

WELL LABS

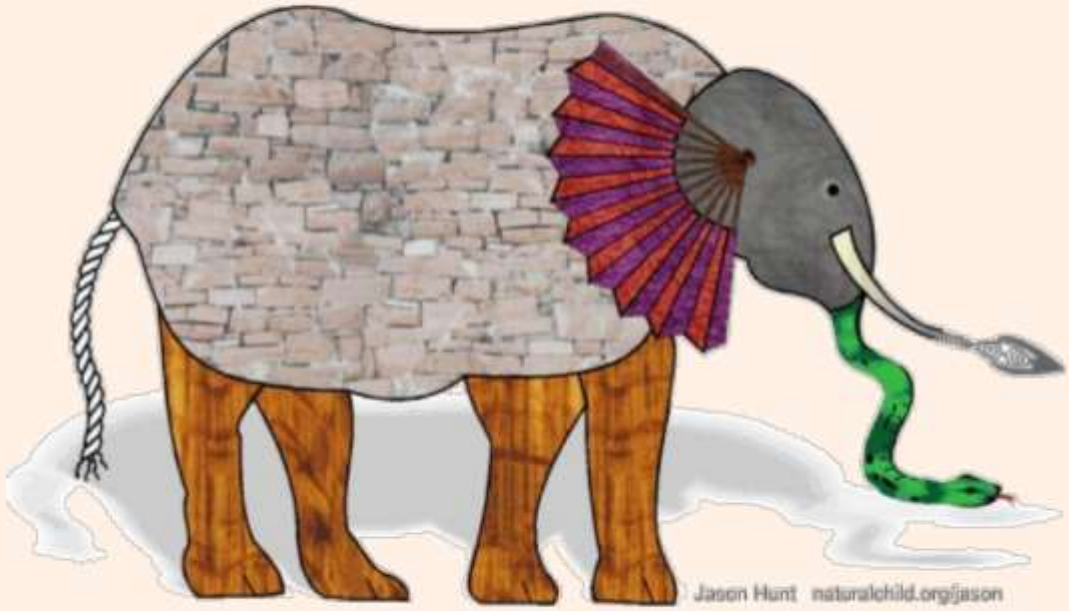
WATER • ENVIRONMENT • LAND • LIVELIHOODS

# Navigating the Political Economy for Climate Resilience

August 24, 2026

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# 0.1 Political economy challenge: Fragmentation and silos




Inter-agency coordination remains one of the biggest challenges.

This is not just a world-view or understanding problem.

Agencies also compete for funds and are territorial about who is allowed to do what.

The problem is the real-world is messy and there are overlaps.

**The challenge is to divide up the work by agency with clear "hand-off" points.**

# Political Economy: Key Messages

1. Fragmentation of agency agendas has resulted in siloed in decision making.

2. We need policy convergence and inter-agency coordination in implementation.

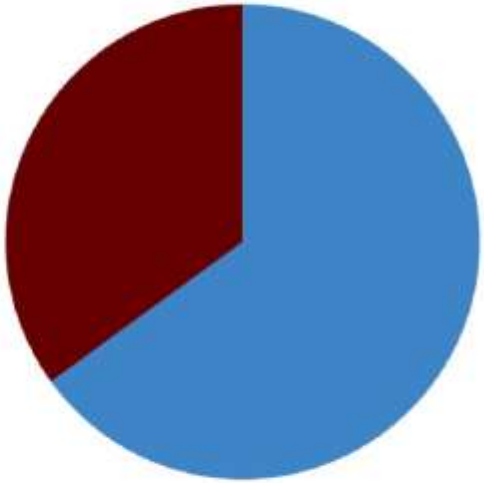
3. A first step to policy convergence is data convergence => all agencies working off a single source of truth.



