Approaches and Impacts of Participatory Irrigation Management (PIM) in Complex, Centralized Irrigation Systems

– Experiences and Results from the Jordan Valley -

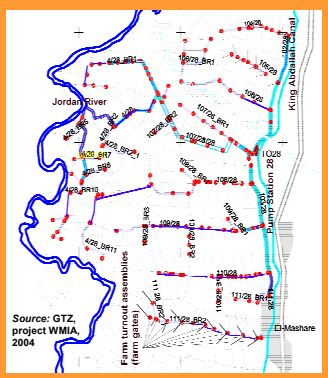
Hans Jochen Regner[a], Amer Z. Salman[c], Heinz-Peter Wolff[b], Emad Al-Karablieh[c]

Introduction of Participatory Elements in Irrigation Water Management

PIM is a key element in the toolbox of approaches to improve efficiency and performance of water resources management. Differences between applied approaches in Mexico, Turkey, Indonesia, the Philippines, Colombia, India, Sri Lanka, and Nepal support the assumption that a successful implementation of PIM depends crucially on its sensible adaptation to the initial situation in the specific case.

Farming:

- Approx. 30.000 ha of irrigated agriculture
- Total of 35 irrigation perimeters with one common source of water each
- About 10.000 Farming Systems, mostly immigrated farm families since establishment of the irrigation system in the 1960s
- Agriculture: mostly vegetables, field crops, citrus, other perennials



Irrigation infrastructure

- Water comes via the King Abdullah Canal, pumping stations and pressurized conveyance systems to the individual irrigation perimeters.
- end user outlets for each irrigation unit (3,5 ha) are equipped with water meters, valves and depressurization units
- Outlets are placed in locked concrete boxes.

Initial Irrigation Management

Jordan Valley Authority (JVA)
- Compares water requests with available water
- Distributes water among irrigation areas

Cultivation plan (request for water)

Instructs agents on opening of valves

Farmers

JVA field agents
- hold key to concrete boxes of irrigation units

Water

Transfer Process

- Identification of cornerstones of traditional community irrigation management approaches in Jordan
- Involvement of farmers' groups in discussions on the intended transfer
- Political decision making on transfer of power (what, to which extent) to newly created WUAs
- Expert support farmers in defining the set-up and creation of WUAs

Current state of PIM (13 pilot areas)

Jordan Valley Authority (JVA)
- Compares water requests with available water
- Distributes water among irrigation areas

Cultivation plan (request for water)

Water allocation

Water Users Associations (WUA, 1 per irrigation area)
- Decides on water distribution within area

Negotiations, decisions, control

JVA field agents
- contact for technical problems

Farmers
- Member in WUA
- 1 outlet, 1 vote
- Hold key to own water outlet

Problems of Initial Management

- Illicit water abstraction with related destruction of meters, valves and pipes ⇒ *costs, increased risk of water supply*
- Investments and production decisions to counteract risk ⇒ *lower revenues from farming*
- Unaccounted water extraction ⇒ *loss of public funds*
- Social strife in the farming community and with the administration, informal lobbying ⇒ *social costs, suboptimal water allocation*

Major task in transfer process:

- Translating traditional values into an operational PIM set-up
- Change management of formal and informal power structures

Advantages of PIM

- Significant decrease in illicit water abstraction and related maintenance costs
- Water consumption significantly closer to ex-ante planning (planning reliability)
- Decrease in investments to counteract risk from water supply (farmers' level)
- Substantial decrease in farmers' complaints to administration and officials

a Gesellschaft für technische Zusammenarbeit (GTZ) mbH, Project on Water Resource Management in Irrigated Agriculture, Amman-Jordan, Email: _regner@go.com.jo
b Universität Hohenheim, Institut für Agrar- und Sozialökonomie in den Tropen und Subtropen (490c), Email: hpwolff@uni-hohenheim.de
c University of Jordan, Faculty of Agricultural Economics and Agribusiness, Email: asalman@ju.edu.jo and Karablie@ju.edu.jo
Full paper available at: http://www.tropentag.de/2006/abstracts/full/213.pdf