Increasing Water Productivity of Rice through Adoption of System of Rice Intensification (SRI)

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MAJOR CHALLENGES

- Low Land and Water Productivity
- Increasing Population Pressure
- Shrinking Water Resources
- Dwindling Land for Agriculture
- High Water Losses
- Depleting Aquifers
- Degrading Land Resource Base

Food Security
YIELDS OF MAJOR CROPS IN PAKISTAN
(Kg/ha)

Yields are almost stagnant for the past decade.
RICE PRODUCTION CONSTRAINTS

- Insufficient water availability
- Improper water management
- Undulated topography
- Sub-optimal plant population
- Imbalanced use of fertilizers
- Deterioration of soil fertility
- Inhumane & laborious method of transplanting
SYSTEM OF RICE INTENSIFICATION
Punjab Experience

• Start with precisely levelled fields
• Early transplantation of young seedlings, only 8-15 days old (9-12 cm height, 2-leaf stage)
• Maintain moist field with just thin layer of water
• Wide-space planting in square pattern (25 x 25 cm)
• Planting only one plant per hill
• Transplantation of nursery in evening
SYSTEM OF RICE INTENSIFICATION (SRI)

Impact Assessment

- Enhances Productivity
  - Increase yield 30-50% or more
  - Larger panicles (about 200-300 grains/panicle)
  - Higher grain weight (15-20%)

- Conserves 25-50% water

- Reduces seed requirement by 80-90%

- Improves livelihood
  - 20% reduction in cost of production
PROMOTION OF SRI

SRI Seminars at UAF and in Okara Project area

Trials at Univ. of Agriculture Faisalabad for adaptation of SRI
CROP ESTABLISHMENT AND IMPACT
## IMPACT OF SRI

<table>
<thead>
<tr>
<th>Year</th>
<th>Area (acres)</th>
<th>No. of Farmers</th>
<th>Water Saving (AF)</th>
<th>Net Income (US$)</th>
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<tbody>
<tr>
<td>2006</td>
<td>10</td>
<td>4</td>
<td>13.17</td>
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<tr>
<td>2007</td>
<td>25</td>
<td>10</td>
<td>32.93</td>
<td>5,989.75</td>
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<tr>
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<td>Total</td>
<td></td>
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<td>8,385.65</td>
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</table>
RESOURCE CONSERVATION TECHNOLOGIES BEING EVALUATED AND ADOPTED FOR RICE

✓ System of Rice Intensification (SRI)
✓ Direct-Seeded Rice (DSR)
✓ Zero-tillage Dry Sowing
✓ Leaf Colour Chart (LCC)
✓ Brown Manuring
✓ Surface Mulching
Sustainable Agricultural Development through Resource Conservation Technologies

A Resource Conserved is A Resource Generated