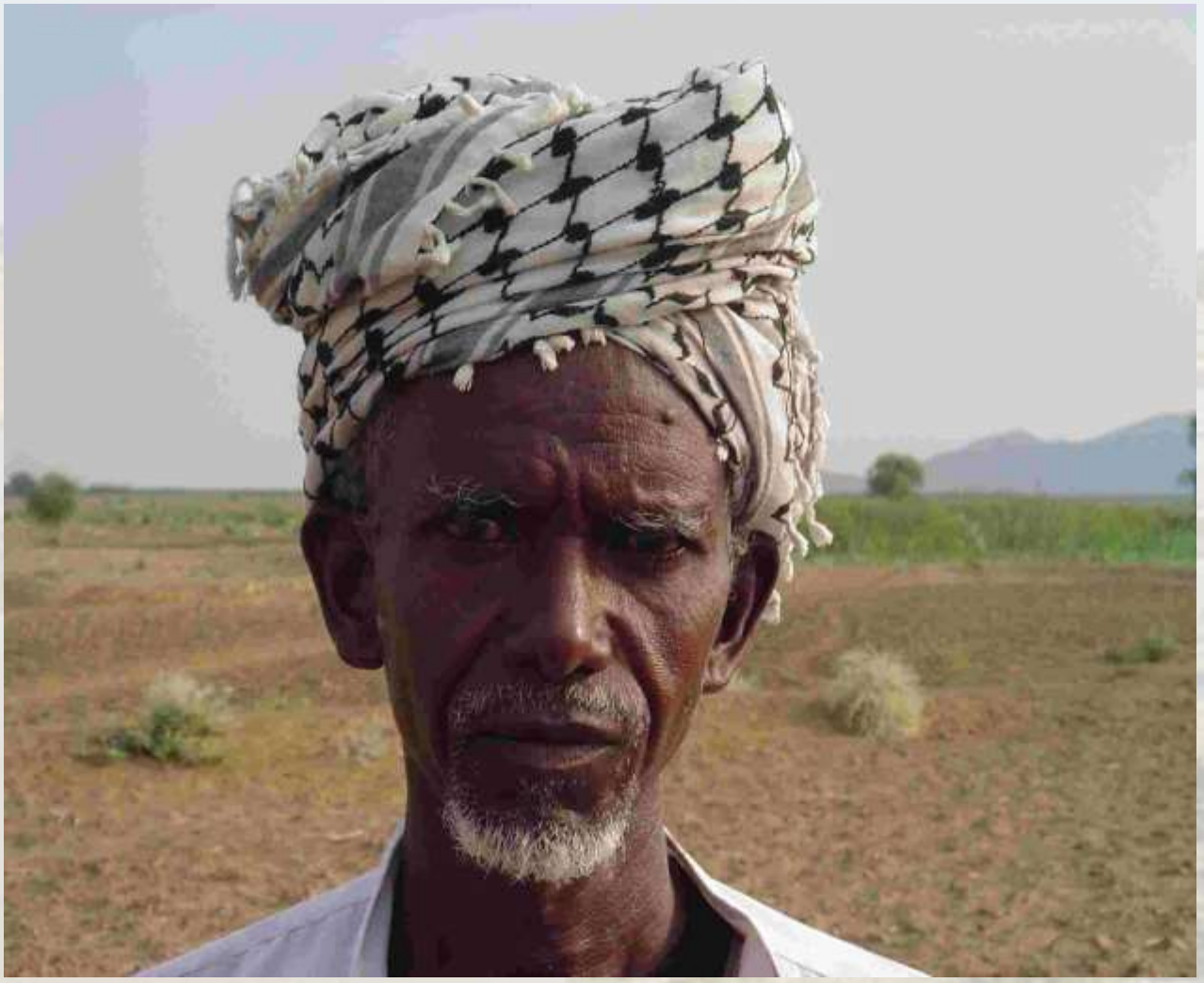
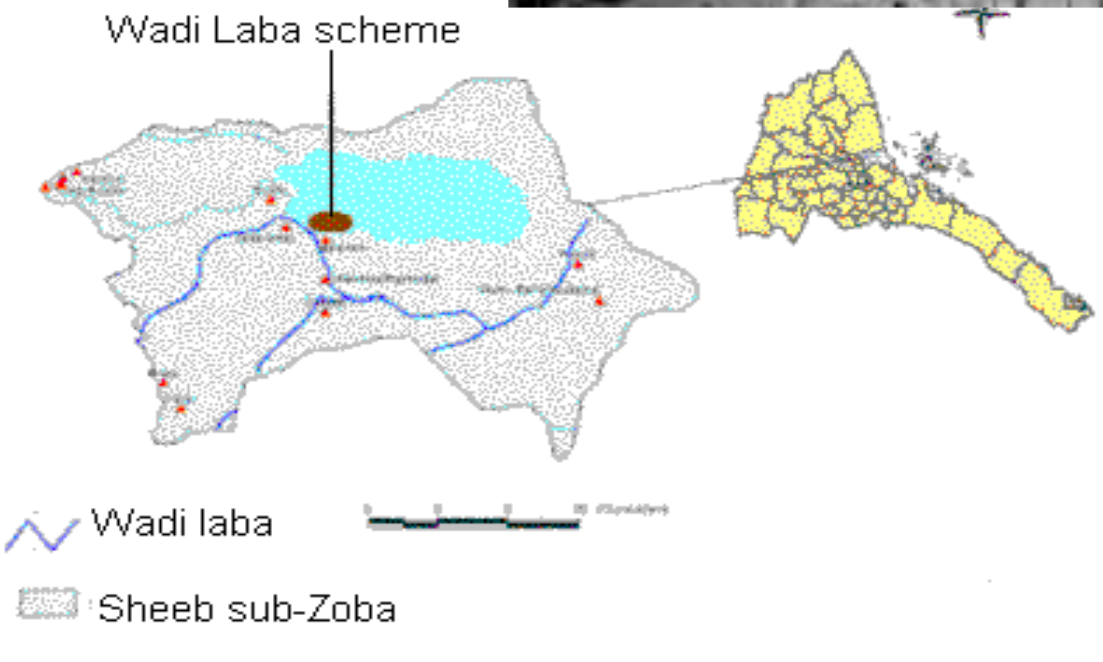
CASE STUDY: SHEEB FARMERS ASSOCIATION, ERITREA



