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GROUNDWATER REGULATION – NEED FOR FURTHER REFORMS

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I. INTRODUCTION

Groundwater has become over the past few decades the main source of water for all the main uses of water, including in particular domestic uses and agriculture. This tremendous increase in the use of water has had significant impacts on water availability and on access to water.

The current regulatory regime is in large part still based on principles inherited from the colonial period. These are both dated and inappropriate. They are dated because they were developed at a time when groundwater was a marginal source of water and when humans were not able to affect the level of the groundwater table through their use which was largely limited to drawing water from wells. They are inappropriate because the basic nexus between access to groundwater and land ownership on which these rules are based make common law rules socially inequitable and environmentally unsustainable.

There have been attempts to reform the existing framework since the early 1970s. Yet, current reforms are inappropriate. Firstly, they fail to sever the link between land ownership and access to groundwater, a precondition for ensuring that groundwater law contributes, for instance, to the realisation of the fundamental human right to water. Further, they add a layer of governmental control to a largely privately regulated framework but fail to recognise the constitutionally sanctioned rights of the panchayats in controlling local sources of water. While groundwater is not static, it remains the body of water most closely associated with a specific locality. As such it is the primary body of water over which panchayats have been given rights of control under the decentralisation mandate of the Constitution.¹

The limitations of the 'old' colonial framework and the proposed reforms calls for new proposals for the reform of groundwater law. This has been made all the more necessary in the context of disputes like the Plachimada case where the two decisions already taken in this case gave two completely different readings of the rules applying to groundwater.² While the Supreme Court may lay a new framework in its forthcoming decision in this case, this may not alleviate the need for a broad-based rethinking of groundwater rules, beyond the specific dispute arising in the Coca Cola case.

II. ACCESS TO AND CONTROL OVER GROUNDWATER UNDER COMMON LAW RULES

Groundwater has usually been treated separately from surface water.³ Historically, this can be ascribed in part to a lack of understanding of the connections between surface and groundwater and of the relationship between groundwater abstraction in different places. This also reflected the unavailability of pumping devices allowing large-scale groundwater withdrawals to the extent of significantly affecting the water table level.

These factors contributed to the development of separate legal principles for control over and use of groundwater. Since groundwater has a direct link to the land above, a link was established between land ownership and control, if not outright ownership, of the water found underneath the plot. While no specific groundwater legislation arose until the past decade, basic principles of access and control can be derived from the Easements Act, 1882. Under these principles, landowners have easementary rights to collect and dispose of all water found under their land.⁴ There is thus an indissociable link between land ownership and control over groundwater. This implies that groundwater is mostly controlled by individuals or legal entities that own or occupy land. Where the common law principle is strictly applied, landowners are not restricted in the amount of percolating water they can appropriate.⁵

1 This is subject to States taking up the mandate of Article 243G of the Constitution.

2 *Perumatty Grama Panchayat v State of Kerala* 2004(1) KLT 731 (High Court of Kerala, 2003), available at <http://www.ielrc.org/content/e0415.pdf> and *Hindustan Coca-Cola Beverages v Perumatty Grama Panchayat* 2005(2) KLT 554 (High Court of Kerala, 2005), available at <http://www.ielrc.org/content/e0515.pdf>.

3 This also holds in other parts of the world. For southern Africa, eg L.A. Swatuk, 'The New Water Architecture of SADC', in D.A. McDonald & G. Ruiters (eds), *The Age of Commodity – Water Privatization in Southern Africa* (London: Earthscan, 2005) 43.

4 *Halsbury's Laws of India – Volume 29(2)* (New Delhi: Butterworths, 2000) 447.

5 M. Moench, 'Approaches to Groundwater Management: To Control or Enable?', 29/39 *EPW* A135 (1994).

It can, however, be argued today that, even under common law principles, owners cannot exploit groundwater beyond the replenishable level.⁶

The link between groundwater and land ownership is important for different reasons. Firstly, groundwater has been and is an increasingly important source of drinking water. This is due both to the existence of increasingly powerful pumping devices as well as to an increasing bias against the use of surface water as a source of drinking water to ensure that it is of better quality. Secondly, groundwater has been an increasingly important resource used by landowners in different types of economic activities. In fact, groundwater has now become in certain regions as important or even more important than land itself.⁷ Besides agriculture, large-scale water abstraction is also carried out by certain industries, as in the case of water or soft drink bottling plants.

