



**International
Finance Corporation**
World Bank Group

Conditions for Area-based Water Security in India: Time to Act?

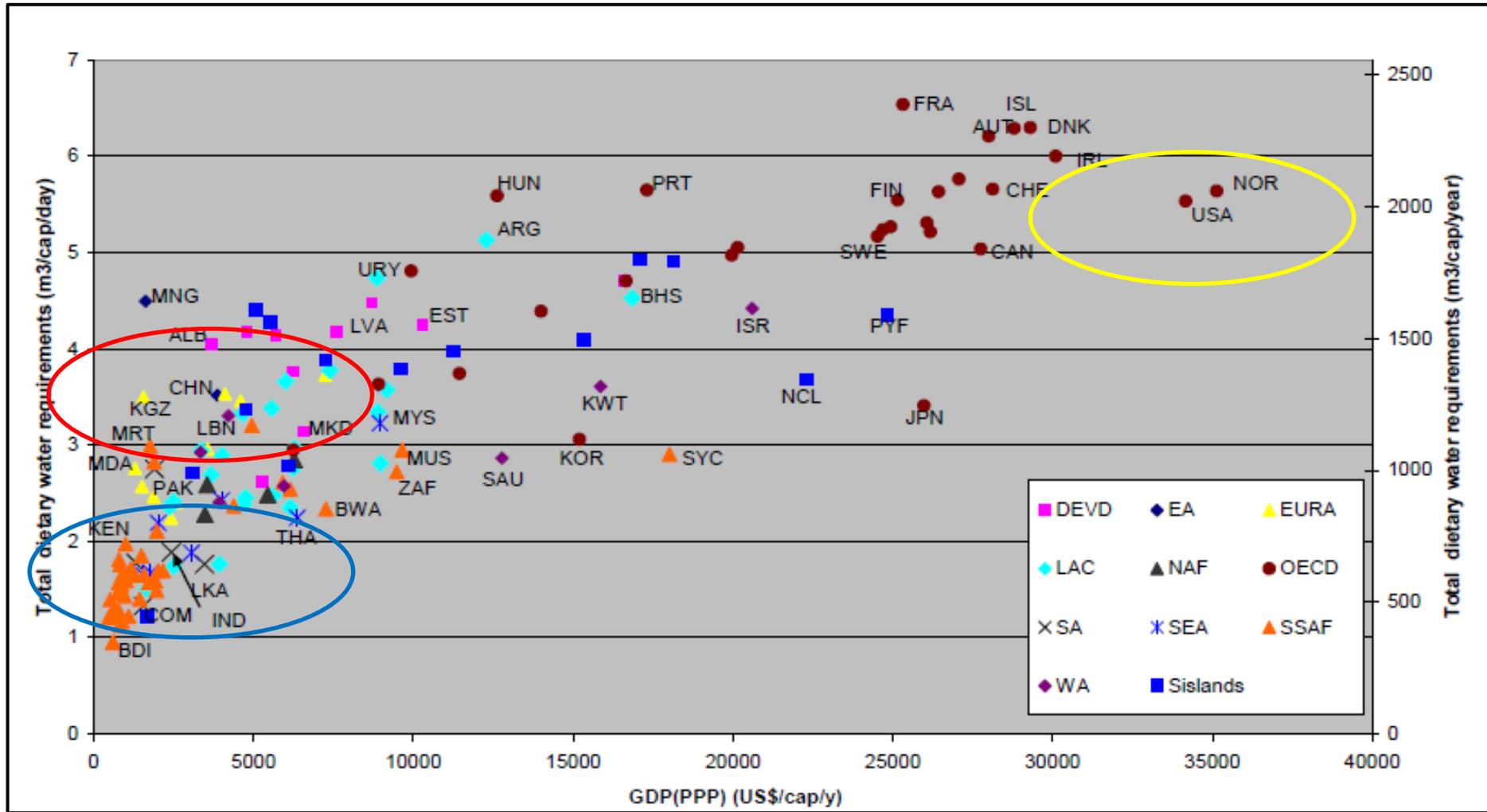
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Head, South Asia Water Advisory

CEO Water Mandate Conference Corporate Water Stewardship
Mumbai, 5 March 2013

- I. **What is the Problem?**
- II. **Big Four Barriers**
- III. **Roadmap for Area-based Water Security**

Dietary water requirements are set to grow exponentially...