SPATE IRRIGATION IN SHEEB, ERITREA

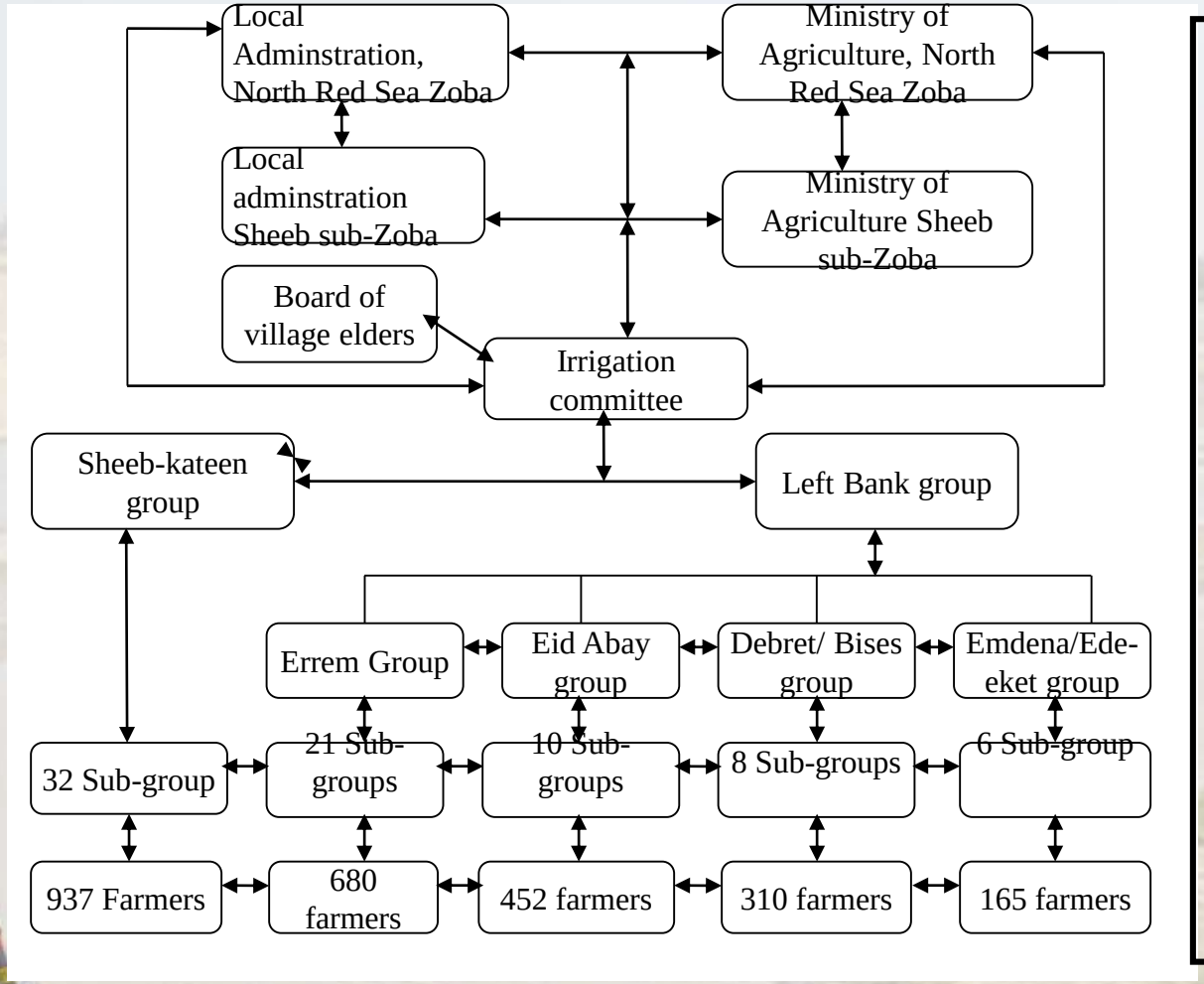
Introduced 80 years ago by Yemeni farmers
15-35 floods a year
3000 hectares
Highly productive sorghum cultivation (4 ton/ha)
Equal landownership
Strong traditional organization

