Gezira Irrigation Reform

Outcome of the Pilot

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Objectives of the Pilot

*Gezira Scheme: Raising Productivity through Broadening Farmer’s Choice on Farm Systems and Water Management (TCP/SUD/0065)*

- WB - FAO collaboration in assisting GOS defining options for sustainable development of the Gezira

- Pilot Implemented under FAO Technical Cooperation
  - June 2000 - October 2002
  - Budget: $ 320,000
**Description Abd El Hakem Pilot**

<table>
<thead>
<tr>
<th></th>
<th>Abd El Hakem Pilot</th>
<th>Gezira Scheme</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Area</strong></td>
<td>5680 ha</td>
<td>880,000 ha</td>
</tr>
<tr>
<td><strong>Total No Farmers</strong></td>
<td>671</td>
<td>800,000</td>
</tr>
<tr>
<td><strong>No of Blocks</strong></td>
<td>1</td>
<td>114</td>
</tr>
<tr>
<td><strong>No of Minors</strong></td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>No Farmers Groups</strong></td>
<td>12</td>
<td></td>
</tr>
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**Selection criteria**
- vicinity SGB Headquarters
- average production levels
- water supply adequate
- no socio-economic constraints
Objectives of the Pilot

Issues Addressed in Pilot

– develop framework for participatory management and institutional reforms
– test procedures for establishment viable water users associations
– increase productivity and income in irrigated farming system
– promote farmers cooperation in procurement of inputs, marketing and collective financing
– assess agro-ecological zoning, irrigation supply and productivity levels in the Gezira Scheme
Results of the Pilot: PIM

- Framework for Participatory Management
- Water Users Association
  - process of capacity building
  - training of support staff (TOT)
  - training of WUA (FFS)
PIM Approach and Methods

Capacity building
- Farmers Organization
- Support staff

Participatory Training and Extension
- Farmers Field Schools (FAO IPM approach)
- Training of Trainers and Subject Matter Specialists
Approach and Methods

Capacity building

– Farmers Organization

Participatory Training and Extension

– Farmers Field Schools (FAO IPM approach)

– Rural Women Schools

• planning and reviewing joint activities on Cropping, O&M and Organization
• 1-2 weekly farmers sessions following up on new techniques over the duration of the growing season
PIM Approach and Methods

Capacity building

- Farmers Organization

- Minor canal groups
- Block irrigation committee for O&M and Water fees
- Financial committee for input supplies
- Women groups
PIM Approach and Methods

Capacity building
  – Support staff

Participatory Training and Extension
  Training of Trainers (TOT)
  Training of SMS and Extension staff

- Block & Group inspector (SGB)
- Superintending Engineer (MOWR)
- Subject Matter Specialists
- Extension staff
# Results of the Pilot

<table>
<thead>
<tr>
<th>Category</th>
<th>Details</th>
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</thead>
<tbody>
<tr>
<td>Increased Production and Income</td>
<td>Yield increase, Cropping Intensity, Cropping patterns</td>
</tr>
<tr>
<td>Improved Operation and Maintenance</td>
<td>Water Users association established, reduced O&amp;M costs</td>
</tr>
<tr>
<td>Improved Input Supplies &amp; Market Access</td>
<td>saving and credit facilities established, cooperation in marketing</td>
</tr>
</tbody>
</table>
Results of the Pilot: Production (1)

- Increase in Production and Income
  - Yield increase
  - Cropping Intensity
  - Cropping patterns

### Yield Increase Pilot

<table>
<thead>
<tr>
<th>Year</th>
<th>Cotton (seed)</th>
<th>Sorghum</th>
<th>Groundnuts</th>
</tr>
</thead>
<tbody>
<tr>
<td>'99/00</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>'00/01</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>'01/02</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Total

- Gezira

- Cotton (seed)
- Sorghum
- Groundnuts
Results of the Pilot: Production (2)

- Increase in Production
  - Yield increase
  - Cropping Intensity
  - Cropping patterns