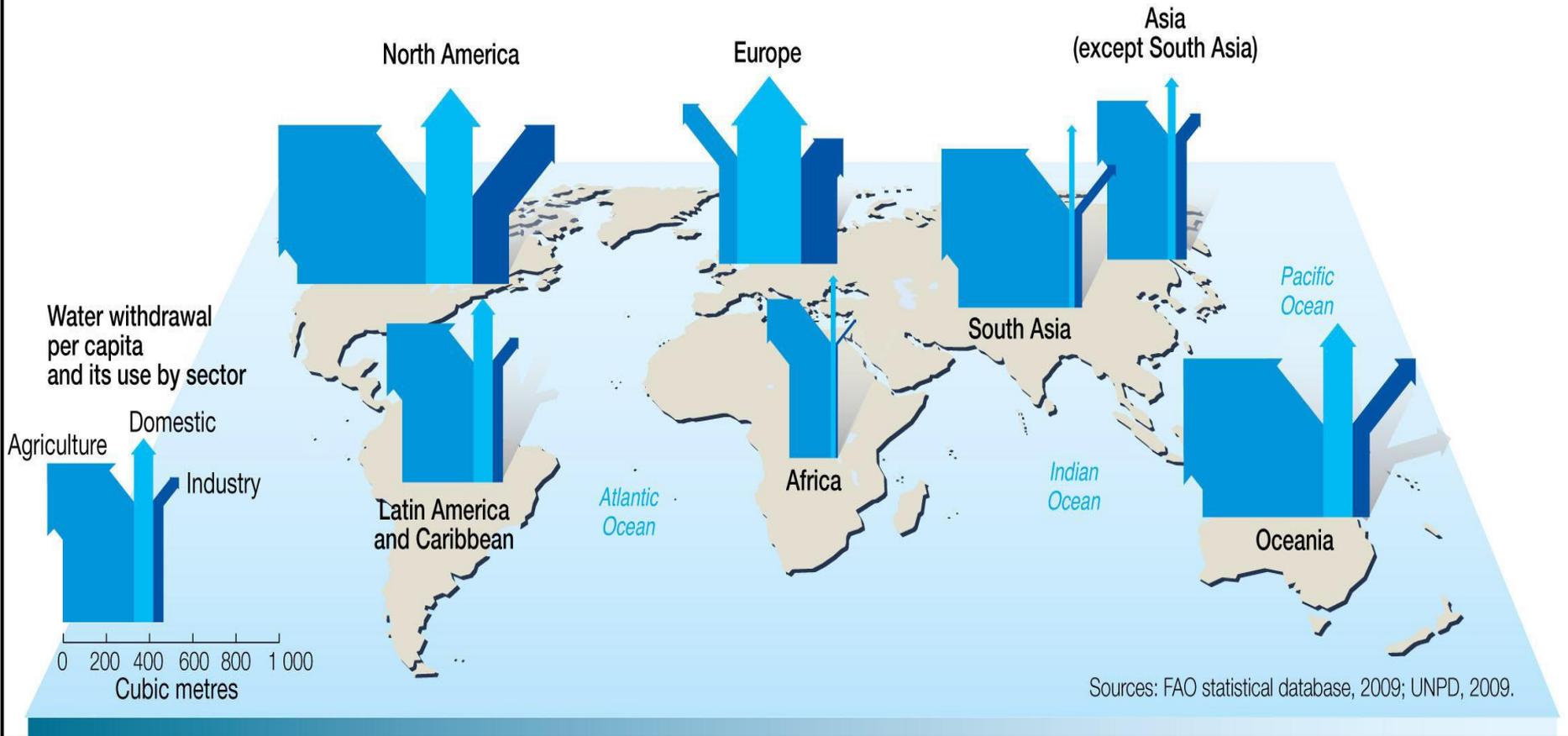
India per capita water requirement currently among lowest globally



Per capita agri-water use near highest of the world...

...yet dietary water use remains one of lowest

Water withdrawal and use



Groundwater crisis is uncontrolled...

