems – one in a hotel, one in a private 2-apartment house – were installed and closely monitored. Interventions on political and administrative levels ensure that modern greywater reuse became more prominent and is considered among architects, planners and political decision makers as a valuable option to save freshwater resources.



Conclusion

In-house greywater reuse is more accepted among professionals and authorities in Jordan. As water is used thrice – first for showers, then for toilet flushing and afterwards for irrigation – this approach can significantly reduce the water demand in the domestic sector. The next step is the upscaling of in-house reuse for new entire housing projects and hotel complexes.

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Development Partnership with the Private Sector (DPP) in Ebquoreyeh Pumping Station

Saving costs and the environment in the Water-Energy Nexus

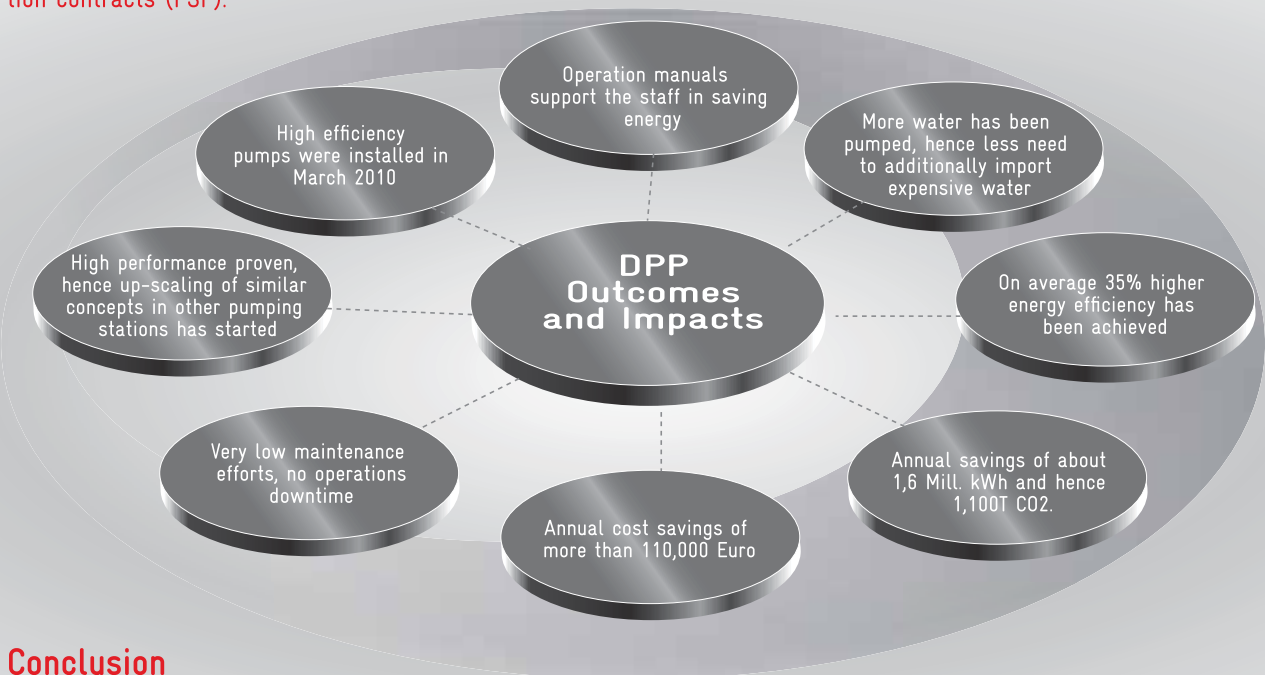


Background

The Water Authority of Jordan (WAJ) is the largest electricity user in the country and hence has huge energy costs. With an innovative project at Ebquoreyeh pumping station, the reduction of energy consumption, CO2 emissions and costs is tackled via modern pumping equipment and improved operation & maintenance.

Approach

In a Development Partnership with the Private Sector (DPP), WILCO, WAJ and GIZ joined hands in December 2009 to introduce high-efficiency pumping equipment and private sector expertise in pumping station operation and maintenance. This is a pilot case to fine-tune the approach and use the lessons learned for following Private Sector Participation contracts (PSP).



Conclusion

With this innovative DPP, the feasibility to combine private investments and operations has been proven. The next step, the upscaling as full PSP approaches based on Energy Saving Performance Contracting (ESPC) in other pumping stations, has started. In ESPCs, any payments to the private companies fully depend on the amount of energy saved, hence a win-win situation for WAJ and the private sector is created.

The Programme is implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, on behalf of German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU)

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH - 2011
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On behalf of
 Federal Ministry for the Environment, Nature Conservation and Nuclear Safety
of the Federal Republic of Germany