Where control over groundwater is linked to land rights, there are neither any incentives for individual landowners to sustainably use the resource nor any way to implement policies that take into account the welfare of a broader community and the environment. In what is for all practical purposes an unregulated system, there is, for instance, no authority that can determine how many wells, handpumps and other tubewells can be sunk in a given area. Some form of regulation that takes into account the broader aspects of groundwater use is thus necessary. Regulation is also required because the increasing use of groundwater controlled by private individuals may shift away control over water from communities. Thus, in the case of tank irrigation in Tamil Nadu that are often largely community managed, increased use of groundwater and the lesser importance attached to tanks seems to have shifted the determinants of water access away from communities into the hands of individuals.⁸

The dramatic increase in groundwater use and importance of groundwater as a source of water have led to significant debates but relatively little by way of concrete policy decisions. To-date, the most significant initiatives at the union level have been the drafting of a model bill for adoption by the states and the setting up of the Central Groundwater Authority mandated to regulate and control the use of groundwater.⁹ Its mandate includes the notification of 'over-exploited' and 'critical' areas and the regulation of groundwater withdrawal in such areas but it does not have a broad mandate to regulate groundwater in general. The Authority is not credited with having had much impact in its decade of existence.¹⁰

This amounts to relatively little since, unlike irrigation water where the introduction of formal legislation started more than a century ago, groundwater was largely governed by principles that assumed self-regulation. The dramatic changes that have taken place in the past few decades and turned groundwater into the major source of water are not reflected in the existing legal framework, including in the few states that have adopted the model bill as a prototype for their legislation, since this is not a comprehensive regulatory response. This can be partly ascribed to the fact that falling water tables can be 'fixed' for some time by simply digging further down has provided an opportunity for governments to avoid facing some difficult political choices. In fact, in a number of states, the answer to falling water tables has been not to address the issue itself. State governments have thus often chosen to increase power subsidies to make extraction of ever deeper layers of groundwater possible rather than tackle the underlying cause of depletion. The limits of an approach that not only refuses to control access to groundwater but seeks to encourage it with specific subsidies have been clearly understood. The unavoidability of a different response has dawned on most states but the fact that it is a politically extremely sensitive issue implies that some states may still further delay necessary measures by a number of years.

III. ONGOING REFORMS OF THE LEGAL REGIME CONCERNING GROUNDWATER

Groundwater regulation is one of the areas that is most in need of reforms. This is due to the fact that groundwater is now the main source of water for most water users and that the current outdated framework can do little more

6 Ground Water Management and Ownership – Report of the Expert Group (New Delhi: Government of India, Planning Commission, 2007) 23.

7 S. Janakarajan & M. Moench, Are Wells a Potential Threat to Farmers' Wellbeing? The Case of Deteriorating Groundwater Irrigation in Tamilnadu (Chennai: MIDS, Working Paper No. 174, 2002).

8 *ibid* 2.

9 Ministry of Environment and Forests, Gazette Notifications SO38 and SO1024 of 14 January 1997 and 6 November 2000.

10 eg T. Shah, 'Groundwater Management and Ownership: Rejoinder', 48/17 *EPW* 116 (2008).

than adjudicate claims that may arise between two landowners over their respective use of groundwater under their plot and in its vicinity. The challenge that groundwater poses has been recognized for quite some time, as witnessed by the fact that the union government already put out a model bill for adoption by the states in 1970. This relatively early date of adoption of the model bill is reflected in its approach to groundwater regulation. Indeed, in the early 1970s, there was comparatively little discussion of the need for control by panchayats over natural resources or water and environmental concerns had only just made an appearance on the agenda of policy makers. It is thus not surprising to find that the 1970 model bill reflects the concerns and perceptions of that period. What is more surprising is that, despite several revisions, the model bill (re)proposed in 2005 is still based in the same premises.

