



MODEL BILL FOR THE CONSERVATION, PROTECTION, REGULATION AND MANAGEMENT OF GROUNDWATER, 2016

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Overall this bill is an improvement over previous groundwater bills in many respects. In fact, for the very first time, the Bill puts in place a framework to regulate and manage groundwater on the basis of a public trust doctrine and the principle of subsidiarity. This is a giant step forward from the current "open access" groundwater law in place. The push to quantify and regulate groundwater use in canal command areas and urban areas is also an excellent step.

There are also several concerns with the current version of the Bill. These are listed below.

- 1. Inconsistency with National Water Framework Bill:** If groundwater is already covered in the National Water Framework Bill, what additional benefits does having a separate bill confer? Assuming the intent of this Bill is to *augment* the National Water Framework Bill by providing additional detail on groundwater aquifer mapping etc., it is doubly important that the Model Groundwater Bill be perfectly consistent with the National Water Framework Bill. However, at present this is not the case. The Model Groundwater Bill is actually not as sound as the National Water Framework Bill in treating groundwater and surface water as a single, interconnected resource.

There are inconsistencies and seemingly duplication of effort between the two Bills. The integration of ground and surface water is repeatedly mentioned as a guiding principle. Yet, in practice, in the Model Groundwater Bill doesn't mention the River Basin Plans, which are central to the National Water Framework Bill. It is unclear if the Bill is proposing two sets of water security plans - one Groundwater Security plan to comply with this bill and one Water Security plan to comply with the National Water Framework? If two sets of water security plans are drawn up there is a danger that they will be inconsistent on one hand and involve duplication of effort on the other.

Similarly, while urban groundwater is covered at length in the Model Groundwater Bill, it is strangely absent from the National Water Framework Bill. The two Bills must be made consistent.

2. **Weak integration with surface water in practice:** The weak integration of surface water in the Model Groundwater Bill is a genuine concern, not an academic one. While the principle of integration is well articulated, steps to ensure that integration occurs on the ground are missing. This will require a fundamental change in conceptual thinking both ground and surface water agencies. To actually achieve integration, scientific norms that link surface and groundwater dynamically both in space and time will need to be institutionalized.

This will require significant work at the national level followed by retraining of lower level agency staff who, currently tend to think in "silos" of either groundwater or surface water. Changes in the conceptual and operational approaches, organizational structure, technical capacities and partnerships will be required as the current segregated approach is flawed. This will require significant investments in training, high quality data collection, assessment protocols and instrumentation.

At present the bill does not mention of surface water data and flow estimations as part of the groundwater bill. In many parts of peninsular India, flow in first order streams have completely disappeared in part because of groundwater recharge/pumping. However, surface water data are simply not collected at a fine enough scale to make the linkages between artificial recharge and decrease in downstream flows.

3. **Lack of detail on Water Security Plans:** The Model Bill does not go far enough in specifying the content of the groundwater security plans. The bill currently lacks details on implementation/ enforcement. In the absence of guidelines, there is a danger that the Bill will either have no impact or even make the situation worse.
4. **Water quality largely missing:** The Groundwater Bill is surprisingly very weak on water quality, which is barely mentioned. At the very least comprehensive data collection on groundwater quality must be part of the water security plans. These can form a baseline to address non-point source and point source pollution in the future.

Increasingly in urbanising and industrialising areas, heavy metal, petroleum and chemical contamination is an issue. Given the heavy dependence on groundwater for drinking water, this may have serious consequences on public health.

Additionally, links between water quality and quantity that must be recognized. For instance, in much of the eastern Indo-Gangetic plain, arsenic poisoning is an issue. Arsenic mobilization has been linked to both land use and pumping. Links have also

been established between poor sanitation, urban solid waste dumps and groundwater quality. Likewise, nitrate and fecal coliform in deeper aquifers have also been linked to intensive pumping and creation of recharge pathways linking shallow and deep aquifers. Another concern is the passage of Zero Liquid Discharge (ZLD) laws in industrial zones which is incentivizing industries to dispose their polluted wastewater in abandoned wells. Yet all these issues are mostly neglected or overlooked in the broader Indian regulatory context, where regular monitoring of groundwater quality is already inadequate.

5. **Enforcement mechanisms need more thought:** Enforcement mechanisms have not been clarified. The Bill largely relies on citizens taking complaints to a Grievance Redressal Officer. The idea that a BP level Grievance Officer will be able to scientifically prove harm of violation of the water security plan seems far-fetched as this involves a complex scientific determination of groundwater flow pathways. There is a significant potential for abuse here. Alternative, enforcement and compliance mechanisms need to be considered.