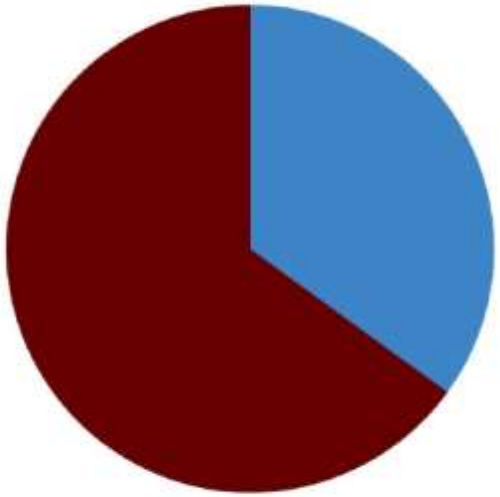
# 1 The GW-SW Disconnect

# Disconnect between GW and SW

## Spending

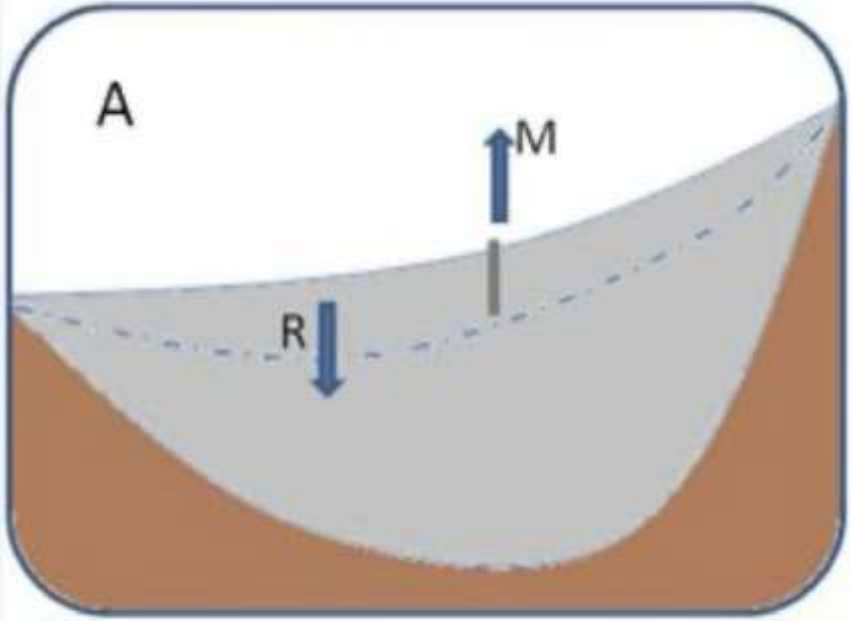


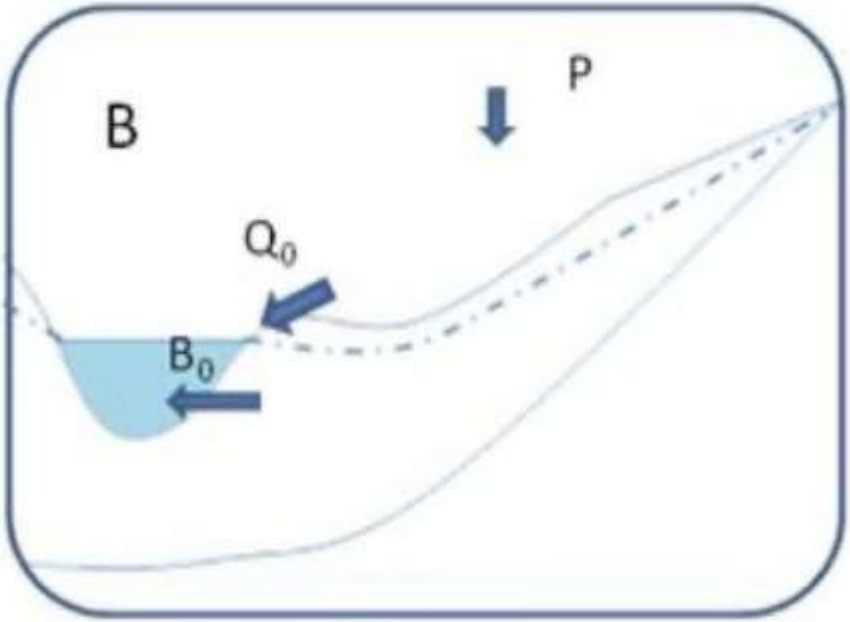
## Water Use



**About ⅔ of the spending is on surface water whereas about ⅔ of the water use is groundwater based.**

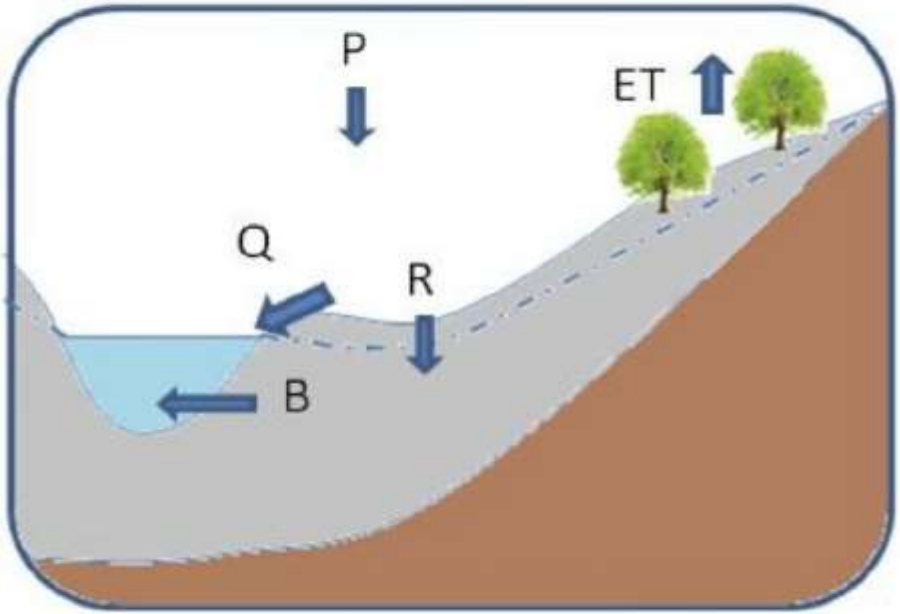