Groundwater law reforms are noteworthy for several reasons. Firstly, the proposed changes conform to a model that is neither directly in line with water sector reforms nor influenced by the 73rd constitutional amendment, human rights and environment principles. Secondly, they perpetuate the sectoral treatment of surface and groundwater, perpetuate a system that links access to groundwater and land and fail to acknowledge that groundwater is the primary source of drinking water and thus primordial in the realization of the human right to water. Thirdly, ongoing reforms are based on suggestions for reforms that date back several decades. This implies that they are not directly influenced by new notions such as the idea that water should be seen as an economic good. This may be positive because it constitutes at least some sort of an alternative to the current policy framework for water law reforms,¹¹ but at the same time is not a solution that can be recommended because of its lack of social and environmental perspective and because it perpetuates a sectoral model of water law development.

A. The proposed reform model

A model bill for groundwater regulation was first proposed by the union government for adoption by the states in 1970. It has been revised several times but the basic framework of the latest 2005 version retains the basic framework of the original bill. Recent legislative activity by states indicates that they are generally ready to follow the framework provided by the model bill. This is the case of states adopting a general groundwater legislation like Kerala,¹² or states focusing on its drinking water aspects like Karnataka, Madhya Pradesh and Maharashtra.¹³

The basic scheme of the model bill is to provide for the establishment of a groundwater authority under the direct control of the government. The authority is given the right to notify areas where it is deemed necessary to regulate the use of groundwater. The final decision is taken by the respective state government.¹⁴ There is no specific provision for public participation in this scheme. In any notified area, every user of groundwater must apply for a permit from the authority unless the user only proposes to use a handpump or a well from which water is drawn manually.¹⁵ Wells need to be registered even in non-notified areas.¹⁶ Decisions of the authority in granting or denying permits are based on a number of factors which include technical factors such as the availability of groundwater, the quantity and quality of water to be drawn and the spacing between groundwater structures. The authority is also mandated to take into account the purpose for which groundwater is to be drawn but the model bill does not prioritize domestic use of water over other uses.¹⁷ Basic drinking water needs are indirectly considered since, even in notified areas, hand-operated devices do not require the obtention of a permit.¹⁸

The model bill provides for the grandfathering of existing uses by only requiring the registration of such uses.¹⁹ This implies that in situations where there is already existing water scarcity, an act modelled after these provisions

11 On water law reforms, *see generally* P. Cullet, *Water Law, Poverty and Development – Water Law Reforms in India* (Oxford: Oxford University Press, 2009).

12 Kerala Ground Water (Control and Regulation) Act 2002, available at <http://www.ielrc.org/content/e0208.pdf>.

13 Karnataka Ground Water (Regulation for Protection of Sources of Drinking Water) Act, 1999, Madhya Pradesh peya jal parirakshan adhiniyam, 1986 and Maharashtra Ground Water Regulation (Drinking Water Purposes) Act, 1993. On the Maharashtra Act, S Phansalkar & V Kher, 'A Decade of the Maharashtra Groundwater Legislation', *2/1 Law Environment & Development Journal* 67 (2006), available at www.lead-journal.org/content/06067.pdf.

14 Model Bill to Regulate and Control the Development and Management of Ground Water 2005, s 5.

15 *ibid* s 6.

16 *ibid* s 8.

17 *ibid* s 6(5)(a) only provides that the purpose has to be taken into account while Section 6(5)(h) which is the only subsection referring to drinking water only considers it as an indirect factor.

18 *ibid* s 6(1).

19 *ibid* s 7.

will not provide an effective basis for controlling existing overuse of groundwater and will, at most, provide a basis for ensuring that future use is more sustainable.