Rapidly expanding rapidly across Northern, Central and Southern India

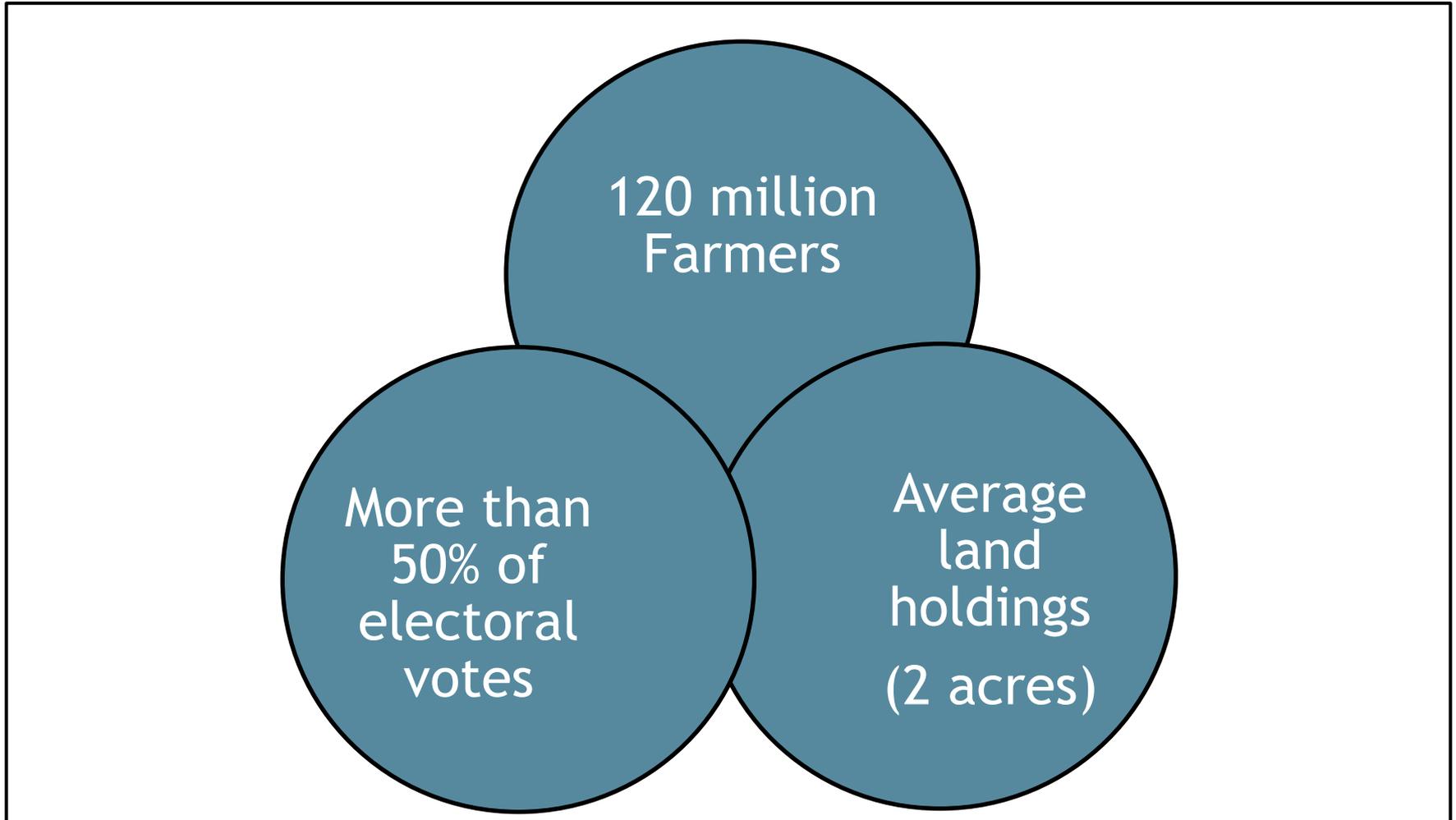
Groundwater Trend by Block in Rajasthan

No of Block in Category	1984	1988	2001	2008
Over Exploited (>100%)	12	41	86	168
Critical (90% to 100%)	11	26	80	28
Semi Critical (70% to 90%)	10	34	21	20
Safe (<70%)	203	135	49	32

Source: Ground Water Status of Blocks, PHED, GoR (2008 data excludes Taranagar)

