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LEGAL REGIME GOVERNING GROUNDWATER

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IX. Legal regime governing groundwater

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INTRODUCTION

Groundwater plays a crucial role as a source of freshwater in India. It accounts for around 58 per cent of the total irrigated area in the country, whereas the share of groundwater in meeting the drinking water needs is much higher at around 80 per cent.[1] One of the reasons for the unprecedented reliance on groundwater is believed to be the poor functioning of the public irrigation system.[2] With large areas of India having substantial aquifers, people who have access to land and financial resources are able to ignore the inconvenience of poorly functioning public systems and became self-reliant using groundwater.[3] As a result, the extent of groundwater extraction is increasing exponentially in India. This is seen in the growth in the number of dug wells and tubewells since independence. In the period 1951–1997, the number of dug wells and tubewells has increased from 3,865 thousand to 17,334 thousand.[4] Dependence on groundwater as a freshwater source is likely to increase in the coming years. A recent Planning Commission report noted that by the year 2025, the demand for industrial and domestic use is projected to rise to 29 billion cubic metres (BCM) from the current demand of 18 BCM.[5]

1 Planning Commission of India, Report of the Expert Group on Ground Water Management and Ownership (Delhi: Government of India, Planning Commission, 2007); M. Dinesh Kumar and Tushaar Shah, Groundwater Pollution and Contamination in India: The Emerging Challenge (IWMI–TATA Water Policy Briefing Paper, 2006) and National Academy of Agricultural Sciences, Emerging Issues in Water Management – The Question of Ownership (New Delhi: National Academy of Agricultural Sciences, Policy Paper No. 32, 2005).

2 A. Narayanamoorthy and R.S. Deshpande, *Where Water Seeps! Towards a New Phase in India's Irrigation Reforms* 37 (New Delhi: Academic Foundation, 2005).

3 Maria R. Saleth, 'Groundwater Markets in India: A Legal and Institutional Perspective', 29(2) *Indian Economic Review* 157 (1994) and S. Janakarajan, Wells and Welfare: An Overview of Groundwater Use and Abuse in Tamil Nadu, South India (Discussion paper prepared for the IWMI-Tata Program Annual Partners' Meet 2002), available at www.iwmi.cgiar.org/iwmi-tata_html/PartnersMeet/pdf/Photocopy%20006%20-%20JanakRajan.pdf.

4 Planning Commission of India, note 1 above, 4.

5 *Ibid.*, at 5.

As a result of the indiscriminate exploitation of groundwater for various purposes, the number of areas considered to be semi-critical, critical and over-exploited from the point of view of groundwater availability has increased. Out of the 5,723 assessment units (Blocks/Taluks/Mandals/Districts) assessed jointly by the state groundwater departments and the Central Ground Water Board with respect to groundwater availability, 4,078 are safe (71 per cent), 550 are semi-critical (10 per cent), 226 are critical (4 per cent) and 839 are over-exploited (15 per cent).[6] These aggregates do not give the real scenario and its implications. The degree of exploitation varies widely across the country. In the states of Gujarat, Haryana, Punjab, Maharashtra, Rajasthan and Tamil Nadu, the number of over-exploited and critical areas are significantly higher.[7] The percentage of over-exploited areas has increased over the past few decades from 4 per cent to 15 per cent.[8] At the same time, it should also be noted that there is huge reserve of groundwater in the deep aquifers that has not been fully utilized. The under-utilization of the deep aquifer groundwater is also likely to result in its eventual deterioration in quality.[9]

One of the major causes for over-exploitation was the existing legal framework regulating groundwater use. Except for the experiment with public tubewells in north Indian states, groundwater largely remained in the domain of private property.[10] Apart from the common law principle which permitted landowners to draw as much groundwater as they wished, there was no legal regime governing groundwater.[11] The electricity policy, the lending policy of nationalized banks, the fertilizer subsidies and price support policies have also exacerbated the over-exploitation of groundwater.[12] The system of providing free power to owners of agricultural pump sets, low-interest loans for deepening existing wells, constructing new wells and for purchasing pumps and other equipment seems to have promoted the indiscriminate exploitation of groundwater. At the same time little attention has been paid to maintaining the already existing traditional irrigation sources such as canals, tanks and spring channels, which were good sources for recharging groundwater.[13]

6 Central Ground Water Board, Dynamic Ground Water Resources in India 19 (Faridabad: CGWB, 2006).

7 *Ibid.*, at 19.

8 Planning Commission of India, note 1 above, 8 and R.C. Purohit and Virendra Kumar, 'Ownership of Ground Water and Its Pricing: Rajasthan Perspective', in Saleem Romani *et al.* (eds.) *Groundwater Governance – Ownership of Groundwater and its Pricing* 354 (New Delhi: Capital Publishing Company, 2007).

9 Planning Commission of India, note 1 above, 8.

10 M.S. Rathore, 'Water Rights and Other Alternative to Groundwater Management in India', *in* Romani *et al.* (eds.), note 8 above, 333.