Cropping Intensity

- '99/00
- '00/01
- '01/02

Pilot Block
Gezira Scheme
• Increase in Production
  – Yield increase
  – Cropping Intensity
  – Cropping patterns

Results of the Pilot: Production (3)
Results of the Pilot: O&M (1)

- Increase in Production and Income
- Improved Operation and Maintenance
  - reduced O&M costs
  - improved on-farm water management
  - Water Users association established

compared to adjacent blocks
- Desilting reduced by 17 %
- Repair on gates reduced by 78 %
Results of the Pilot: O&M (2)

- Increase in Production and Income
- Improved Operation and Maintenance
  - reduced O&M costs
  - improved on-farm water management
  - Water Users association established

As a result of farmers training
- improved field channels
- more efficient in-field water distribution
Results of the Pilot: O&M (3)

- Increase in Production and Income
- Improved Operation and Maintenance
  - reduced O&M costs
  - improved on-farm water management
  - Water Users association established

After substantial lobbying with SGB and Ministerial intervention
- WUA rules and regulation accepted
- principle of transfer of minor canal maintenance to WUA accepted
- principle of fee collection by WUA accepted
Results of the Pilot: Services

- Increase in Production and Income
- Improved Operation and Maintenance
- Improved Input Supplies & Market Access
  - saving and credit facilities established
  - cooperation in services procurement
  - cooperation in marketing
Results of the Pilot: Services (1)

- Increase in Production and Income
- Improved Operation and Maintenance
- Improved Input Supplies & Market Access
  - saving and credit facilities established
  - cooperation in services procurement
  - cooperation in marketing

- revolving fund established for purchase of fertilizers and seeds
  - repayment rate > 80%
  - escape traditional money lender realized
Results of the Pilot: Services (2)

- Increase in Production and Income
- Improved Operation and Maintenance
- Improved Input Supplies & Market Access
  - saving and credit facilities established
  - cooperation in services procurement for land preparation & pest control
  - cooperation in marketing

  - negotiation for contracts for land preparation and aerial spraying
Results of the Pilot: Services (3)

- Increase in Production and Income
- Improved Operation and Maintenance
- Improved Input Supplies & Market Access
  - saving and credit facilities established
  - cooperation in services procurement
  - cooperation in marketing

- joint complaints on late repayment of cotton sales by SGB
- joint negotiations with traders on sale products
- improvement storage facilities
- post harvest processing
Results of the Pilot: Studies

- Social & Economic Impact
- Marketing constraints & opportunities
- Rural Financing and Credit
- Agro-ecological Study
  - Agricultural Productivity
  - Irrigation supply and conditions
Results of the Pilot: Studies

- Marketing
- Rural Financing and Credit
- Social & Economic Impact
- Agro-ecological Study
  - Agricultural Productivity zoning
  - Irrigation supply and conditions

Results of the Pilot: Studies

- 100% Supply: 48%
- 100-75% Supply: 43%
- < 75% Supply: 5%
- Waterlogging: 4%
Results of the Pilot: Studies

- Marketing
- Rural Financing and Credit
- Social & Economic Impact
- Agro-ecological Study
  - Agricultural Productivity zoning
  - Irrigation supply and conditions

Priority
PIM Approach and Methods

Costs of Capacity building:

2 year programme

- Training of Trainers : $ 18,000
- Farmers Field school Training : $ 25,000
  - $ 500 @ FFS * 12 * 4
- $ 7,50 per ha
  - Farmers Union financial support in training

- Inputs support for Field schools (revolving fund)
  - $ 30,000
The Way Forward

• **Pilot successful in demonstrating:**
  – framework for participatory management and institutional reforms
  – potential for increased productivity and income
  – procedures for establishment viable water users associations
  – possible farmers cooperation in procurement of inputs, marketing and collective financing

• **Remaining Challenges**
  – commitment to reform *(agreement to IMT still pending)*
  – expandability to other blocks
  – sustainability of WUA
THANK YOU

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