6. **Climate change largely missing:** A notable omission is the absence of climate change considerations in the Model Groundwater Bill. The reported decline of the Monsoon since the 1950s, and the increase in intense rain events suggests that basin hydrologic partitioning (across ground and surface water) and budgets are very dynamic. The water security plans must take into account changes in water budget at multi-decadal time-scales and the uncertainty in climate change projections.

7. **No requirement for open data:** The bill does not emphasize that all data (not just the plans) should be publicly available and accessible. This is necessary to ensure some quality control and also. It will also help better coordination between research, stakeholders and various government agencies.

Section-wise Comments

Chapter, Section of the Bill	Comments
Ch I-IV	<p>The principles enshrined in the Bill are well written and comprehensive. The inclusion of the concerns of livelihoods, pollution and public health, biodiversity, gender and future generations is commendable.</p> <p>The recognition of the right to water, principles of equity, sustainability,</p>

	<p>subsidiarity and integrated GW-SW management and the adoption of the legal doctrine of public trust are all commendable. The recognition of groundwater use in canal command areas is also a major step forward.</p> <p>There are some gaps in the water security plans as written which may be problematic when it comes to actually implementing the principles as specified in Chapters 1-4.</p>
Ch V	<p>Overall, devolving water security plans to the lowest level is a step in the right direction. However, in order to ensure that the water security plans actually move regions towards an equitable, sustainable resilient water future, the water security plans MUST address the basic problem of water accounting/budgeting.</p> <p>We argue that ultimately, the problem of water management is about allocating the available water endowment among all users and uses - human and ecosystem, within and across watershed/aquifer units.</p> <p>At present, the bill leaves the quantification of current water use, maximum allowable water use (and consequently enforcement of abstraction limits) to individual gram panchayats. However, in reality groundwater use is not going to become sustainable unless there is a clear and consistent way to estimate how much total water (GW+SW) is available in a given year. There cannot be a separate groundwater security plan if groundwater and surface water are interconnected.</p> <p>The bill leaves the critical quantification decisions to the local bodies without providing any further guidance on how it must be done. Ideally, a national model groundwater bill must take a uniform view of the science, while relying on the principle of subsidiarity only for allocation decisions.</p> <p>In developing Water (combined GW+SW) Security Plans, assessment of the effects of land-cover on infiltration, recharge, flow between shallow and deep groundwater, and linkages between surface and ground-water must be based on the current state-of-the-art science throughout the country. Because so much leeway is given to local agencies, there is a danger that in many areas the scientific capacity to assess how much water is truly available, may simple not exist.</p> <p>Without understanding how much water is available and how much is currently being used and by whom, water security is a non-starter. For the law to work as envisaged, the water security plans must include comprehensive water budgeting from head-waters to estuaries and deltas in a way that addresses all stake-holders, upstream and downstream, and all uses, drinking water, agriculture, industry and ecosystems. The plans must</p>

	<p>include both surface and ground water and must explicitly involve quantification of current water use including ET from agro-ecosystems and plantations, and wastewater return flows from within and imports outside the boundary.</p> <p>Once the water budget is available, the community can decide how much total water use is "allowable". Then the question becomes that of "fair" intersectoral allocation of a known quantum of water - at which point it becomes a political decision.</p>
<p>Ch VI: 13</p>	<p>The bill does a commendable job in decentralizing authority and action, and provides a road map for the appropriate governments at different levels reconcile differences in water endowments and transfer across watersheds.</p> <p>The mandate to systematically collect and map wells etc. is highly commendable. There is no requirement that the data be placed in the public domain. It is very difficult to imagine how coordination between and across watersheds/aquifers/BPs can occur if all data are not publicly available.</p> <p>Moreover, there seems to be several such appropriate governments, with differential authority and access to the legal and police machinery, and it remains to be seen how acting on violators is put into practice (Ch. 6, section 17). One should also see if decentralized administration is actually appropriate and will do good for groundwater governance.</p>
<p>Ch VIII</p>	<p>The rules and steps for authorization for groundwater abstraction and pricing is clear for agriculture and industry. However, one needs to distinguish between livelihoods and sustainable livelihoods, with the former capturing only the income and well-being impact of activities such as agriculture while the latter also capturing the stability of the resource base on which incomes depend upon.</p> <p>As such, priority should be accorded to sustenance agriculture and for crops contributing to local and regional food security, especially in areas or seasons identified as water stressed. This is inconsistent with the basic principles in Ch. III, section 7, use prioritization in Ch. IV, section 10 and the envisaged objectives of groundwater security plans and committees.</p>
<p>Ch IX: 19</p>	<p>On one hand, there is a strong case to be made that (based on the principle of subsidiarity) that the implementation of the groundwater security plans be left to GPs or BPs. On the other hand, there is a danger that certain core principles on equity, right to water for drinking and livelihoods, ecosystem water needs may receive short shrift in communities that are inherently unequal. In fact, there is an inherent tension between local control and imposing national principles, which must be delicately balanced.</p> <p>While the bill need not prescribe the exact approach, an accompanying</p>