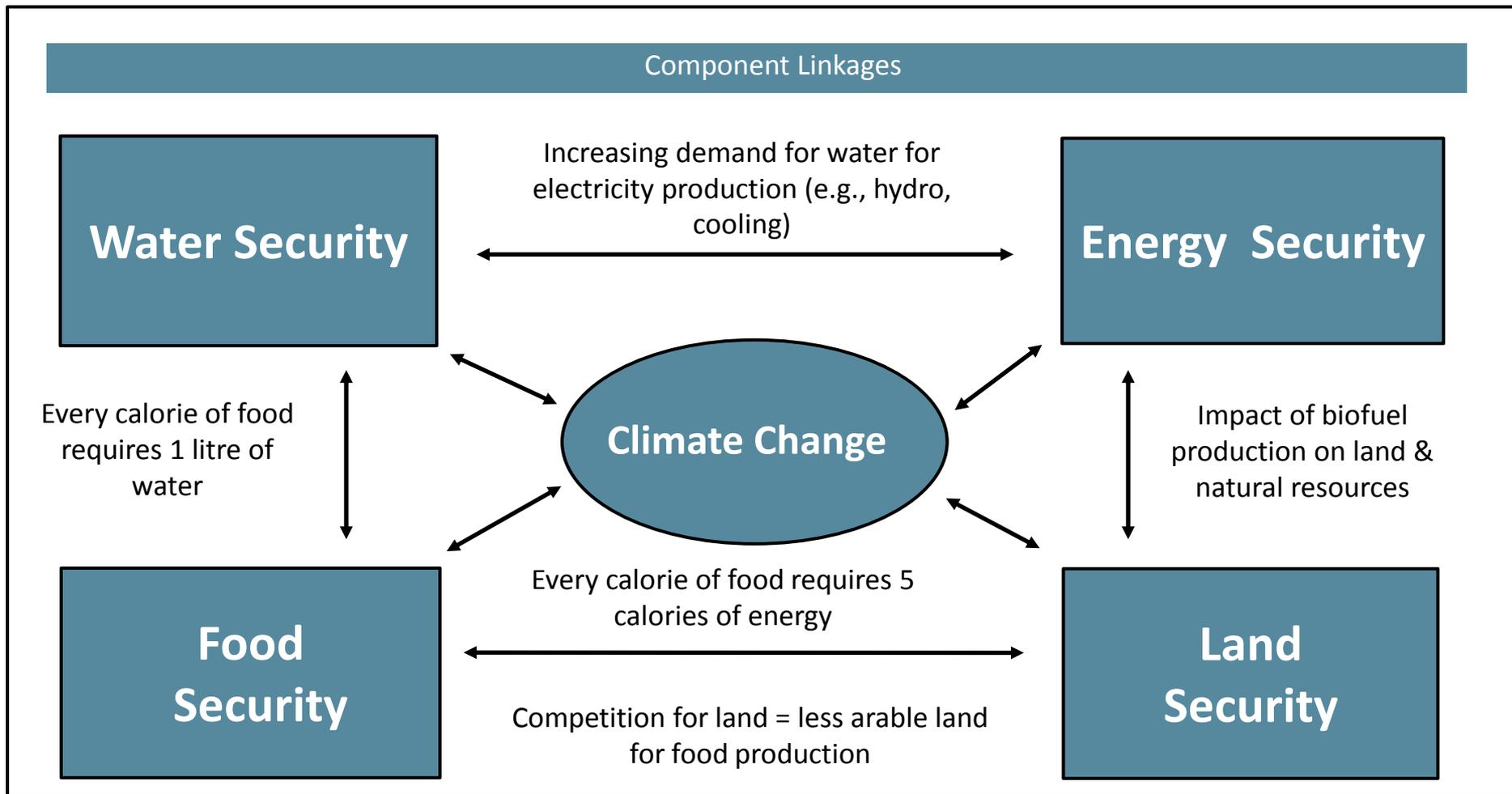
Rural poverty alleviation is the political priority...

India has 30% of the world's poor, predominantly smallholder farmers



The “Multi Water Nexus” plays out in full in India...

Food-water-energy-land nexus ties together through linkage with climate change



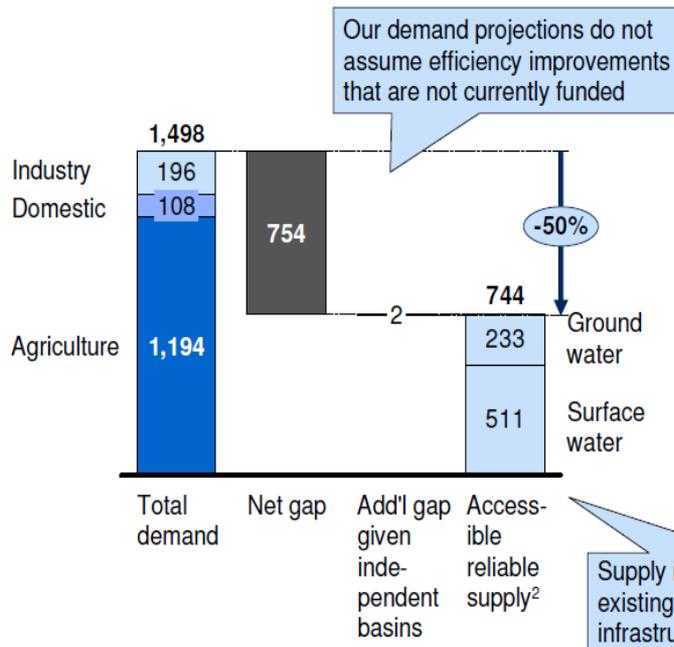
Water security challenges will escalate in coming years...