11 Chhatrapati Singh, *Water Rights and Principles of Water Resource Management* (Bombay: N.M. Tripathi, 1991).

12 A.S. Bhullar and R.S. Sidhu, 'Integrated Land and Water Use: A Case Study of Punjab', 42 (52) *Economic & Political Weekly* 5353 (2006).

13 S. Janakarajan and Marcus Moench, 'Are Wells a Potential Threat to Farmer's Well Being? Case of Deteriorating Groundwater Irrigation in Tamil Nadu', 41(37) *Economic & Political Weekly* 3977 (2006).

The mounting problem of groundwater depletion and pollution induced the central government to circulate a Model Groundwater Bill to guide the state governments while they enact separate groundwater laws.[14] The need for groundwater regulation was also recognized in the National Water Policy, 1987 and National Water Policy, 2002.[15] State governments have started responding to the policy initiatives of the central government in the last few years. As a result, a few state governments have enacted separate groundwater laws. Therefore, the legal regime governing groundwater in India today is a combination of the traditional common law-based legal regime and recent legal reforms. With this background, this chapter analyses the legal regime governing groundwater in India as a whole, with a special emphasis on ongoing reforms. Instead of adopting a comparative analysis of the different legal frameworks in various states, an analysis at a conceptual level is adopted, with special reference to specific state laws wherever necessary.

A. The legal regime governing groundwater: An overview

The legal regime governing groundwater in India is multifarious. It includes traditional common law rules, various principles and doctrines evolved primarily by the judiciary as part of environmental jurisprudence and laws specifically relating to groundwater passed recently in the course of water law reforms. This part of the chapter analyses the common law rule and the two important principles of environmental law – namely the public trust doctrine and the precautionary principle – which are significant in the regulation of groundwater use. Being a major legal change specific to groundwater management, the evolution of specific groundwater laws requires special scrutiny. Therefore, the evolution of groundwater laws is discussed separately in Section B.

1. Common law rules

As per the Constitution, unless and until legislators use their powers to enact contrary laws, pre-constitution laws remain in force.[16] Consequently, common law principles continued to govern the regulation of groundwater use even after independence. This legal regime has undergone some changes in the few states where new groundwater laws have been enacted in the last few years. However, the traditional common law rule still continues to apply to groundwater extraction in many states.

14 Model Bill to Regulate and Control the Development and Management of Ground Water, 2005, available at www.ielrc.org/content/e0506.pdf.

15 National Water Policy, 1987, available at www.ielrc.org/content/e8701.pdf. See also National Water Policy, 2002, available at www.ielrc.org/content/e0210.pdf.

16 Constitution of India, Article 372, in P.M. Bakshi, *The Constitution of India* (Delhi: Universal Law Publishing, 7th edn 2006).

Under common law, groundwater is considered to be part and parcel of the land. Groundwater is viewed as a chattel attached to the land without having a distinctive character from the land, and without there being any separate title of ownership over it.[17] Further, under common law, groundwater is considered to be distinct from the surface water resources such as streams and rivers. Therefore, principles and doctrines developed with regard to surface water resources are not applicable to groundwater under the common law.[18]

Early case law in this regard asserted and established the rule that, 'percolating water below the surface of earth is a common reservoir in which nobody has any property but of which everybody has (as far as he can) the right of appropriating the whole'.[19] Common law does not recognize any natural or prescriptive right in groundwater flowing in undefined channels. It can be said that under common law, groundwater is considered a 'common supply' and, therefore, the 'absolute property' of any occupier by whom it is appropriated.[20] These were the norms that were customarily followed in India with respect to groundwater extraction.[21] Individuals have always considered water fetched from wells located on their private lands to be their private property.[22]

The legal consequence of the application of this common law rule by the courts is that the owner of the land can dig well(s) in his land and extract as much groundwater as he wants or is available. Landowners are entitled to extract groundwater from their land according to their free will and pleasure. Landowners are not legally liable for any damage caused to the water resources of their neighbours as a result of over-extraction, even if they have over-exploited groundwater with malicious intention to cause injury to their neighbours' wells. Common law jurisprudence dismisses such a problem with the curt observation that such a result is not actionable in law.[23]

The colonial Acts in India followed this legal position of groundwater rights being regarded as part of land rights. This common law right of landowners was recognized by early statutes in India. For instance, the Indian Easements Act of 1882 recognizes the right of every landowner to collect and dispose within their own limits all the water under the land which does not pass in a defined channel.[24] The Indian Easements Act further lays down that a prescriptive right cannot be

17 *Roath v. Driscoll*, 20 Conn. 533, 541 (1850) and *Chatfield v. Wilson*, 28 Vt. 49, 53 (1855) as cited in Robert Emmet Clark (ed.) *Water and Water Rights, Vol. I* at 71 (Indiana: The Allen Smith Company Publishers, 1967).

18 *Acton v. Blundell* (1843) 12 M&W 324 as cited in G.C. Mathur (ed.) *Amin and Sastry's Law of Easements* 434 (Lucknow: Eastern Book Company, 1984).