Building the traditional diversion systems became difficult – hard to find brushwood for diversion structures



‘JELWET’, TRADITIONAL MAIN FLOW DIVISION STRUCTURE

Strong traditional organization



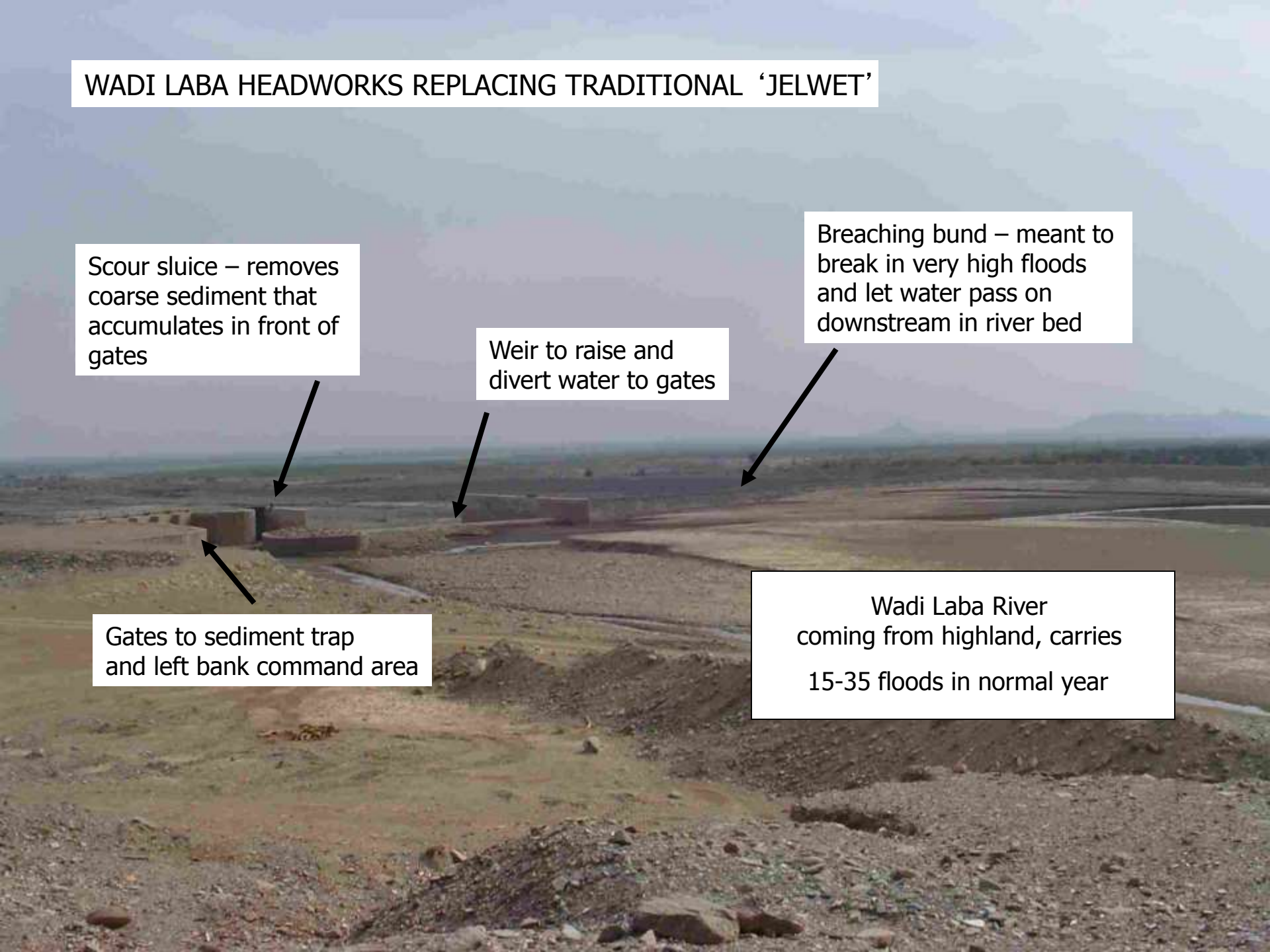
Local leaders:
-ternafi (group)
-teshkil (subgroup)