India is projected to have a 50% demand-supply deficit by 2030

Water Scenario

By 2030 the deficit will have grown to half of demand

2030 Supply and demand, 000 MCM



Key takeaways

- By 2030 the gap between supply and demand will have grown to 50% of total demand
- Industrial use increases to 196 thousand MCM or 13% of total while domestic increases to 108 thousand MCM or 7% of total

Current

- Population: 17% of world
- Water Resources: Only 4% of world's renewable water resources
- Agriculture Share: 80-85%
- Industry Share: 8%

2030 projections

- Demand forecast: 1.5 trillion m³
- Supply forecast: 744 billion m³
- Agriculture Share: 80%
- Industry Share : 13% share

- I. What is the problem
- II. **Big Four Barriers**
- III. Roadmap for Area-based Water Security

Four key barriers restrict participatory WR management

Among India's many challenges, these need to be overcome to create favorable conditions for participatory area-based water security

Barriers to Collective Action Plans

- Water is government by many different government departments at both central and state level

Disconnected
Govt Water
Resource Mgt

- Weak transformation from (engineering) Irrigation Department to (integrated) Water Resource Department

- Slow process to (a) develop policy consensus at center, and (b) trickle down to state- and lower government levels

Weak
Regulatory
Environment

Lack of
Alignment

Stakeholders
Mistrust

- Strong mistrust among private sector, civil society, government, MNCs, private-to-private (local)
- Lack of credible honest brokers/ convening partners

- Regulatory enforcement is weak

Weak Private
Sector
Motivation

- Awareness is high, but problem -ownership is weak across private sector

- Business case focused on short-term financial returns, while risk management is lacking

- I. What is the problem?
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Private Sector has to assume leadership...

Emerging water challenges require scalable solutions with multi-stakeholder involvement

Leadership from Private Sector

Demand Management

- India is running out of water supply solutions
- Strong need for demand-side management, especially in the agri-sector using ~85% of country's water resources
- Interventions need to have meaningful hydrological impact
- Water solutions needs to be equitable and inclusive

