Irrigation System Reforms : New Policy Opportunities with SRI

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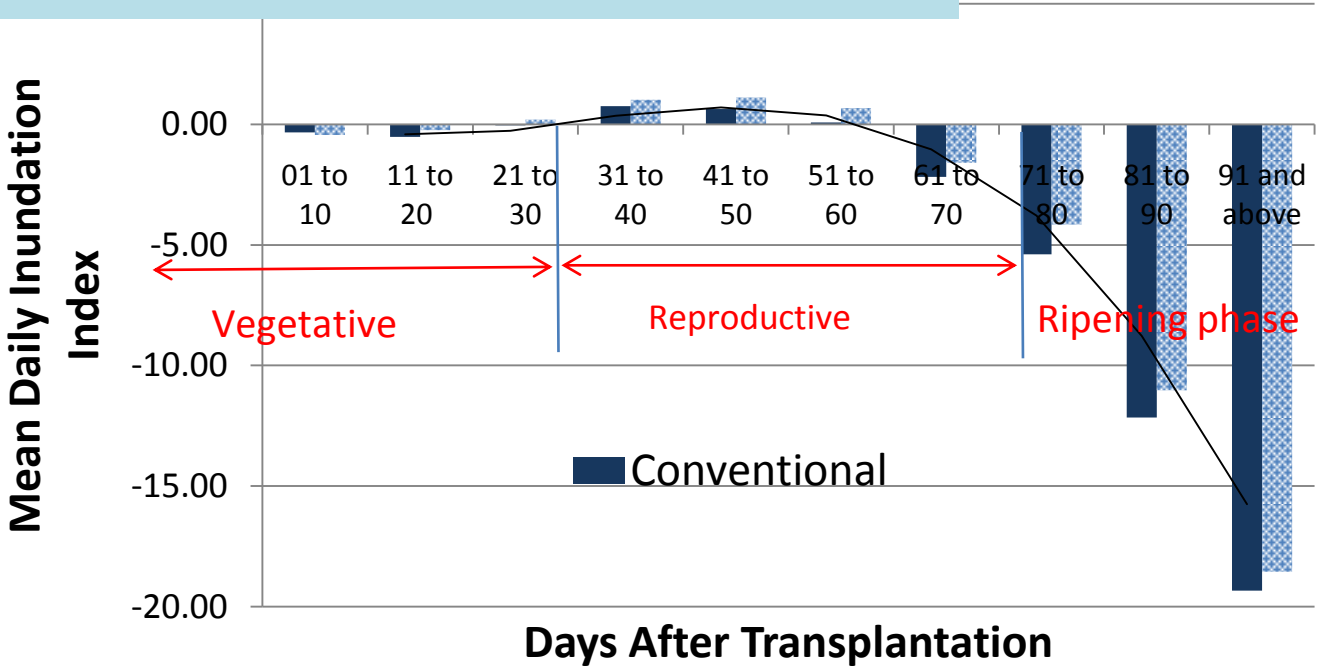
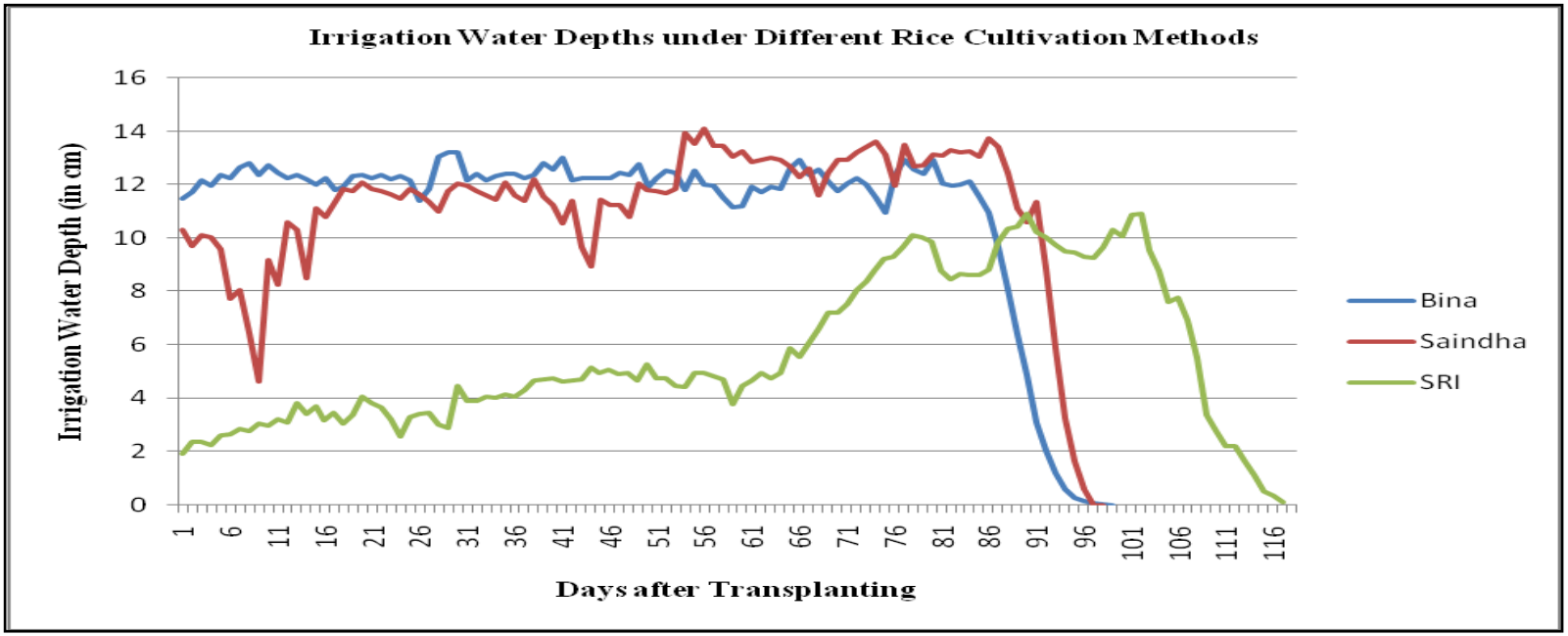
SRI & Water
what we have learnt?