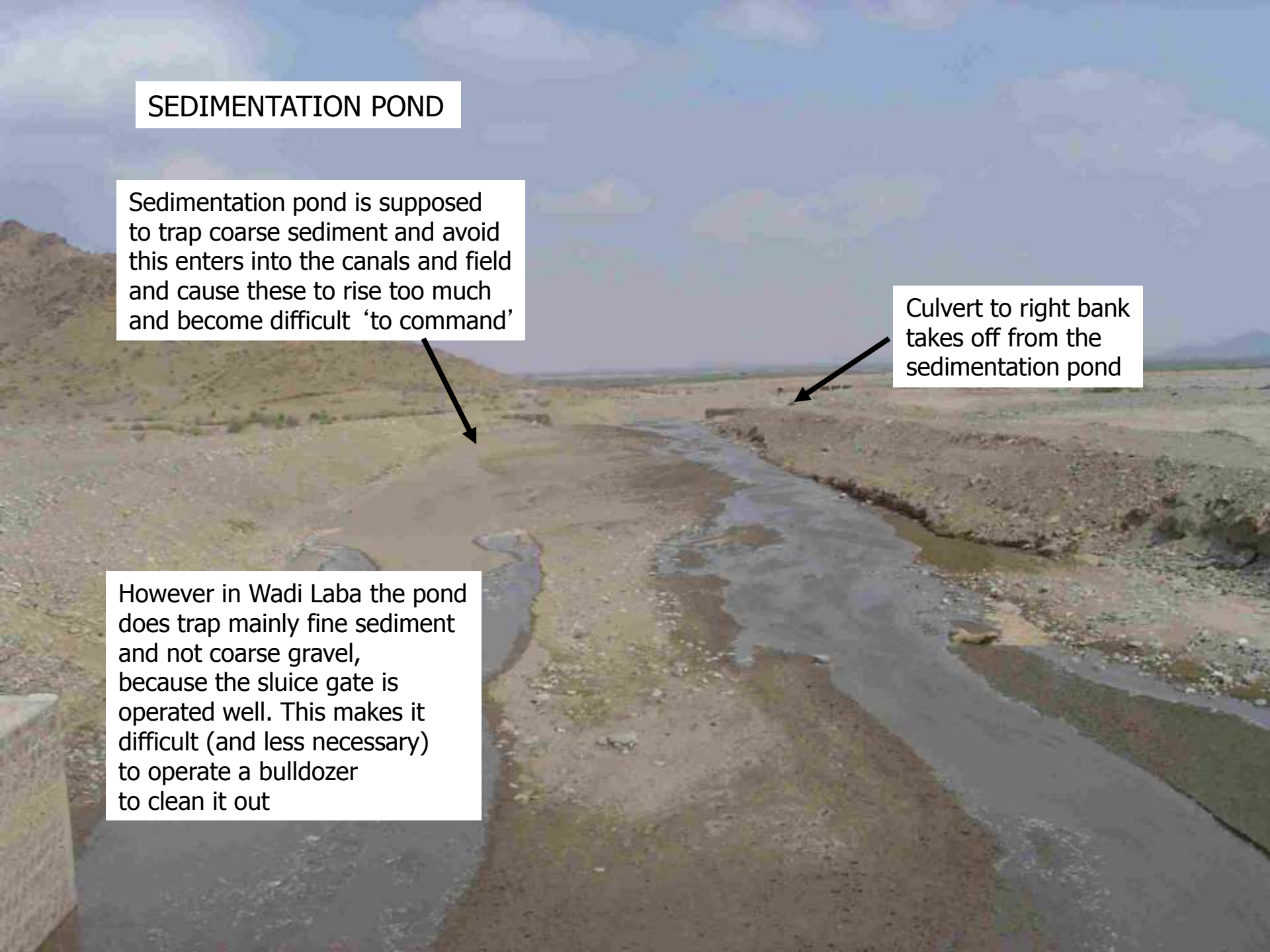
Coordination between groups

Relatively egalitarian water distribution

Strong, positive link with government

Modernization of Wadi Laba and Mai Ule systems with IFAD-loan 1997-2006


WADI LABA HEADWORKS REPLACING TRADITIONAL 'JELWET'
Scour sluice – removes coarse sediment that accumulates in front of gates
Weir to raise and divert water to gates
Breaching bund – meant to break in very high floods and let water pass on downstream in river bed
Gates to sediment trap and left bank command area
Wadi Laba River coming from highland, carries
15-35 floods in normal year


SEDIMENTATION POND
Sedimentation pond is supposed to trap coarse sediment and avoid this enters into the canals and field and cause these to rise too much and become difficult 'to command'
Culvert to right bank takes off from the sedimentation pond
However in Wadi Laba the pond does trap mainly fine sediment and not coarse gravel, because the sluice gate is operated well. This makes it difficult (and less necessary) to operate a bulldozer to clean it out


COMMAND AREA WORKS
The command area works are meant to improve water distribution within the command area and fix flood channel bed evels
This is an innovative structure combining local knowledge with imported gabion techniques
In addition there is also large scope to improve the water distribution within the area