Private Sector Role

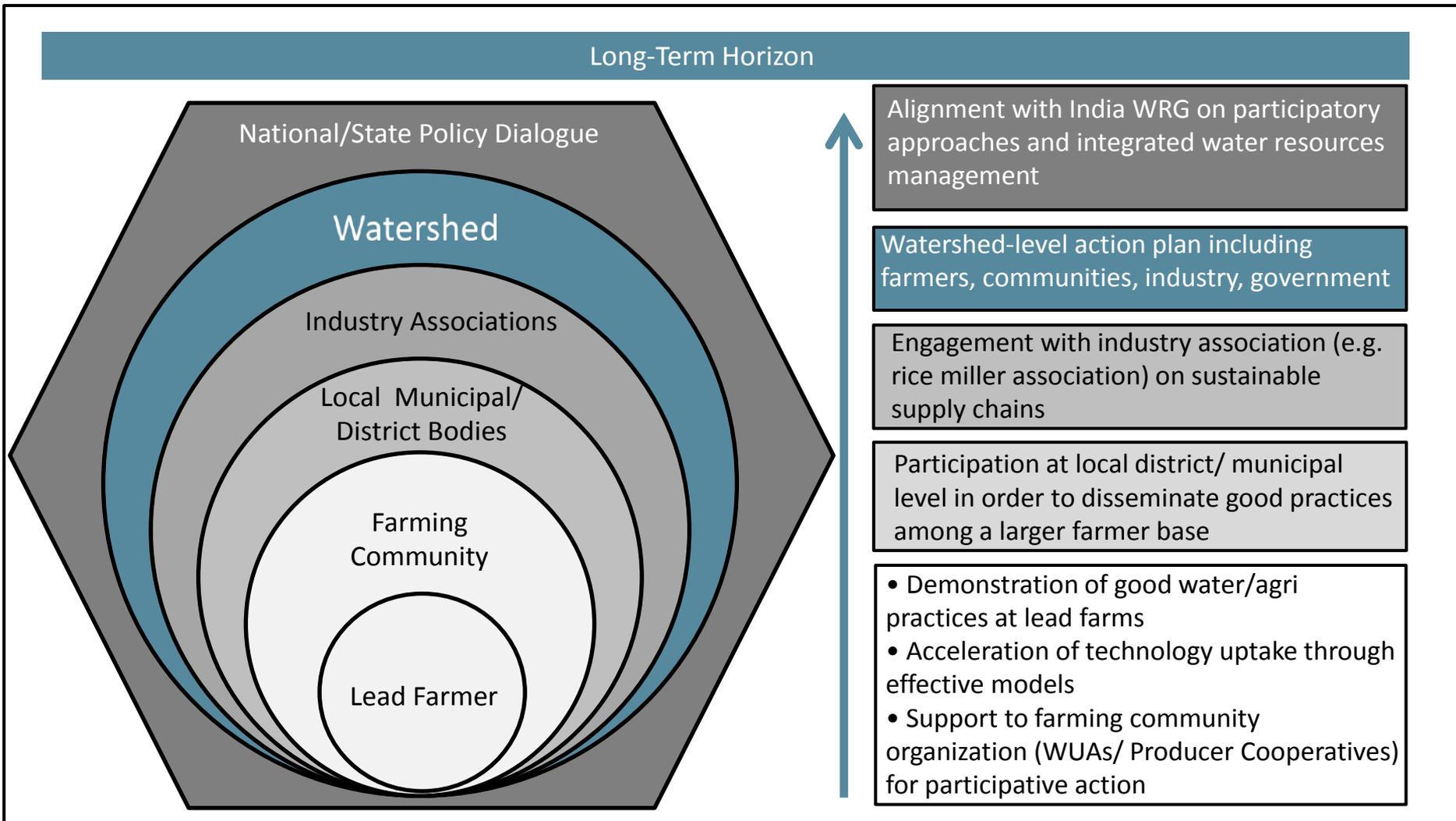
- Inadequate government response to country's water challenges inadequate
- Current private sector responses are segregated, dispersed and not impact full
- Need for development of replicable and scalable models for private sector participation

Multi-Stakeholder Engagement

- Tangible and measurable impact at the watershed level requires multi-stakeholder initiatives in geographically concentrated areas

Central to the solution is farmers' participation...

10-year vision for sector aims at facilitating watershed-level action in partnership with other stakeholders



Single information- and decision support system is key...

Consistent hydrological and stakeholder data need to span four levels covering farmer to watershed

