

JORDAN VALLEY AUTHORITY

Water, Agriculture & Partnerships in the Jordan Valley

Key figures, water management challenges and pathways for support

CONFERENCE PRESENTATION | ENGLISH

Jordan Valley: Scale, Water Scarcity and Investment Needs

The Jordan Valley Authority, is established under the Jordan Valley Development Law of 1977, and is mandated for integrated economic and social development in the Jordan Valley, encompassing water management, agricultural development and institutional coordination.

Agricultural and Irrigation Infrastructure

- 400,000 dunums of agricultural land and approximately 10,000 agricultural units.
- 110 km King Abdullah Canal, with 30 pumping stations

Water Scarcity and Climate Pressures

- Increasing water scarcity and climate change are placing growing pressure on agricultural water supplies.
- Irrigation relies on freshwater, groundwater and treated wastewater, much of which originates from upland wastewater treatment plants.

Investment Needs and Opportunities

- Modernisation of irrigation systems to improve water-use efficiency and reduce losses.
- Solar-powered pumping and energy-efficient water supply.
- Potential brackish groundwater desalination to diversify water resources.

Water scarcity and the scale of agricultural activity create a need for investment in efficient, reliable and climate-resilient irrigation systems.

Participatory irrigation management and Investment Opportunities

Established institutional framework

- 24 Water User Associations operate across the Jordan Valley and Wadi Araba.
- More than 78% of the Jordan Valley's irrigated area is covered by these associations.
- 18 associations have task-transfer agreements with the Jordan Valley Authority.

Roles and responsibilities

- **Jordan Valley Authority:** Overall irrigation system management and institutional oversight.
- **Water User Associations:** Participatory irrigation management and water distribution to farmers under task-transfer arrangements.

Relevance to private-sector engagement

The existing institutional framework could support:

- Identification of farmers' irrigation modernisation needs.
- Coordination of proposed improvements involving groups of farmers.
- Facilitating consultations between farmers, the Jordan Valley Authority and potential private technology or service providers

The WEFE Nexus: An Integrated Approach to Investment

Agricultural production in JV depends on the interrelationship between water availability, energy requirements, food production and ecosystem sustainability. Addressing challenges in one dimension requires considering their implications for the others.

WATER – Meeting Agricultural Water Needs

- Modernise irrigation systems and reduce water losses.
- Ensure sustainable use of conventional and non-conventional water resources.

ENERGY – Ensuring Affordable Water Supply

- Reduce pumping costs through solar energy and energy-efficient technologies.

FOOD – Sustaining Agricultural Production

- Improve irrigation reliability and reduce production costs to strengthen farmers' economic viability.

ECOSYSTEMS – Protecting Natural Resources

- Protect groundwater resources and water-dependent ecosystems.

Implications for investment

Assess irrigation modernisation, renewable-energy solutions and alternative water supplies together to maximise economic, agricultural and environmental benefits.

Farm-level constraints

Farmers in the Jordan Valley face technical and financial constraints that limit their ability to modernise irrigation infrastructure and invest in more efficient agricultural production.

Ageing or inefficient irrigation systems

Some farmers cannot afford to replace or modernise on-farm irrigation networks and invest in more efficient agricultural production.

Unlined farm reservoirs contribute to water losses..

Market and cost pressures

- Farmers may struggle to access markets offering prices sufficient to cover production costs.
- Uncertain agricultural returns can make investment less attractive.

Financial Constraints

Limited financial resources restrict farmers' ability to invest in irrigation improvements.

Low agricultural returns reduce their capacity to reinvest.

Implications for Private-Sector Engagement

Mobilising private investment requires financing and business models that address farmers' limited investment capacity while ensuring the financial viability of proposed investments.

The challenge is not only identifying appropriate irrigation technologies, but also making investments financially accessible and economically viable.

Enabling Private-Sector Investment in the Jordan Valley

Mobilising private-sector investment in irrigation modernisation requires coordinated institutional, financial and technical support to address farmers' investment constraints.

Access to Finance

- **Agricultural Credit Corporation:** Potential financing for irrigation modernisation.
- **International development partners:** Potential financial and technical assistance to support investment preparation and implementation.

Energy and Regulatory Facilitation

- **Ministry of Energy and Mineral Resources:** Facilitation of solar-energy solutions
- **Jordan Electric Power Company:** Electricity-related approvals

Agricultural Development and Market Access

- Support for contract farming and improved market access to strengthen farmers' economic viability.

Potential Private-Sector Participation

- Supply and installation of modern irrigation equipment.
- Solar-powered pumping and energy-efficient technologies.
- Brackish groundwater desalination, subject to technical and financial feasibility.

Priorities for Mobilising Private-Sector Investment

1. Prepare Viable Investment Opportunities

- Assess opportunities in irrigation modernisation, solar-powered pumping and brackish groundwater desalination.
- Evaluate technical feasibility, investment requirements and financial viability.

2. Develop Financing and Private-Sector Participation Models

- Explore financing arrangements that address farmers' limited investment capacity.
- Identify appropriate roles for private companies and financing partners.

3. Strengthen Institutional Coordination

- Clarify the roles of the Jordan Valley Authority, Water User Associations, relevant ministries and financing institutions.
- Facilitate cooperation with potential private-sector partners