

International Advisory Board Meeting
On March 7-8, 2015
Kyoto, Japan

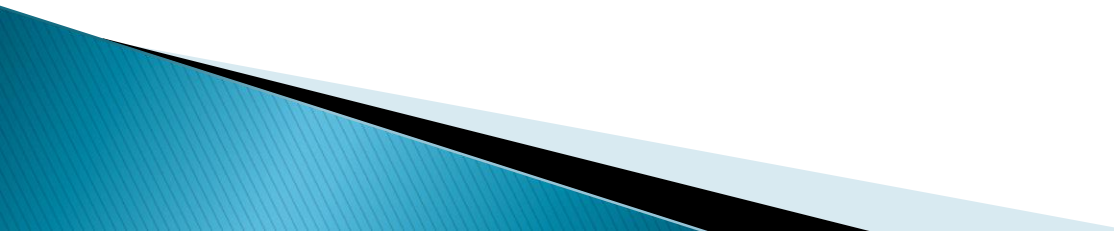
Sustainable Development for INDAS II

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1. Groundwater Depletion

- ▶ South Asia: High dependency on groundwater resources
Share of well irrigation: 61% in India (2008/09); Canal 26%, Tank 3%, Others 10%
Much higher in Bangladesh
- ▶ Declining water table
Overexploited districts/blocks/taluka/mandal:
14.5% (All India), 77.8% (DL), 75.2% (PJ), 55.9% (RJ), 48.7% (HR), 37.1% (KN), 36.9% (TN), 17.8% (AP), 13.9% (GJ).
Dark/Critical:
4.0% (All India), 0% (DL), 3.7% (PJ), 21.1% (RJ), 9.7% (HR), 1.7% (KN), 8.6% (TN), 6.3% (AP), 5.2% (GJ).
'Tubewell capitalism' and competition for a deeper aquifer
- ▶ Problems in agricultural power price policy in India
Free charge: PJ and TN
Flat rates: Almost all other states

2. Deforestation/Land degradation

- ▶ Problems in mountainous areas, especially in Nepal
Sustained, relatively high population growth rate of 2% per annum
Impact of the recent accelerated outmigration?
 - ▶ Problems for ST people?
 - ▶ Problems in Northeast India?
 - ▶ Research on social movements (e.g. Ishizaka)
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3. Cultivable waste management

- ▶ Inferior farmlands returning to cultivable waste land

Accelerated in rural Tamil Nadu

Historical background with GIS: Mizushima (2014)

- ▶ Invasion of nonnative species such as *Prosopis juliflora*

Utilization of *Prosopis juliflora* as a new form of energy?

T. Sato's research

4. Land alienation

5. Rural/urban water competition

6. Water pollution

- ▶ Case study in Tiruppur, Tamil Nadu

Kumar, D. Suresh and Koichi Fujita (2014) 'Industrial Growth and Indian Agriculture: Insights from Two Villages near Tiruppur, India'

Jegadeesan, M. and Koichi Fujita (2014), 'Knitted Together: The Life of Migrants in the Tiruppur Garment Cluster'

The case of a village, 13km from Tiruppur

- Need for clean water for bleaching industry: 100 million liters/day
- Exploitation of groundwater from adjacent villages in a 30km radius
- Groundwater depletion and drastic changes in the cropping system

Water pollution from the dyeing industry

- February 2011: High Court order to close dyeing units
- Serious impact on the garment industry and migrants

6. Energy issues

- ▶ Macro issue
 - Dependence on imported fossil fuels
 - Pressure on foreign exchange
 - Substituting forms of energy
 - Energy-saving technology development
- ▶ Micro issue
 - From biomass to LNG in rural areas

7. Climate change and agriculture

- ▶ The process of land use and agricultural change in South Asia between 1900 and 2000, using district-level data (Kurosaki)
- ▶ Climate change and Indian agriculture (e.g. Palanisami)