- Increases Yield (10 to 25% on an average) – much higher, if the base productivity is low.
- Net returns increase
- Adaptable across diverse agro-ecologies
- Saves water, but…

SRI & WATER : What we have learnt?

Reduces water use; its potential however, is marginally utilized in the field





SRI & Water – What we have learnt?

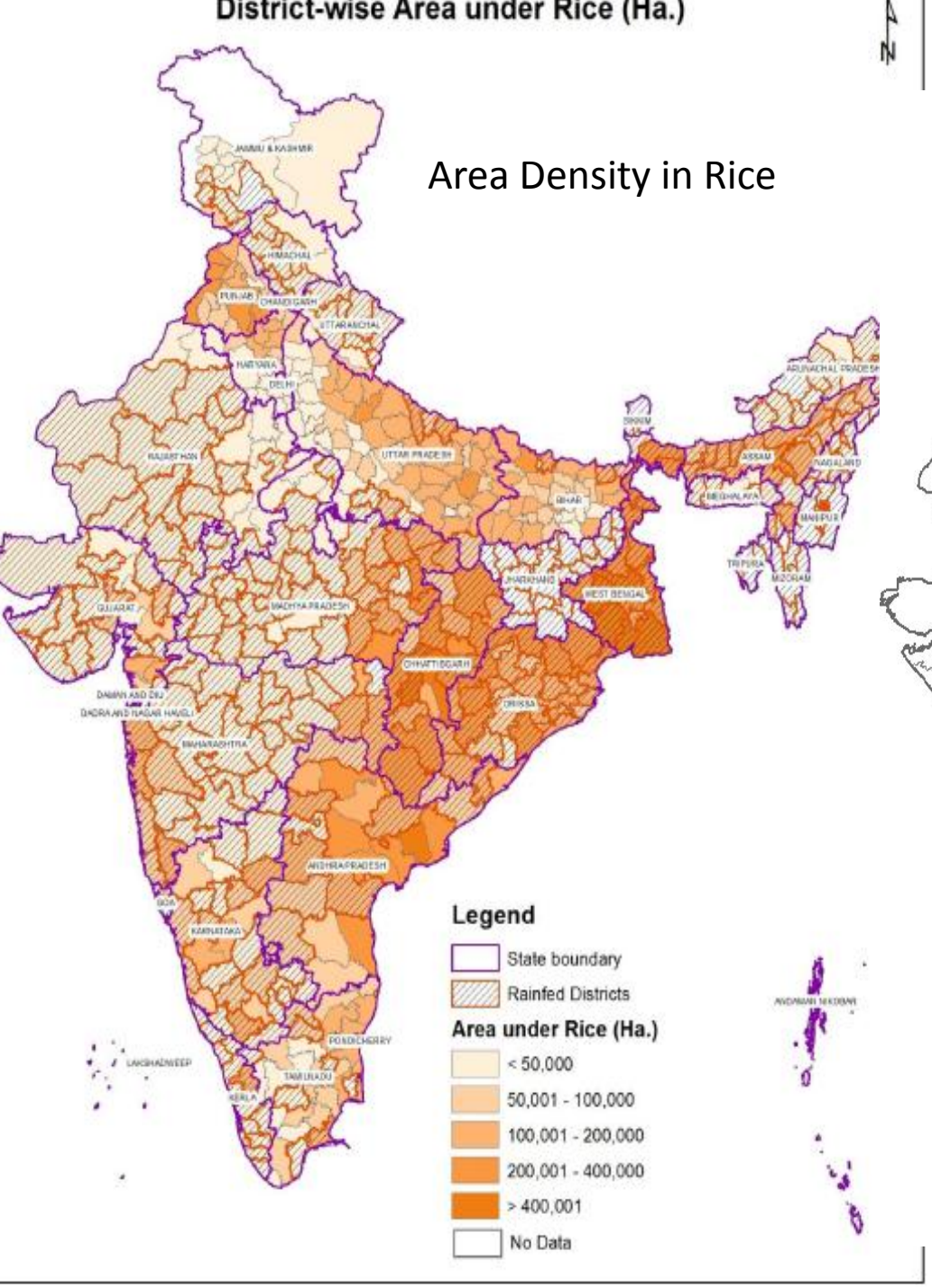
Realizing the larger potential of SRI in water saving mainly requires:

a) **Re-organisation of** :

