

Groundwater governance and development Lessons for India

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“Water governance”

- *Determines* how we as individuals and as a society manage, use and allocate scarce water resources and arrange water supply and sanitation services with PPP, precaution & sustainability in mind
- ‘Good governance’ = process for better organisation and coordination, *based on* transparency, integrity & accountability,
- ... *considering* a range of actors & stakeholders (involvement, ownership)

Water governance, cont'd

- *Defined by* political, social, economic and administrative *systems that are in place* and which directly or indirectly affect the use, development and management of water resources and the delivery of water services at different levels of society.
- The water sector also impacts on and is affected by decisions and development outside of the water sector (IWRM, W-E-F nexus approach, complex CC relationships)

Groundwater governance addresses...

Principles of **equity** and efficiency in water resource and services allocation and distribution, the need for integrated water management approaches and the **need to balance water use between socio-economic activities and ecosystems**

GW governance addresses, cont'd

Formulation, establishment and implementation of water policies, legislation, institutions and water administration based on aquifer conditions and hydrogeological characteristics rather than administrative boundaries

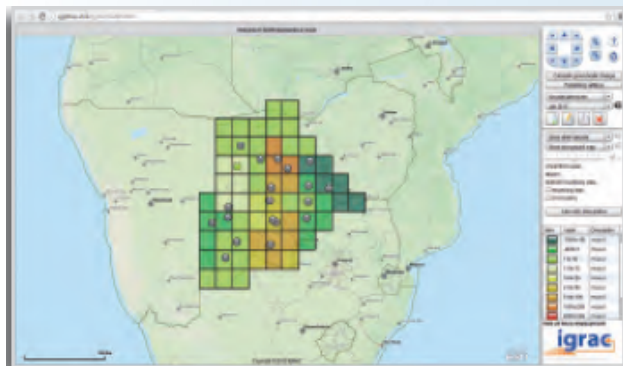
GW governance addresses, cont'd

Clarification of the roles of government, civil society and the private sector and their responsibilities regarding **property rights**, management and administration of water resources and services

Groundwater governance necessitates...

Monitoring, assessment, documentation & sharing of best practices

- IGRAC's UN-supported Monitoring Network (country level, transboundary aquifers, ...)
- WB's Hydrology Project for India (mid-90s–2014)
- 'Participatory aquifer mapping': PGM in AP, India (farmer data mgt, crop-water budgeting, community)