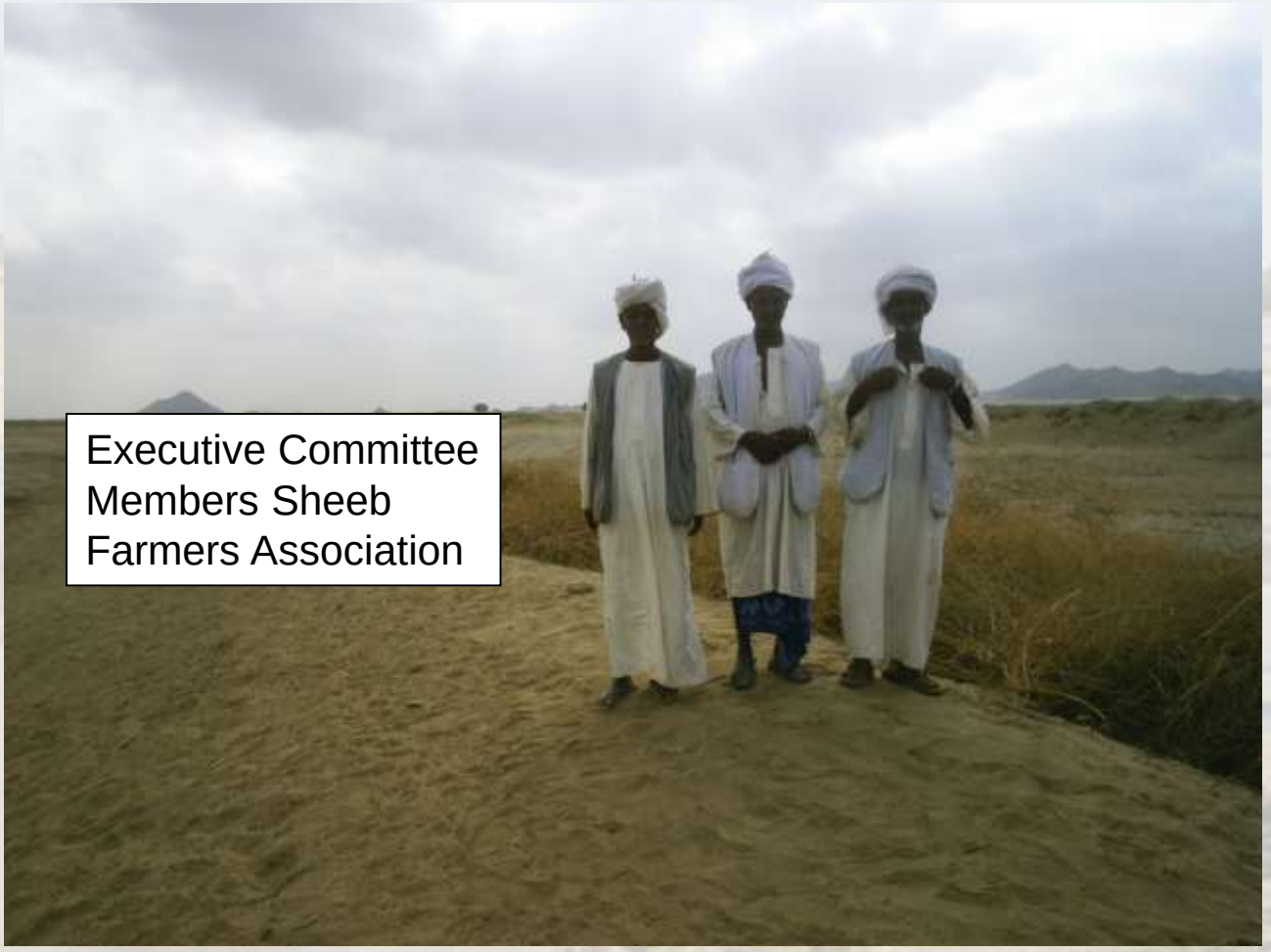
In later stage of the project local leaders were involved in project management

They were members of the Local Project Steering Committee

Support was provided to establish Sheeb Farmers Association

- Based on traditional organization
- New:
  - Manage the headworks
  - Fee collection
- Formal constitution
- Election
- Training
  - Fee assessment
  - Use of bulldozers and frontloader
  - Design and operation of the system
  - Organisation
  - Computer skills

Executive Committee



Executive Committee Members Sheeb Farmers Association

Established January 2004

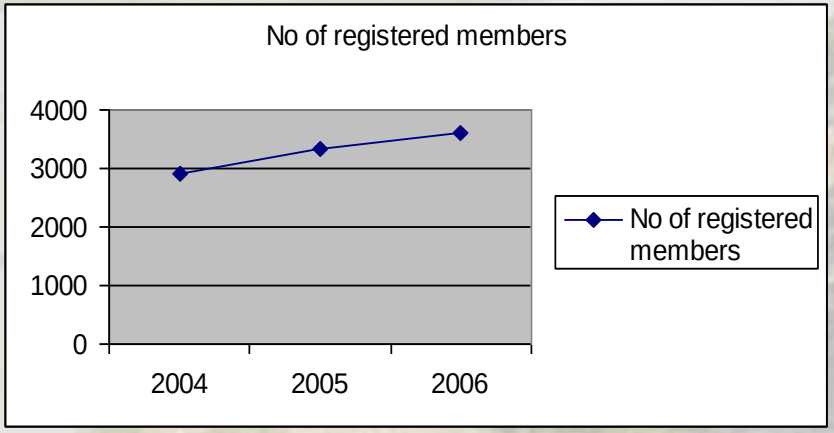
Sheeb Farmers Association

- Executive Committee
  - Chairperson
  - Secretary
  - Treasurer
  - Four members
  - Representatives of Kebabi Administration (invited)
- Ternafi in each Parta (subcommand)
- Teshkils (groups of 20 farm families)

Objective:
to ensure the efficient operation and maintenance of the irrigation system, so that the members can make full use of the spate irrigation development