	<p>document on "model water security plans" might specify the types of decisions that must be grappled with. It may not be desirable to adopt a one size fits all approach (in line with the principle of subsidiarity). So documenting the issues ad options in some way is desirable.</p> <p>On the issue of fair allocation, the Model Bill takes the position that livelihood water use is also a right, and only industrial/commercial use requires permits.</p> <p>The problem is that by far the major contributor to GW depletion is commercial agriculture; yet many commercial farmers are "small holders" by global standards. Then the whole question of defining and prioritizing legitimate water needs to recognize that current cropping patterns in some regions (e.g. Bananas and sugar-cane in semi-arid or sub-humid regions) may not be a legitimate or sustainable water demand and cannot be classified as sustenance water.</p> <p>And even if the total amount of water available to agriculture is fixed based on a water budgeting exercise how does one allocate between farmers? Is it to be on a per farmer basis or a per hectare basis, per family? By auction? Or is it revised every 5 years? And is the entitlement temporarily transferable/ saleable by the individual?</p>
<p>Ch IX: 20</p>	<p>The draft seems to suggest that industry has to 'buy' the right/permit from the GP or Block P; but it does not explicate when and how the GP/BP can allocate water to industry. Moreover, the suggestion is that bulk groundwater be priced - but the pricing schedule isn't mentioned. However, the cess rates imposed currently are negligibly small and are unlikely to actually control groundwater over-exploitation by industry.</p>
<p>Ch XII: 28</p>	<p>In terms of implementation there is an assumption that merely creating the panchayat-level water security plans will automatically ensure that they are suitably enforced. However, in reality most groundwater regulations have proved very difficult to enforce. Second, the bill assumes that violations will be well addressed through a Grievance Redressal Officer</p> <p>The problem is prior experience suggests people n villages rarely complain against their neighbours. Moreover, the Grievance Officer ("Nyaya Mitra") is specified to be a person with a law degree not a science degree. In reality, actually proving harm from over-pumping is virtually impossible even in the industrialized western world where monitoring well data are abundant and aquifer maps exist. In rural India, where such data do not exist, proving "harm" or violation of the water security plan will be very difficult and there is a lot of potential for corruption or manipulation by the powerful/elite.</p>

	<p>Thus, while the model bill adheres to the principle of subsidiarity and thus allows local control - it also creates potential for misuse, resource capture by local elite who may manipulate the system.</p> <p>Different enforcement and compliance mechanisms may be needed. For instance, the water budgeting idea (suggested earlier) . This would make it mandatory for each GP to simply report how much water was deemed available and how much is being used (e.g. via metering). Each BP would have to prove that the total water extraction was within allowable limits.</p>
Ch XII: 31 (2)	<p>Overall, there seems to be an emphasis on resolving water related conflicts through negotiation, mediation and conciliation. The problem arises from the lack of a statutory process guiding the mediation and negotiation process. This can provide undue discretion to the relevant authorities in deciding on the process of dispute resolution. The rules should adequately consider the question of what the procedural rules will be to guide the mediation and negotiation process.</p> <p>A larger question is whether alternative dispute resolution methods like mediation will be appropriate in cases where the parties to the dispute are situated differently in terms of power and ability to negotiate. There is also lack of capacity and training within the legal and administrative community to handle mediation and negotiation processes. The question of capacity building around the proposed ADR methods should be addressed in the rules or policies guiding the implementation of this Act.</p>
Ch XII: 32 (2)	<p>It would be better for the appeal to occur in another forum than Gram Nyayalayas as there has not been adequate implementation of the Gram Nyayalaya Act, 2008¹. There have not been the requisite number of gram nyayalayas established. In areas where they have not been established it would be difficult to appeal the dispute, It would be better placed to appeal the dispute within the formal judicial structure at the level of the lowest court.</p>

¹<http://www.downtoearth.org.in/coverage/where-are-rural-courts-44754>