# Surface and groundwater agencies are still separate.




**Groundwater** **Surface Water**

# Even though the hydrological cycle is not!




Unconfined Aquifer

Bedrock

River/Lake

Water Table

## Missed Opportunities

- Designed conjunctive use in canal areas – which boosts resilience.
- Surface water schemes as recharge schemes.

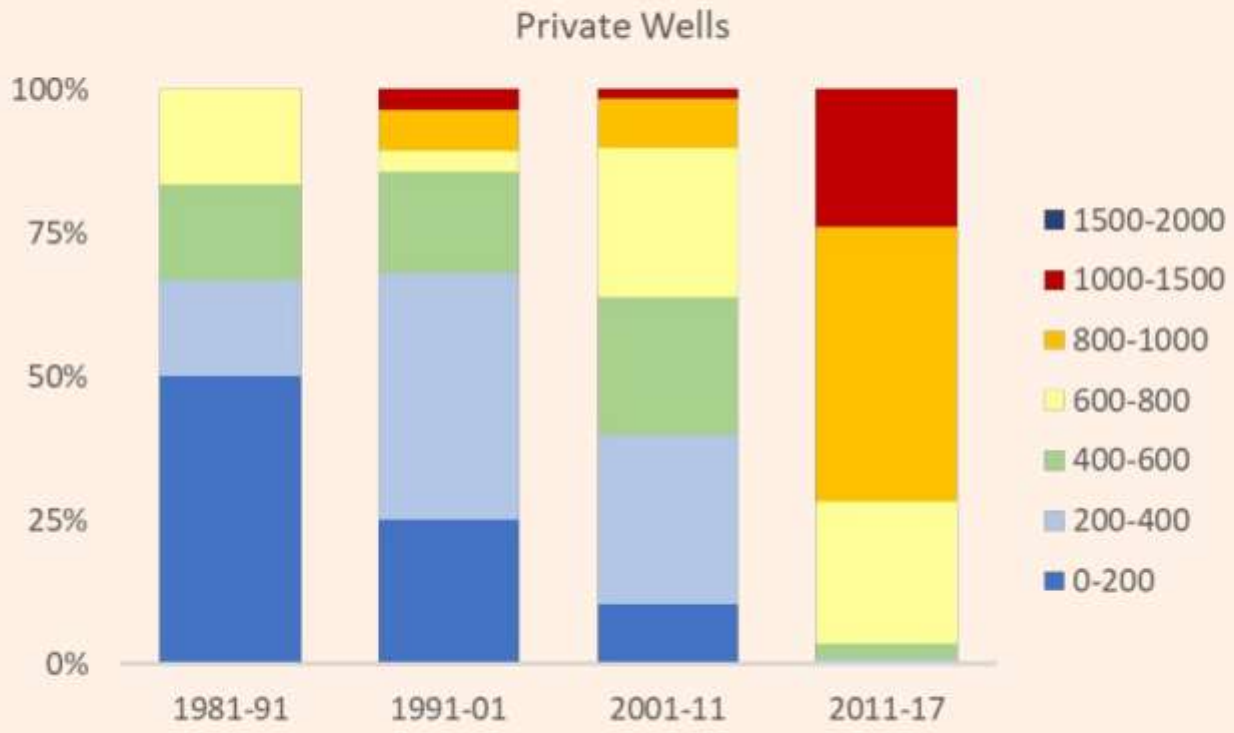
## Navigating the Political Economy to boost Climate Resilience:

- Single source of truth – common data and models.
- More engagement of groundwater people in surface water projects.



# 2 The Water Resources Drinking Water Disconnect

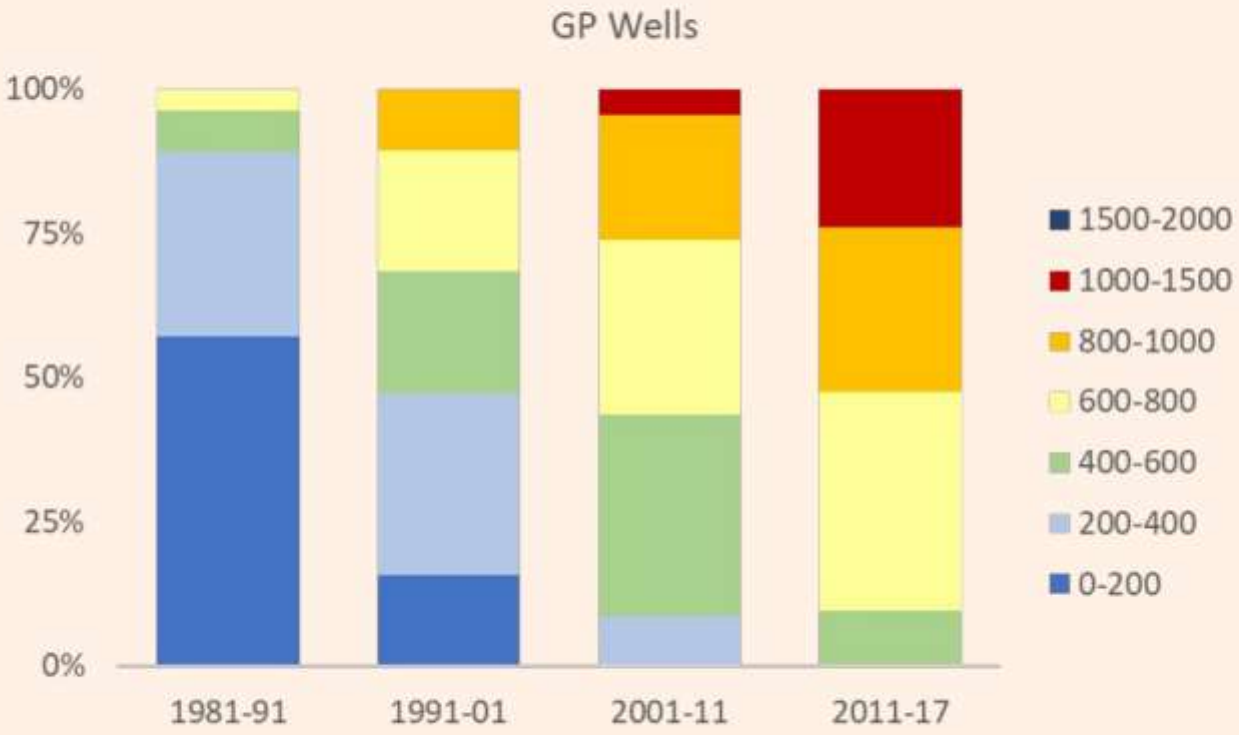
# 2.1 Drinking water wells "chase the water table"