Overall, the model bill extends the control that the state has over the use of groundwater by imposing the registration of groundwater infrastructure and providing a basis for introducing permits for groundwater extraction in regions where groundwater is over-exploited. It is the brainchild of an era that promoted governmental intervention without necessarily thinking through all the checks and balances that needed to be introduced alongside. As a result, the model bill is not adapted to the current challenges that need to be addressed.²⁰ It fails to include specific prioritization of uses, does not specifically address the question of domestic use, does not differentiate between small and big users, commercial and non-commercial uses and does not take into account the fact that non-landowners/occupiers are by and large excluded from the existing and proposed system which focuses on the rights of use of landowners. It is thus surprising that states are still drafting acts based on this outdated model. What is required is legislation that recognizes that water is a unitary resource, that drinking water is the first priority as well as a human right and that panchayati raj institutions must have control over and use of groundwater.

B. What are the reforms being implemented by states?

A number of states have either adopted groundwater legislation in the past decade or are in the process of developing it. While most states are yet to adopt legislation, the need for one seems to be generally acknowledged. However, in an interesting twist, a state like Punjab that has 85 percent of its land under cultivation is not contemplating the adoption of groundwater legislation because of the impacts it would have on farmers.²¹ Instead, Punjab is proposing to give incentives for crop diversification, to invest in artificial groundwater recharge, to meter electricity supply in critical areas and to promote micro-irrigation.

The states that have adopted legislation that specifically focuses on groundwater include Goa, Himachal Pradesh, Kerala, Tamil Nadu and West Bengal.²² They differ in their coverage since some apply only to notified areas while other apply to all groundwater.²³ As noted above, Karnataka, Madhya Pradesh and Maharashtra have adopted limited groundwater legislation focusing on drinking water.²⁴ The only state that has consciously put groundwater in a broader framework is Andhra Pradesh where the groundwater legislation directly links surface and ground water in a general context of environmental conservation.²⁵ Apart from a conceptually broader framework for groundwater regulation and specific consideration of drinking water issues, the Andhra legislation addresses groundwater in a similar manner to other groundwater acts.

The main institutional innovation proposed in the groundwater acts and the Andhra legislation is the setting up of a new authority or cell made of government civil servants and members nominated by the Government because of their expertise. The balance between civil servants and other members varies. In Goa, the act simply authorizes the government to nominate members without specifying their origin.²⁶ In West Bengal, the majority are civil servants. In Kerala only four of the thirteen members of the Authority are civil servants while the rest is made of a combination of people with different expertise.²⁷

The authority set up under the act is then tasked with different functions, such as notifying areas of special concern and granting permits to use groundwater in notified areas.²⁸ Among the acts that specifically focus on groundwater, the West Bengal legislation is the only one that gives the Authority a broader mandate that includes the development

20 For additional comments, Ground Water Management and Ownership – Report of the Expert Group (New Delhi: Government of India, Planning Commission, 2007).

21 *ibid* 29.

22 Puducherry and Lakshadweep have also adopted groundwater regulation instruments, respectively in 2002 and 2001.

23 S. Koonan, 'Groundwater – Legal Aspects of the Plachimada Dispute' in P. Cullet, A. Gowlland-Gualtieri, R. Madhav & U. Ramanathan (eds), *Governance in Motion: Towards Socially and Environmentally Sustainable Water Laws* (New Delhi: Cambridge University Press, forthcoming 2010).

24 Maharashtra is in the process of adopting a broader groundwater act.

25 Andhra Pradesh, Act to Promote Water Conservation, and Tree Cover and Regulate the Exploitation and Use of Ground and Surface Water for Protection and Conservation of Water Sources, Land and Environment and Matters, Connected Therewith or Incidental Thereto, 2002.