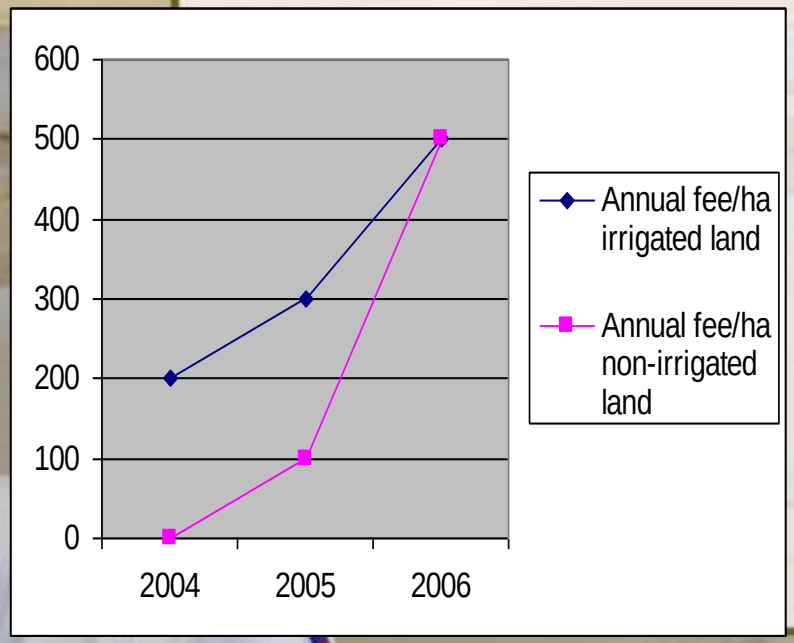
Membership is increasing

- Compulsory
- Admission criteria
- Fee: 10 NfK
- Gone up from 2913 to 3607



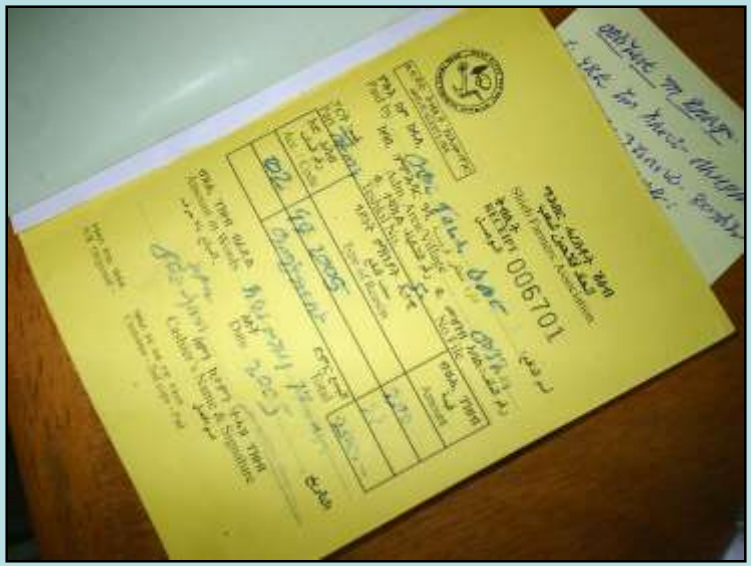
Financial performance

- Annual fee increased to Nfk 500/ha all land (=40 USD/ha)
- Default is low: 8-11%
- Non-payment recouped next year (with fine)