Spatial Coverage

Macro

Watershed/Sub-River Basin

Hydrological mapping and establishment of safe groundwater abstraction levels

Meso

District/ Block

Mapping of multiple competing water users the district

Micro

Community/ Village

Empowerment of community-level water user groups through shared information

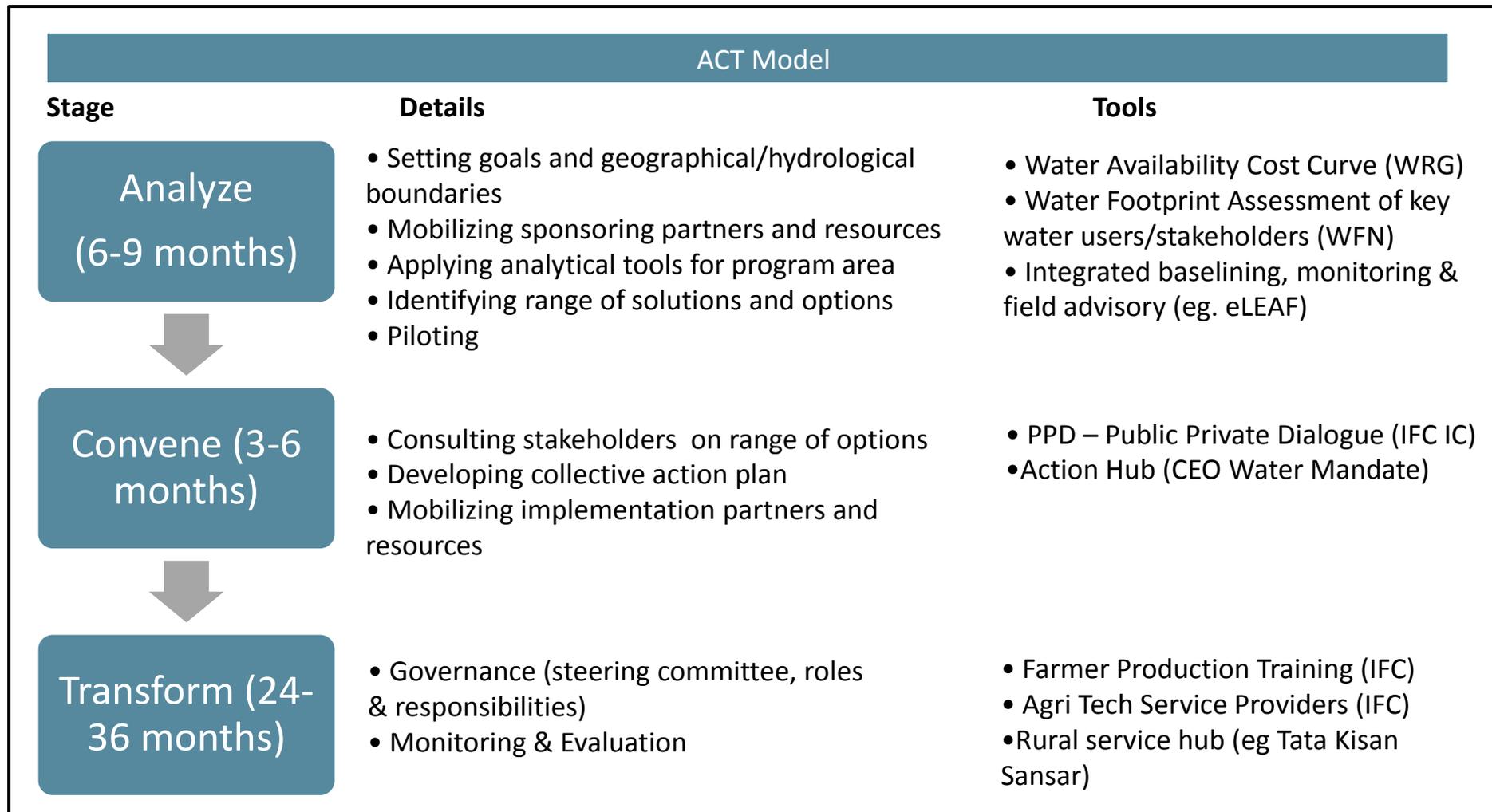
Nano

Farmer

Information to farmers on how to manage their own plot

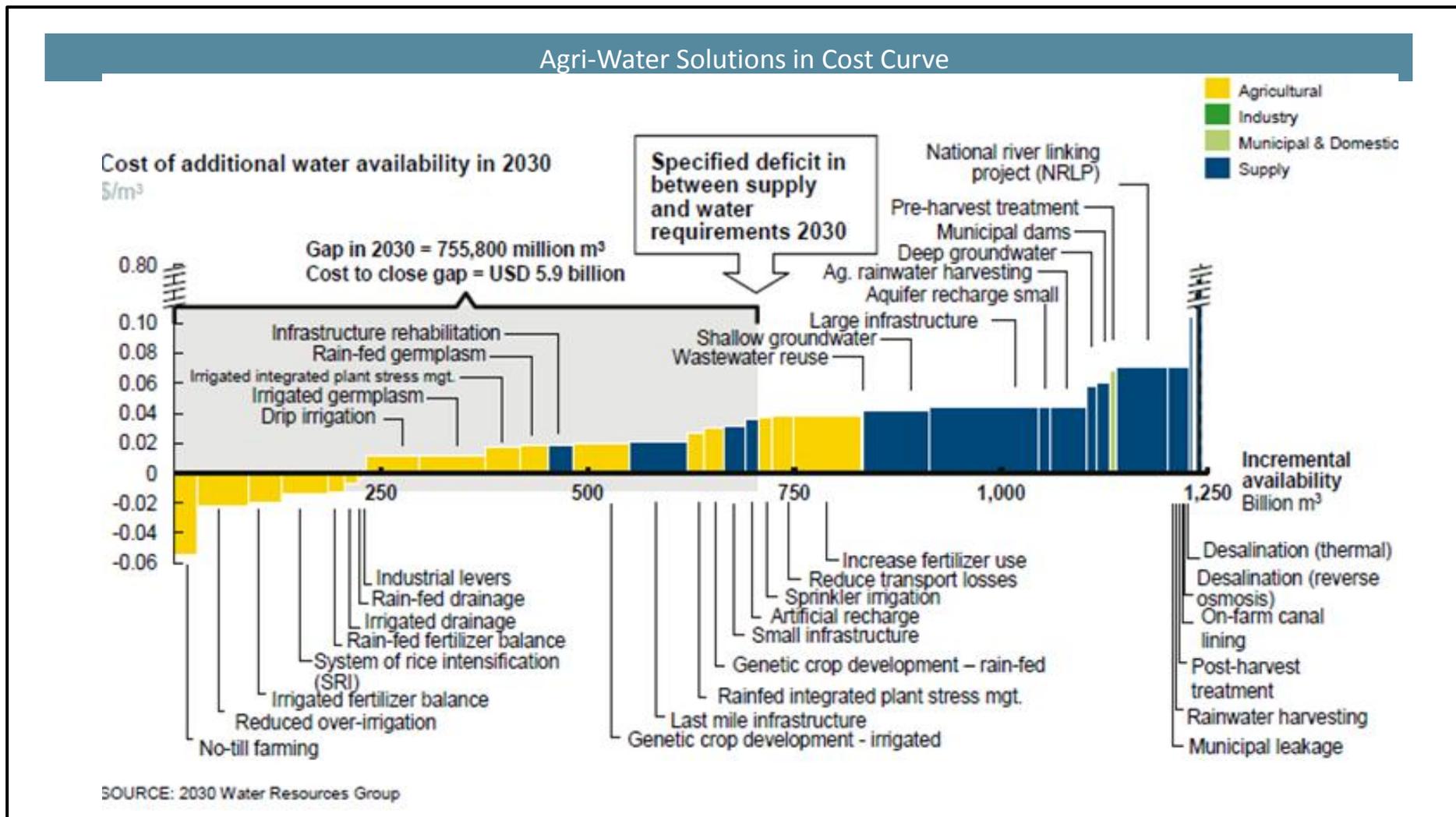
Implementation model is straightforward yet untested in India...