**Our work in Karnataka shows that as private wells have gotten deeper....**

*Source: Srinivasan et al. 2025, PLOS Water*

# 2.2 Drinking water wells "chase the water table"




**.... GP wells have also deepened in response.**

**Almost half of all wells drilled between 1991 and 2011 failed within a decade.**

*Source: Srinivasan et al. 2025, PLOS Water*

# 2.3 Electricity subsidies in agriculture impose costs on drinking water.

| Gram Panchayat | Pumping Cost | 15th FC Allocation (Central) | SBA Fund (State) | Tax Revenues | Arrears to electricity board |
|---|---|---|---|---|---|
| **Aralumallige** | 71 | 25 | 9 | 22 | 192 |
| **Doddatumakuru** | 38 | 30 | 10 | 16 | 142 |

All costs in Rs lakh/ year, rounded. Arrears are total accumulated Rs lakh.
Capital cost of ~15 lakh/year for borewells is from other funds like JJM.

*Source: Srinivasan et al. 2025, PLOS Water*

## Missed Opportunities

- Designing drinking water schemes schemes for source sustainability and resilience – both quality and quantity.

## Navigating the Political Economy to boost Climate Resilience:

- Single source of truth – common data and models – to prioritise scheme siting.

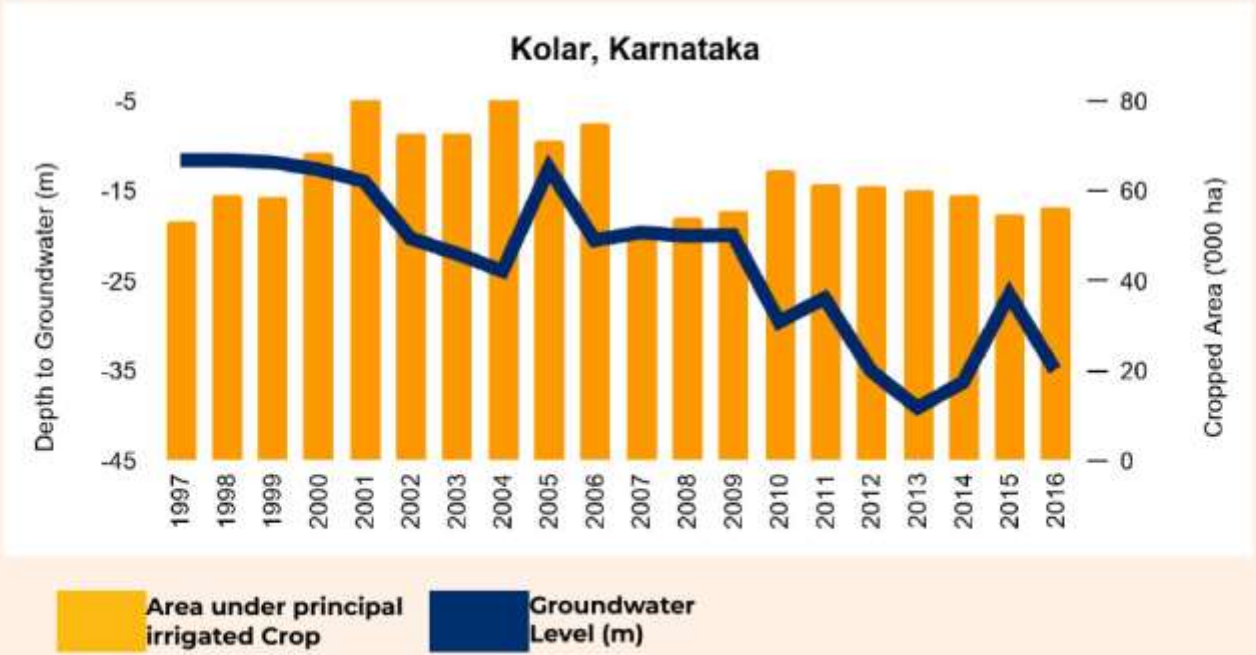


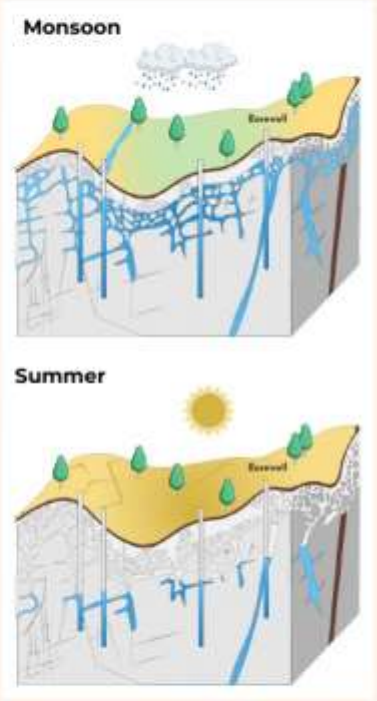
# 3 The Water-Energy Disconnect

# The electricity-groundwater nexus

Hard rock basement aquifers (granite and basalt) have lower storage than alluvial ones.

