

Evaluation Summary

Irrigation optimization in the Jordan Valley project (IOJoV)

Country: **Jordan**

Sector: **Agricultural water resources**

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Key data on AFD's support

Project numbers: CJO 3008

Amount: €3 million grant

Disbursement rate: 100%

Signature of financing agreement: July 2011

Completion date: June 2012

Total duration: 4.5 years



Context

The reduction of the freshwater allocation to the agricultural sector in the Jordan Valley puts farming at threat.

The previous Irrigation Optimization in the Jordan Valley (IOJoV) pilot project from 2000 to 2006 elaborated methodologies and tools to tackle this problem: it could therefore be extended north of the Jordan Valley.

Actors and operating method

The contracting authority was the Ministry of Water and Irrigation / Jordan Valley Authority (JVA).

The management contractor was JVA.

The project management unit was JVA / Société du Canal de Provence (SCP) and Methods for Irrigation and Agriculture (MIRRA).

Objectives

- To optimize irrigation in the northern section of the Jordan Valley
- To improve water efficiency and therefore agricultural production, despite the reduction in water allocation.
- To valorize the work done by the French Cooperation, Regional Mission for Water and Agriculture, (MREA) through dissemination of the technical packages it elaborated.

Expected outputs

- Rehabilitation of the JVA network
- Equipment for operation and maintenance (O&M) for JVA
- Improvement of O&M procedures
- Optimization of the irrigation system installed at farm level

Performance assessment

Relevance

The overall and specific objectives of the intervention were **very relevant** given the context. The logic of intervention was also relevant:

- working at both JVA and farm level (integrated approach),
- providing concrete support as well technical advice.

Unfortunately, such logic could not unfold fully as planned as the context evolved between the pilot phase (2000-2006) and the extension phase (2008-2012). It also had some weaknesses, notably its **limited work with water-user associations**.

The project structure (contract with SCP-MIRRA) was relevant to maximize effectiveness and efficiency during the project but couldn't favor the sustainability of the outcomes nor tackle the issue of service provision to farmers.

Effectiveness

The project scored high as regard effectiveness, notably thanks to the project structure. At activities and output levels, **all planned activities were implemented in due time**. Additional activities not initially planned were also implemented in 2012 and 2013. At outcomes level,

- **an estimated 20% gain in irrigation efficiency** (from 59% to 77%) was achieved on beneficiary farms;
- **the expected virtuous cycle was achieved at local level** on JVA and water services, though only temporarily and artificially with, therefore, limited sustainability;
- there is no outcome as regards service centers for farmers.

Efficiency

The project scored high in terms of efficiency thanks to the project structure which **limited bureaucracy and allowed quick procurement of quality goods and services**. Some activities were implemented with no visible nor sustainable outcomes. This concerns a small percentage of the budget and doesn't affect the overall rating.

Impact

Impacts at farm level are quite significant on the 589 beneficiary farms (roughly 1.100 ha):

- Irrigation efficiency increased overall from 59% to 77% and surface irrigation was drastically reduced.
- Vegetable farmers (299 farms, about 250 ha) benefited from a significant increase in income.
- Citrus farmers maintained their income despite the reduced water allocation.

Impacts at JVA network level were limited since the virtuous cycle couldn't be sustained.

Major structural changes are necessary to ensure impacts at JVA network level.

Sustainability

At JVA network level, impacts were limited and aren't sustainable given the current constraints faced by JVA. The virtuous cycle is not sustainable.

At farm level the sustainability of the impacts will be enhanced by the step by step dynamic of optimization that seems engaged in the valley among farmers (farmers are quite responsive to optimization). However, it **will also be threatened by the limited credit facilities to renew the on-farm equipment and the absence of on-farm technical advice** (there are still no service centers for farmers).

Added value of AFD's contribution

AFD is still relatively new in Jordan and is a relatively small donor compared to other donors in the water sector who can provide loans. It seems AFD adopted a **low profile** during IOJoV. It also seems that AFD experience regarding service delivery to irrigating farmers or water user associations was **not sufficiently valorized** during IOJoV.

Conclusions and lessons learnt

The IOJoV project demonstrated that the vicious cycle of low water service quality by JVA and illegal practices by farmers can be artificially and temporarily broken. Yet to be sustained the virtuous cycle requires **major structural changes that were beyond the scope of IOJoV**.

Over the last few years the Jordan Valley witnessed important changes:

- reduced freshwater allocation to farmers,
- increased use of treated wastewater,
- mushrooming of individual ponds at farm level,
- increased irrigation efficiency at farm level,
- erosion of JVA authority,
- development of water user associations, etc.

This calls for a collective and concerted redefinition of the water service at global and local level.

Technical and institutional innovation remains necessary in the Jordan Valley to deal with these issues. A "new revised IOJoV" could, through some action-oriented research, test some service centers to farmers, accompany the redefinition of water service, and reflect over the agricultural model.