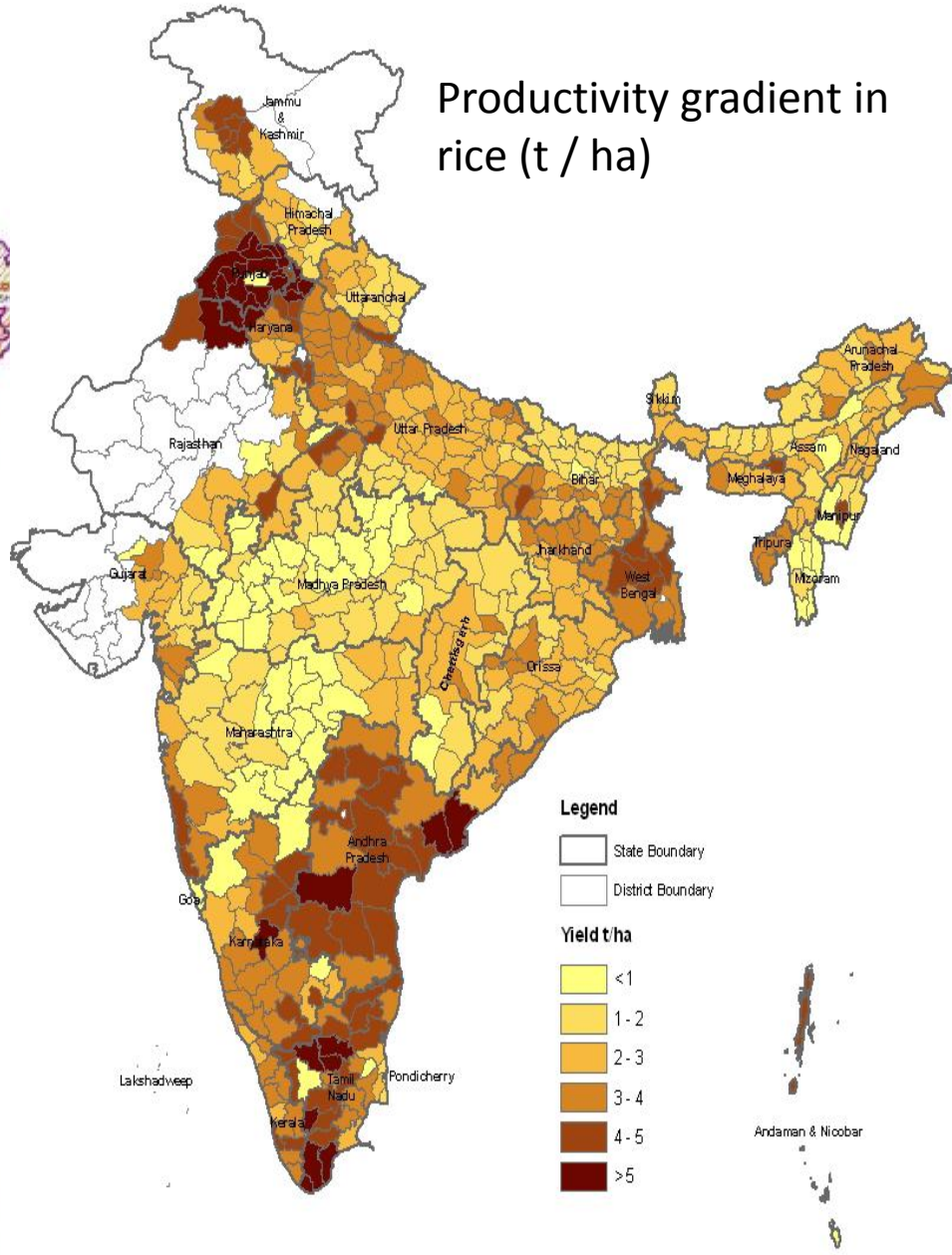
- Work/ task groups and their re-organisation across skills, farm, wage rates and gender
- Timing of operations

b) **Reformation in the systems of water application**

- Timeliness of water availability and
- Better control & management of irrigation systems



Area Density in Rice



Productivity gradient in rice (t / ha)

Rice & Water : Typologies for a Policy Frame

1. Rainfed
2. Rainfed with local irrigation systems (farm ponds, diversions, tanks.. Etc.)
3. Groundwater/ energy based (borewells, lift irrigation systems)
4. Large canal/ gravity systems
5. Conjunctive systems – ground water & surface

Rice & Water Typologies : Constraints

1. **Rainfed**
   - Low soil-moisture retention capacity
   - Drought Spells & Uncertainty
   - Flooding :not willing to drain soils
2. **Rainfed with Supplementation :**
   - Long drought spells
3. **Groundwater/ energy based**
   - Groundwater scarcity/ aquifer depletion
   - Uncertainty of electricity supply
   - Energy costs & Increasing burden of subsidies (macro issue)
   - Flooding : as a result of 'perception' and uncertainty
4. **Large canal/ gravity flow systems**
   - Lack of drainage
   - Irrigation/ water release schedules irregularities
   - Salinity
   - Absence of Field channels / delivery – at plot level
   - Flooding : due to un-controlled irrigation & lack of farmers' control
5. **Conjunctive systems – ground water & surface :** (mix of above)

Flooding is a consequence of several constraints – needs a system level solution (not just farmers' choice)

Rice & Water Typologies : Enabling SRI

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1. Soil organic matter improvement
2. **Local water harvesting**
3. Monitoring tool for farmers to trigger irrigation (AWD- FMT)
4. **Improving farmers capacity to understand relation between rice crop and water**
5. **IRRIGATION SYSTEMS REFORM:**
   - Institution development
   - Participatory Irrigation Scheduling
   - Infrastructure investment on irrigation distribution network and control upto plot level
   - Adequate Drainage infrastructure
   - Soil problem amelioration