Overexploitation shows up as seasonal well drying in hard rock areas.



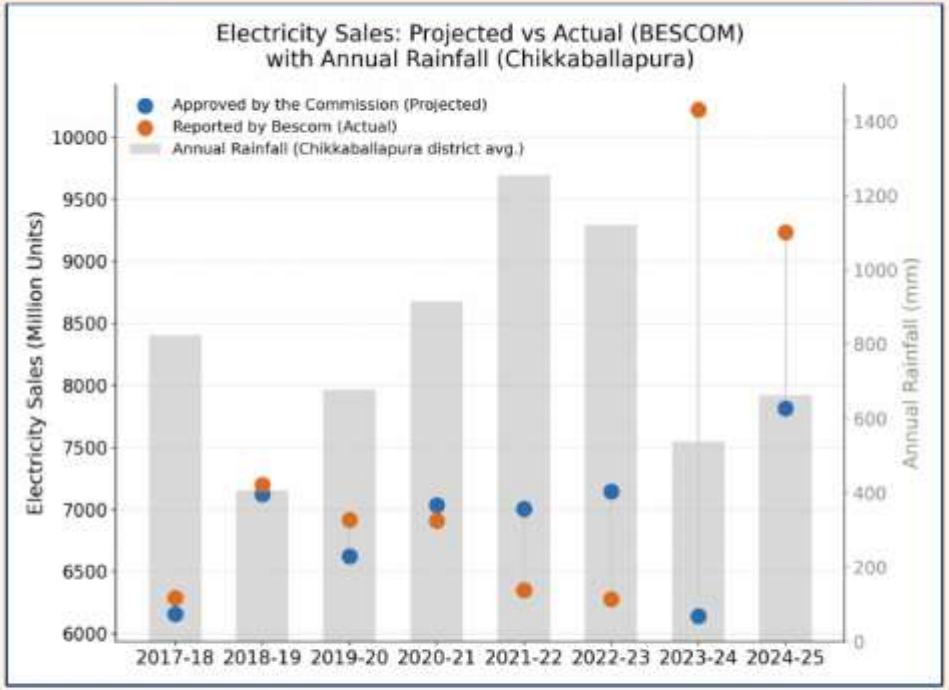

Source: WELL Labs

# 3.2 DISCOMs struggle to forecast agricultural electricity demand

Utilities use Business as usual forecasts to anticipate demand. But in in 2023-2, BESCOM sales increased by 23% over 2022-23..

Agricultural consumption from Irrigation Pump (IP) Sets accounted for 57% of this increase.

**Drought explains some of this.**
In 2023-24 rainfall in Karnataka was ~25% less than its long-term average. Three surplus years also resulted in increase in horticultural plantations creating lock-ins.




Source: Compiled for from BESCOM submissions at the KERC

**Missed Opportunity:**

- Electricity boards do not use groundwater data or land use data so they are unable to predict agricultural electricity subsidies.

**Navigating the Political Economy to boost Climate Resilience:**

- Helping electricity boards better predict electricity use in agriculture.
- Designing better incentive based payments to manage groundwater – use electricity savings to pay farmers.



# 5 The Way Forward

# Political Economy: Key Messages

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2. We need policy convergence and inter-agency coordination in implementation.

3. A first step to policy convergence is data convergence => all agencies working off a single source of truth.



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**THANK YOU!**