

Regulating groundwater in a context of environmental change

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Workshop on Regulation and Management of Groundwater in the Age of Climate Change:
Need for Legal Reforms in India , Friday 10 April 2015, National Law University Delhi

Environmental change, global context: Climate change

- From the science to policy responses
 - Science of climate change increasingly certain, necessitating action
- Action based on perception of
 - 'environment' vs 'development'
 - 'technology' vs 'equity'
 - North-South divergences in political terms
- India as a leader of the development and equity position reflected in the 'common but differentiated responsibility' principle

- In a context of remaining uncertainties, action based on ‘precaution’ necessary;
 - Confirmed in recently drafted Oslo Principles (principle 1 is the precautionary principle)
- National policy responses
 - National responses limited by the international position focusing on holding the North to account
 - Framework of ‘co-benefits’ whereby developmental objectives that also have effective climate change benefits is put forward remains focused on the developmental dimension

- National legal responses
 - Limited direct consideration of climate change in environmental law
 - Various inferences can be drawn but they are mostly indirect

- Increasing importance of groundwater
 - Source for about 60% of irrigation and 80% of drinking water needs
 - Some 700 million rural residents depend entirely on groundwater for their water needs
- Rapidly increasing use and increasing concerns
 - Quantitative: Rapid rise in number of extraction structures leading to use beyond replenishment
 - Qualitative: increasing reports on water quality (arsenic, fluoride etc)

- Physical scarcity: used as basis for policy-making in most legal instruments for a couple of decades
- Social and economic scarcity: As significant or more than above but sidelined in policy debates
- Uncertainty concerning future availability of groundwater: 'scarcity' but in the context of phenomena that cannot be effectively addressed at local, state or national levels
- In brief: the current focus on physical scarcity is an insufficient basis, especially in the context of global climate change

Existing groundwater regulation

- Focus on link land-groundwater, leading to landowners having nearly unimpeded control
- Focus has been on sources to access groundwater, both in terms of incentives to foster their creation and more recently to regulate, restrict them
- Environmental dimension of groundwater regulation virtually non-existent in basic legal framework (by extension even less so for climate change)

- Statutory framework: Existing groundwater legislation focuses on a centralised, coercive control of scarcity focused on ‘sources’ rather than on aquifer protection and preservation (and even less on global change)
- Certain judicial interventions, such as the Rajasthan’s High Court order banning the construction of anicuts above a fixed height may seem to have an environmental rationale but is in fact about channelling water to a specific place (Bilaspur dam) for a specific use (largely urban drinking water)

Climate change, water and groundwater

- Example of paradox linking climate change and water
- Climate change has provided a new impetus to dam building in the context of hydropower being a 'clean' source of energy in GHG terms
- Since most dams' main use is for irrigation, this gives surface irrigation a new push whereas the reality is that it is groundwater that matters
- Link water and climate change made but 1) fails to address today's main water challenges (linked to groundwater) and 2) projects dams only as environmentally positive (cf. EIA framework built up from dams' experience)

- Increased uncertainty in water sector caused in part by climate change
- Proposed responses need to be local in view of localised dimension of groundwater AND global in view of direct links between groundwater and precipitation
- Water policy and water law have taken no steps towards integrating the global dimension yet.

Climate change and groundwater: Next steps?



- Both groundwater and climate change regulation must be based not just on ‘sustainability’ but on ensuring that relevant links are acknowledged.
 - These include the need for unitary treatment of surface and groundwater (something that even the recent UNECE Model Provisions on Transboundary Groundwaters don’t do).
 - These also include the need for applying the same principles to water and climate change, in particular the precautionary principle, well enshrined in both national and international law

Climate change and groundwater: Next steps?

- Rights and duties must be more clearly defined:
- On the one hand, fundamental right to water, fundamental right to clean environment of individuals and communities
- On the other hand, duty of state
 - to take measures to address climate change linked to domestic environmental priorities (rather than developmental priorities), such as air pollution
 - To take measures to protect and preserve groundwater while ensuring better water supply
 - To regulate private enterprises having a role and impact in climate change and/or groundwater

Climate change and groundwater: Next steps? (ctd)

- Equity must be a central organising principle for action in both sectors
 - Realising equity is the linchpin of the international policy position on climate change. Rightly so, but the same needs to be applied with regard to climate policy domestically and with regard to groundwater regulation

Climate change and groundwater: Next steps? (ctd)

- Both climate change and groundwater must be seen as falling under the doctrine of public trust
 - Water is already a public trust (Supreme Court, 1996 and beyond)
 - Groundwater needs to be clearly included in this definition
 - Climate change is a ‘common concern’ at the international level, something that can be seen as related to public trust at the national level

Climate change and groundwater: Next steps? (ctd)



- From public trust to common heritage
 - The public trust fails to effectively capture the global and solidarity nature of considering groundwater in its global dimension (even more clearly so for climate change)
 - The existing legal construct that provides a framework is the ‘common heritage of humankind’ whereby the global and solidarity dimensions are effectively recognised.

Climate change and groundwater: Domestic and international regulation



- Climate change and groundwater must be regulated separately and jointly at the national and international levels on the basis of principles that recognise the links.
- This requires moving ahead of existing frameworks since, at the international level, the climate change regime has little to say about groundwater, and groundwater regulation is largely absent, while at the domestic level, the groundwater regime needs to be drastically modernised and the climate change regulatory legal needs to be built up.
- These more specific challenges are what the rest of the day will focus on.