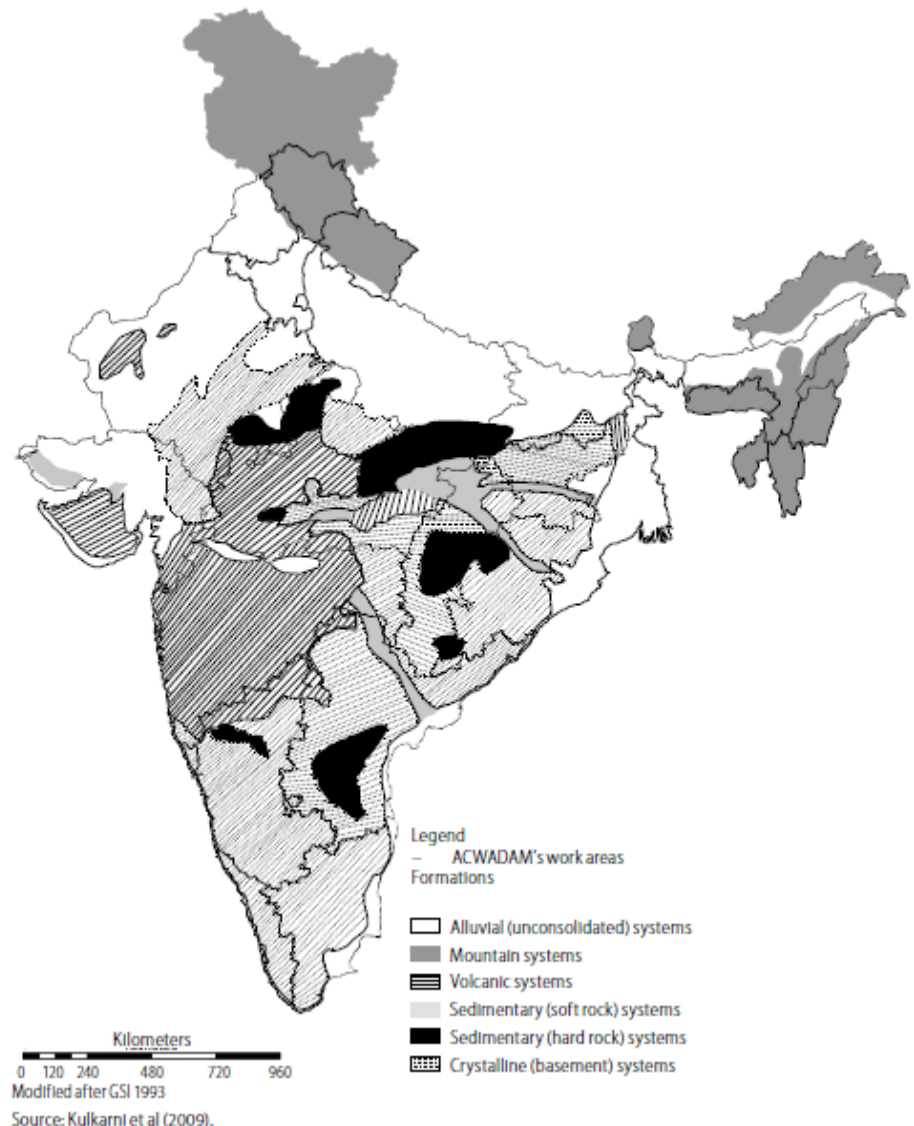
HP
HYDROLOGY PROJECT



GW governance necessitates, cont'd...

Development of tailored, contextualised knowledge, tools & methods

- Local hydrological conditions → alluvial NE India *not* overexploited ⇒ electrified pump sets
- Leaking pipes → rising GW table in cities ⇒ conjunctive use of GW & surface water possible



GW governance necessitates, cont'd...

Law & policy **reform** and **implementation** at national, regional, local & river basin levels – & **aquifer (GW body) basis**

- Federal streamlining templates in India (Model Bill 2011, Water Framework Law 2012/2013, NWP 2012, 12th 5-yr Plan 2012)
- Appropriate institutions: *receptive* authorities with sufficient capacity & manoeuvre for dialogue
- AP WaLTA 2002, Maharashtra GW Bill 2009 (2013/14), TN GW Act 2003 repealed 2013

Implementation & compliance: Lessons from Bangalore, KA, India

Karnataka GW Acts 1999, 2011 (w.e.f. 2013)

- Command & control; no public trust doctrine or CRP
- Provisions apply to CGWA-notified, over-exploited areas – whole B'lr Urban District (\neq scientific)
- GW Authority, delegated to District level → Bangalore Water Supply & Sewerage Board:
Lack of implementation capacity (know-how, manpower, funding + disinterest in GW as a source)
- Low legitimacy; lack of alternatives to well-water → only 66,000 of \geq 400,000 registered (despite (empty) threats to cut electricity supply)

Legal framework for groundwater governance

Should provide answers to key questions such as

- Who can access groundwater, where, for which purposes and under what conditions?
- How are aquifers protected against depletion and pollution?
- According to which criteria are the finite resources of non-recharging aquifers to be allocated and protected?
- What kind of monitoring and planning tools have to be used?
- How will private and public interests be balanced and how are stakeholders to be involved in decision-making and management processes?

(GEF & Mechlem 2012)

Lessons for India?

Until legislators and existing institutions become responsive to GW governance needs, what alternatives are left?

- You cannot manage what you cannot measure – but what does improved (e.g. satellite) monitoring contribute with unless there is a full picture, & political will?
- Stakeholder involvement, voluntary mapping → informed mgt or reinforced injustices? Beware of the ‘tyranny of participation’