

# **Regulating groundwater in a context of global environmental change – Indian context**

**Philippe Cullet**

Professor of international and environmental law

SOAS University of London

[pcullet@soas.ac.uk](mailto:pcullet@soas.ac.uk)

Workshop on Climate Change and Groundwater – Law and Policy  
Perspectives, 29-30 May 2015, SOAS, London

# Water conservation in a global context: climate change

- Link water and environment from an environmental perspective
  - Undisputed, one central aspect of (international) environmental law
- Link (ground)water and climate change
  - Acknowledged in climate change debates (but little law and policy activity)
  - Limited interest in groundwater

# Addressing water in a climate change context

- Action impacted by perception of dichotomy between ‘environment’ and ‘development’:
  - North-South divergence
  - Place of the ‘environment’ in climate change in question (cf water)
- Water to be addressed through existing environmental principles, eg precaution:
  - International climate regime, confirmed in recently drafted Oslo Principles (principle 1 is the precautionary principle)
  - Not yet in the water context

# National climate change responses (India)

- 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

# Climate Change – Varied impacts on groundwater and consequences



- Impacts include:
  - Variation in duration, amount and intensity of precipitation and evapotranspiration to increase/decrease recharge rates
  - Rising sea levels will allow saltwater to penetrate farther inland and upstream
- Varied consequences, such as:
  - Agriculture and food security (right to food)
  - Health (right to health)

# Focus on groundwater in a context of climate change (in general)

- Need to focus specifically on groundwater arises from:
  - Dependence on groundwater may increase due to the increasing unreliability of using surface water
  - Surface water quantity may decrease
  - Surface water quality may be affected
- Groundwater regulation thus cannot be dissociated from broader environmental challenges

# Groundwater context (India – as biggest user)

- 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)



# Groundwater: Basis for regulation

- 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
- Physical scarcity will likely increase in future but is at least partly due to phenomena that cannot be effectively addressed at local, state or national levels
- Physical scarcity is an insufficient basis for regulation, especially in the context of global climate change



# Regulating groundwater in a context of climate change



- Groundwater as a local source of water requires decentralised regulation
- Groundwater is also linked to global water cycle (even though recharge is less immediately linked to precipitation than surface water).
- Groundwater is thus also a ‘shared natural resource’ and needs to be regulated as such (cf ILC articles)

# Existing groundwater regulation in India

- Focus on link land-groundwater, leading to landowners having nearly unimpeded control (atomised framework)
- 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 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 do not fully do).
  - These also include the need for applying the same principles to water and climate change, such as the precautionary principle, well enshrined in both national and international law

# Climate change and groundwater: New bases (ctd)

- Rights and duties must be more clearly defined:
- On the one hand, the fundamental right to water, fundamental right to clean environment of individuals and communities
- On the other hand, duties of the 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: New bases

- Both climate change and groundwater must be seen as issues of common concern:
  - Climate change is a ‘common concern’ at the international level, implying at least a duty to cooperate
  - Water is not even a ‘common concern of humankind’ yet in international law
  - In India (and various other jurisdictions), water is already a public trust (Supreme Court of India, 1996), and groundwater needs to be clearly included in this definition



# Climate change and groundwater: New bases (ctd)

- From common concern/public trust to common heritage
  - The common concern/public trust label 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 new thinking since:
  - At the international level the climate change regime has little to say about groundwater, and groundwater regulation is largely absent
  - In India, the groundwater regime needs to be drastically modernised and the climate change regulatory regime needs to be built up