26 Goa Ground Water Regulation Act, 2002, s 3(2).

27 Kerala Ground Water (Control and Regulation) Act, 2002, s 3(3).

28 *eg* Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, s 5, 7.

of a policy to conserve groundwater and organizing people's participation and involvement in the planning and use of groundwater.²⁹

Following on the steps of the model bill, most acts fail to clearly give drinking water priority of use even though most acts devote specific attention to the issue of drinking water.³⁰ The Himachal Pradesh legislation stands out insofar as it imposes on the Authority to give first priority to drinking water.³¹ Additionally, some instruments specifically indicate that the use of groundwater as public drinking water source is not affected by any control measures.³²

An important aspect of most of these acts is to avoid altogether the thorniest question, which is the legal status of groundwater itself. Most acts avoid direct statements on this issue but the very fact of promoting the setting up of institutions controlled by the government that can regulate groundwater use in indirect and direct ways reflect a conception of water that sees it as being under the control of the government. The Himachal Pradesh legislation is rather forthcoming in this regard since it specifies that users of groundwater in notified areas must pay a royalty to the government for its extraction.³³ Additionally, the government is not even bound to use this royalty for groundwater-related activities, thus reflecting an understanding that groundwater is a resource controlled by the government.³⁴ This can be understood as an extension of the full control given by several irrigation acts adopted in the twentieth century to the government over surface water. It is, however, surprising for at least two reasons. Firstly, there has been only very limited debate on the status of groundwater and such a major change would warrant in-depth consideration. Secondly, if any change is warranted it would be to recognise groundwater as part of the public trust. Indeed, in the context of surface water, the Supreme Court has recognised that assertions of government power over water was not warranted anymore and declared that it was part of a public trust. This is also what the single judge determined in the first Plachimada decision.

Besides strengthening the control that the government claims over groundwater, the various acts adopt a non-confrontational strategy in refusing to tackle existing overuse of groundwater. Thus, in the main, acts provide for the grandfathering of most existing uses. This amounts to refusing to tackle the real problem affecting groundwater. Indeed, as long as it is landowners that have most control over groundwater, there will be no scope for groundwater regulation that is socially equitable and environmentally sustainable. There is no incentive in the common law rules or in the acts that are being adopted for individual landowners to use the water responsibly and equitably. There is also no mechanism to ensure that groundwater is shared with non-landowners. Further, without a broader perspective, no single water user has any reason to recognize environmental needs ensuring that all ecosystem functions are met in the long term.

The limits of the old common law regime and new legislative efforts are well illustrated in the context of the dispute between the Perumatty Grama Panchayat in Kerala and the Coca Cola Company. The controversy erupted after the panchayat that first granted the exploitation licence decided not to renew it because of the lowering of the water table in neighbouring properties, as well as decreasing water quality to the extent that the local government primary health centre had concluded that the water was not potable.³⁵ The issue was brought to the courts and is now pending in the Supreme Court. The two decisions given by judges in Kerala gave two opposed views of groundwater regulation. On the one hand, the first judge found that even without groundwater regulation, the existing legal position was that groundwater is a public trust and that the state has a duty to protect it against excessive exploitation.³⁶ Additionally the judge made the link between the public trust and the right to life.³⁷ It was thus recognized that a system which leaves groundwater exploitation to the discretion of landowners can result in negative environmental consequences. The next decision took a completely different perspective and asserted the primacy of landowners' control over groundwater.³⁸ These two contradictory decisions illustrate the

29 West Bengal Ground Water Resources (Management, Control And Regulation) Act, 2005, s 6(2).

30 eg Goa Ground Water Regulation Act, 2002, s 23.

31 Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, s 7(3).

32 Goa Ground Water Regulation Act, 2002, s 9. Also Karnataka Groundwater (Regulation and Control of Development and Management) Bill, 2006, s 1(4).

33 Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, s 12(1).

34 *ibid* s 12(2).

35 C.R. Bijoy, 'Kerala's Plachimada Struggle – A Narrative on Water and Governance Rights', 42 *EPW* 4332 (2006).

36 *Perumatty Grama Panchayat v State of Kerala* 2004(1) KLT 731 (High Court of Kerala, 2003).

37 *ibid*.