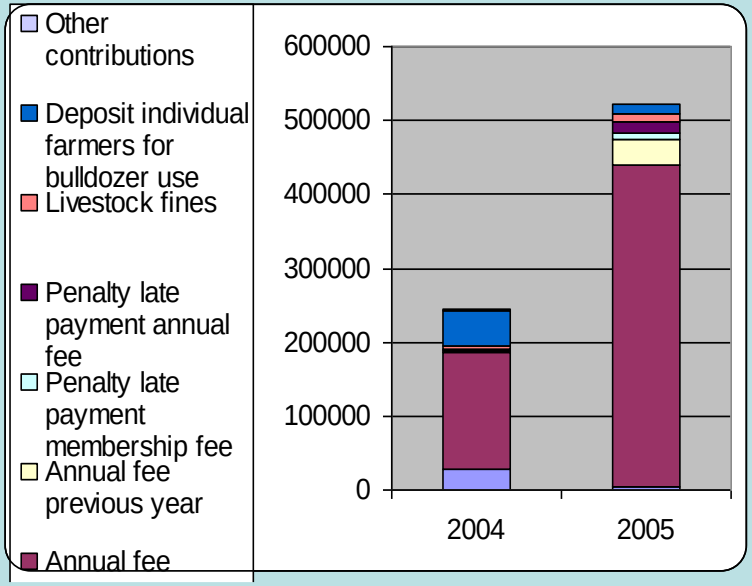


Financial performance

- Fee collection system is well-organized

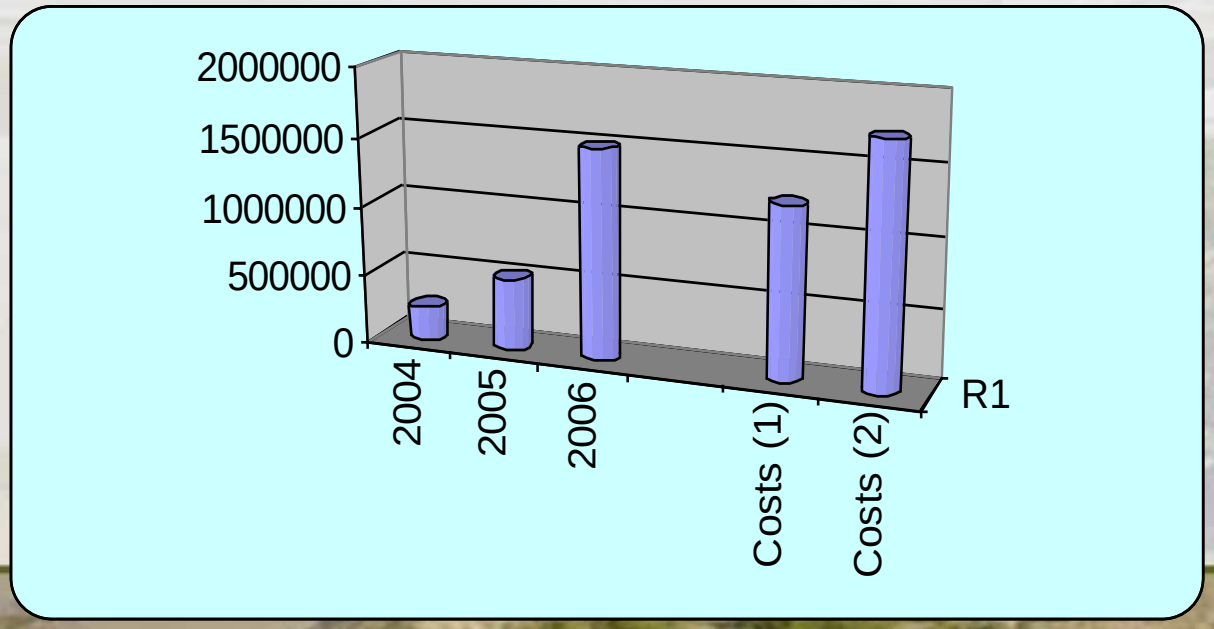


- Different source of income: annual fees, fines, penalties



Financial performance

- Target collection from annual fees: Nfk 1431000 (USD 110,000)
- Expected from fines etc: Nfk 70000
- Costs annual routine maintenance: Nfk 1730000
- Costs (minus sedimentation pond): Nfk 1230000



Annual fee to be increased

- Annual fee now covers costs of routine maintenance
- Costs for replacement not included yet

However at 500 NfK annual fee is 2% of gross farm income

There is hence scope to increase the annual fee to cover replacement costs

Operational performance (1)

Apart from ELWDP works SFA also coordinates traditional maintenance

The monetary value is substantial (same order of magnitude as ELWDP works)

Operational performance (2)

- The SFA has also coordinated the several adjustments to the system to accomodate to the new situation (especially capturing the run-away water from the headworks)
- It has resolved the related water distribution problems

Adjustments to the modernized system

Ide Abay Agim

Agim to Sheeb Katin

Mai Ule Intake

Operational performance (3)

- It employs gate operators
- It has provided supervision and financial contribution to ELWDP maintenance
- In some areas it is still unfamiliar (for instance procurement of gabions)
- In some areas it is uncomfortable (gravel trap, culvert)

Organizational performance

- Recognized and appreciated
- Regular meetings
- Renumeration for staff
- Pro-poor initiatives (subsidized land preparation)
- Records being kept