CURRENT SCIENCE

Volume 128 Number 8 25 April 2025

GUEST EDITORIAL

Groundwater rights – from individual exploitation to community management

Groundwater is the most critical source of water, but its regulation remains centred on the use rights of individual landowners. Furthermore, the limited measures taken to rapidly address the falling water tables and increasing groundwater pollution remain structured around the ways to control use rather than around protection measures at the aquifer level.

The impending groundwater catastrophe has been identified for decades. Various regulatory measures have been suggested since the 1970s to address the problems identified, and some laws and directives have been adopted over the past three decades. Yet, none of the measures implemented have sought to address the principle at the roots of the current crisis, which gives landowners near absolute control over groundwater.

In reality, groundwater is a 'commons'. This should be recognised in terms of broad legal principles, for instance, by extending the application of the public trust doctrine to groundwater. Concurrently, in recognition of groundwater being the most local source of water, specific emphasis must be placed on empowering the local communities to be the trustees of the aquifers at a local level.

The current legal regime in India has its roots in 19th-century English case law. The starting point for laying down the rules for groundwater use was the existing rule concerning surface water. These rules reflected a longstanding tension between two potentially irreconcilable objectives. On the one hand, in recognition of the life-sustaining nature of water and its fluid nature, no ownership of water was allowed. On the other hand, landowners saw access to water as a central part of their property rights. This led to the development of a variety of use rights, which gave each landowner the capacity to use as much water as needed while ensuring that this would not affect similar uses by the downstream users. Understandably, legal authorities would have used the rules for surface water as a basis for allocating access to groundwater.

In the context where groundwater was largely invisible and not well understood, it was first determined that the rights of access to groundwater would be different from those of surface water. This dichotomy has perdured to this day. Within this broad dichotomy, legal authorities ruled that, for percolating water, each landowner could use as much water as required, including to the extent of depriving adjacent landowners of their share. There is thus a prohibition of ownership, while at the same time, the rights of landowners are more extensive than they would be in the context of other natural resources.

The rules highlighted above raise multiple questions. Firstly, they are based on a limited and dated scientific understanding of the groundwater realm. Secondly, the rules are framed around a dichotomy between surface and groundwater, which is only not applicable but is damaging to the recognition that water is and must be treated in a unitary manner. Thirdly, the regulatory scheme is centred around individual property rights in land. As a result, it provides no basis for either use or protection beyond the areas that are under individual property rights and offers no support for aquifer-level management measures. Fourthly, the rules framed in the nineteenth century are based on an understanding of water as a natural resource rather than water as a social good, providing the basis for the realisation of the fundamental right to water.

The whole premise behind existing rules is thus inappropriate in 2025. This is not entirely unexpected, given that the use of groundwater has grown exponentially following the widespread adoption of mechanical pumping in the second half of the twentieth century. At the same time, the rules currently in place were never suited to the climatic conditions of large parts of the country because they were conceived for a climate where scarcity was not a major concern.

Over the past fifty years, there have been several attempts to curb the increasing groundwater use. These measures have generally been framed around the existing regime that conditions groundwater access to land ownership. As a result, the measures introduced have mostly taken the form of restrictions on existing entitlements, for instance, through the granting of permits or no objection certificates.

The limited framing of regulatory measures is well exemplified by the various groundwater statutes adopted during the past three decades. These laws, on the whole, are structured according to the model provided by the Model

Bill to Regulate and Control the Development of Groundwater 1970/2005, a model legislation first proposed in 1970 and slightly revised up to the year 2005. The Model Bill is centred around the setting up of authority at the State level, which is given the powers to notify areas of concern in terms of groundwater availability and, in such 'notified areas', restrict access to groundwater to individuals having granted a permit. Under this scheme, the rights of landowners to groundwater are not taken away, but the State could henceforth determine who can exercise these rights and to what extent.

The regime proposed in the Groundwater Model Bill, 1970/2005, is narrowly conceived insofar as it does nothing beyond addressing groundwater use through the existing atomised framework focused on the individual rights to water of landowners. In other words, it neither significantly threatens the interests of the landowners nor offers a broad regulatory regime addressing all aspects of groundwater use and its protection.

Overall, the present legal framework is thus unsuited on two basic grounds. Firstly, it fails to address the initial problem of the 19th-century rules, which, in effect, made groundwater a private resource, while it is today the ultimate social resource given its role in supporting the basic water needs of the vast majority of the people. Secondly, the proposed measures are structured around top-down state interventions that go against the needs of the groundwater sector, structured around crores of individual users at the local level, whose cooperation is essential for regulatory measures to succeed.

The extent of control that individual landowners can assert over groundwater is in complete opposition to the 'common' nature of groundwater as the most widely used source of (drinking) water. In addition, it goes against the need for protection at the aquifer level in the context of a rapidly falling water table. In other words, there is a social and environmental rationale for considering groundwater as a 'commons'.

The present legal regime for (the surface) water recognises in principle the inappropriateness of a use rights regime linked to land rights. The first major step in this direction was taken by the Supreme Court of India in 1996, with the extension of the public trust doctrine to water. This brought in a regime wherein neither the State nor the individuals can claim ownership of water, and where protection comes first before the use. This could be a game changer for groundwater. But, for this to happen, several additional steps need to be taken. First, the recognition should be specifically extended to groundwater, something that has not yet been done. Secondly, the operationalisation of the public trust doctrine should start at the level of the gram sabha and be conceived in a multi-level fashion from the local to the Union level. At present, the idea of water as a 'commons' reflected in the recognition of (surface) water as a public trust remains an idea whose realisation is yet to occur, as no steps have been taken to make this a reality in legislation or otherwise.

Another element, which, in principle, is enshrined in groundwater law, is the fundamental right to water. This is particularly important because the realisation of the right to water is indissociable from access to safe groundwater for most people. As groundwater is a local source of water, it confirms that there is both a human and environmental rationale for its community management at a local level. In the first place, this implies that policymakers need to trust panchayats and municipalities to be the best guardians of groundwater found within their jurisdiction. It implies giving them, first of all, effective tools to protect the aquifers, within which uses for the community can be envisaged.

The ongoing system, which has seen policy-makers rely on the fact that groundwater can easily be 'mined' by letting water tables fall, has failed because groundwater is much less visible than dried riverbeds. An alternative that lets communities manage the groundwater under their jurisdiction should be the next step forward. This is partly already recognised in the Groundwater (Sustainable Development) Model Bill, 2017, which proposes, for instance, the introduction of groundwater security plans. These plans are conceived as a tool to foster the availability of sufficient, safe water, to ensure water security at all times, and to provide for measures to maintain and improve water quality. Such plans are to be prepared for every watershed, administrative unit, or aquifer. Where the aquifer straddles more than one administrative unit, the relevant district groundwater council is tasked with fostering coordination of the preparation of such plans between the administrative units that share an aquifer.

Groundwater is the lifeline of most communities around the country. It is thus imperative to give them the tools that will allow them to plan cooperatively how to protect and recharge aquifers. Such protection is a precondition for planning the uses of groundwater that does not exceed the recharge potential. The use of available groundwater needs, in turn, to be allocated in such a way that it first contributes to the realisation of fundamental rights dependent on access to water and is more generally planned in a manner that reflects equity concerns within the community.

Philippe Cullet

Professor of International and Environmental Law,
SOAS University of London and
Visiting Professor,
National Law University Delhi
e-mail: pcullet@soas.ac.uk