38 *Hindustan Coca-Cola Beverages v Perumatty Grama Panchayat* 2005(2) KLT 554 (High Court of Kerala, 2005) para 43.

need for a framework that effectively ensures the sustainability of use of groundwater and the prioritization of drinking water over all other uses. Reliance on old common law principles is only able to justify individualized control but cannot in any way provide a broader framework of analysis. The inapplicability of the groundwater legislation to this dispute was noted by the judges. However, what is apparent is not the fact that the new legislation is not applicable but the fact that it would not have provided a framework for a more socially equitable and environmentally sustainable decision. The application of the act to future similar disputes may clarify matters in terms of institutional decision-making but it would likely lead to results fairly similar to the decision of the second judge. What is needed is a radically new perspective, something that the first judge perceptively understood. The Supreme Court now has the chance to provide a boost towards a new framework for groundwater regulation.

IV. REFORMING THE REFORMS

Ongoing reforms of groundwater regulation fail to bring in a regulatory framework that is either adapted to the needs of the twenty-first century or compliant with existing constitutional principles. Firstly, existing groundwater reforms fail to implement basic constitutional principles related to water that apply without doubt to groundwater. This is the case of the fundamental human right to water and the decentralisation amendment (73rd Amendment). With regard to the fundamental right to water, its application to groundwater is essential because groundwater provides most of our drinking water. Yet, groundwater legislation has only exceptionally focused on drinking water and never from a fundamental right perspective. With regard to the 73rd Amendment that gives panchayats control water management at the local level and minor irrigation, ongoing reforms conceived before 1992 are simply not in tune with the new constitutional requirements.

Secondly, existing reforms fail to address the core issue of the legal status of groundwater. The failure to abolish common law rules giving landowners overwhelming control over groundwater – as was for instance undertaken in post-apartheid South Africa – does not provide scope for bringing in a legal regime that is socially equitable and environmentally sustainable. The need for a drastic change in legal status is, for instance, illustrated by the fact that the first judge in the Plachimada decision felt that he could not take a just decision without asserting the extension of the principle of public trust to groundwater.

In addition to their failure to implement constitutional provisions, ongoing reforms also fail to take into account important objectives. Groundwater legislation is to-date conceived largely as a natural resource legislation that fails to integrate the key social dimension of groundwater. Similarly, groundwater legislation fails to integrate existing environmental law principles, such as the precautionary principle. While water and environment are partly separate branches of law, they are also intrinsically linked as reflected in the fact that the Water Act, 1974 was conceived as an environmental legislation. The dismissal of environmental principles from the rest of water law is thus unwelcome and inappropriate.

The stringent limitations of current groundwater regulation reforms calls for a new conceptual paradigm and a new set of reforms. This goes against the advice of the Expert Group set up by the Planning Commission that ‘no change in [the] basic legal regime relating to groundwater seems necessary’,³⁹ but is called for by the limitations highlighted above. The new set of reforms needs to be based on the basic principles of the national legal framework as it exists today rather than what was prevalent in 1970. Two of the important novel aspects are the explicit recognition of the fundamental human right to water and the decentralisation amendments. Integrating both these elements requires a complete rethinking of the basic structure of groundwater legislation. In other words, an entirely new set of reforms is needed to ensure the implementation of these basic principles. Such reforms must, for instance, ensure that delinking land and water rights is undertaken in the framework of the human right to water that requires restricting or eliminating individual entitlements to water.

In addition, further reforms must benefit from advances in the scientific understanding of the water sector. This should lead to the development of laws that do not make artificial divisions between surface and groundwater for instance. This is problematic because the disconnect does not exist in practice and leads today to absurd results because the basic principles governing surface water and groundwater are different.

³⁹ Ground Water Management and Ownership – Report of the Expert Group (New Delhi: Government of India, Planning Commission, 2007) 41.

Finally, the reforms must be based on recent legal developments within water law and in related areas. This includes the need to extend the principle of public trust, that has been repeatedly confirmed by the Supreme Court for more than a decade, to groundwater and the need to integrate the precautionary principle, a basic principle of environmental law that is directly relevant in the case of groundwater.

All these measures may be adopted at the state level in keeping with the constitutional mandate. There is, however, also a need for a legislation setting out the basic principles of water law at the national level. This may provide the backbone for groundwater regulation at the state level that is more compliant with the constitutional framework than is the case today.

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