'ACT' model developed by WEF/WRG is used at Meso/District/Watershed Level



Using fact-based analytics – eg Water Cost Curve, WFAs...

Agri-Water levers represent majority of demand-side solutions to close supply-demand deficit



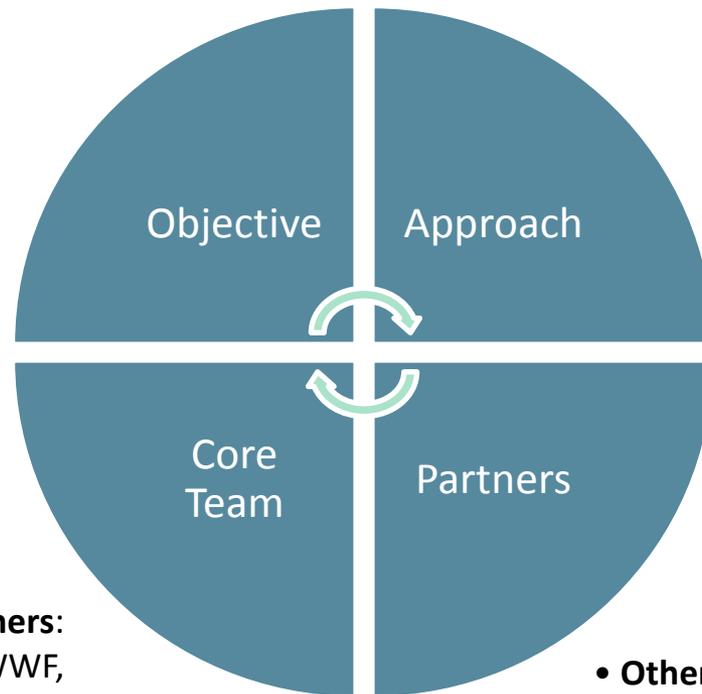
National platform is needed for sharing knowledge and experiences regarding area-based water security...

Overarching goal centers on bringing sustainable farming to a critical mass of farmers in a geographically concentrated area

- National platform sponsored by the IFC and partners to develop and catalyze application of methodologies and tools for building long-term water security

- Specific geographical areas at a scale that has a meaningful impact to address India's growing water resources challenges

- **Knowledge/convening partners:**
eg. IFC, CEEW, GIZ, WWF, Solidaridad, WRG, CEO WM, CII, FICCI, WBCSD, HUF, SRTT



- Alignment of unique group of institutions across India to share lessons of experience and promote best practices regarding large-scale, participatory water resources planning and management

- **Private sector partners :** eg. Tata, Mahindra, Jain Irrigation, Netafim, SABMiller, Nestle, Coke, Pepsico, Unilever, etc

- **Other associate partners:** CYMMIT/ CGIAR, FAO, World Bank, ADB, CWC, CGWB, etc

THANK YOU