19 *Chasemore v. Richards* (1859) 7 HLC 349324 and *English v. Metropolitan Water Board* (1907) 1 K.B. 588324 as cited in Mathur (ed.) note 18 above.

20 V. Sitarama Rao, *Law Relating to Water Rights* 185 (Hyderabad: Asia Law House, 1996).

21 Rathore, note 10 above, 339.

22 *Ibid.*, at 339.

23 Clark (ed.), note 17 above, 71.

24 Indian Easements Act, 1882, s. 7.

acquired over underground water not passing in a defined channel.[25] Early case law also asserts this legal position.[26]

The historical reason for the evolution of these rules could be the lack of knowledge of hydrology. This could be considered one of the major reasons for not subjecting groundwater use to legal regulation.[27] Further, since the mechanisms for tapping groundwater had not improved much, there was little chance of extracting too much groundwater, and as such, groundwater extraction was unlikely to cause any serious social problem requiring mediation through law. Both these reasons have now become obsolete. The characteristics of groundwater, such as its movement, are now within the reach of human knowledge. The very fact that groundwater is always in a state of movement makes the private property approach, as reflected in the common law rule, untenable.[28] In fact, the present qualitative and quantitative condition of groundwater necessitates legal intervention.

Moreover, the human rights jurisprudence developed by the Indian judiciary does not support a legal regime favouring uncontrolled exploitation of groundwater by individuals. The right to pollution-free water has been declared to be a part of the fundamental right to life under Article 21 of the Constitution of India.[29] Since over-exploitation by one person is likely to affect the availability of groundwater for another person, in terms of both quality and quantity, Article 21-based jurisprudence seems to support the regulation of groundwater use. Despite this, the common law principle still dominates the legal regime governing

25 *Ibid.*, s. 17(d). This provision appears to exclude groundwater 'passing in a defined channel'. However, it is not clear how to determine the fixed path of groundwater in a particular area. Also *Malayam Patel v. Lakka Narayan Reddi*, AIR 1934 Mad. 284 and *Het Singh v. Anar Singh*, AIR 1982 All. 468.

26 *Mst. Manturabai v. Ithal Chiman* AIR 1954 Nag. 103 as cited in K.K. Singh (ed.) *Amin and Shastri's The Law of Easements* 126 (Lucknow: Eastern Book Company, 4th edn 1970). The observance of this common law tradition in the early days is indicated in the judgment of Chandra Shekhara Aiyar, J. in *Kesava Bhatta v. Krishna Bhatta* AIR 1946 Mad. 334 wherein it is categorically stated at para. 335: 'the general rule is that the owner of a land has got a natural right to all the water that percolates or flows in undefined channels within his land and that even if his object in digging a well or a pond be to cause damage to his neighbour by abstracting water from his field or land it does not in the least matter because it is the act and not the motive which must be regarded. No action lies for the obstruction or diversion of percolating water even if the result of such abstraction is to diminish or take away the water from a neighbouring well in an adjoining land'.

27 Lawrence J. MacDonnell, 'Rules Guiding Groundwater Use in the United States', 1 *Indian Juridical Review* 43, 46 (2005) and Sanjiv Phansalkar and Vivek Kher, 'A Decade of the Maharashtra Groundwater Legislation: Analysis of the Implementation Process', 2(1) *Law, Environment and Development Journal* 67 (2006).

28 T.N. Narasimhan, 'Groundwater Management and Ownership', 43(7) *Economic & Political Weekly* 21 (2008).

29 *Indian Council for Enviro-Legal Action and Ors v. Union of India* (1996) 3 SCC 212; *Venkatagiriyappa v. Karnataka Electricity Board* 1999(4) *Karnataka Law Journal* 482; *Attakoya Thangal* v. *Union of India*, 1990 (1) *Kerala Law Times* 580 and *F.K. Hussain v. Union of India*, AIR 1990 Ker. 321.

groundwater use in many states that do not have separate statutory provisions to regulate groundwater use.[30]

2. *Environmental law principles*

The development of environmental law in India, particularly over the last couple of decades, has resulted in the incorporation of some important environmental principles by the Indian judiciary. Two important principles relevant to the regulation of groundwater use are the public trust doctrine and the precautionary principle.[31] These principles are relevant to groundwater regulation in at least two ways. Firstly, these principles can provide an important basis for groundwater regulation in states where separate groundwater laws do not exist. Secondly, these principles could form the foundation of the evolving groundwater regulatory framework.

Public trust doctrine

The public trust doctrine views vital natural resources as being vested in public trust. Being the trustee, the government has the responsibility to protect and preserve it for and on behalf of the beneficiaries, that is, the people. The public trust doctrine does not approve of any kind of private appropriation of vital natural resources.[32] The public trust doctrine attempts to redefine the rights and duties of the government and the people *vis-à-vis* natural resources. Regarding the role of the government, the adoption of the public trust doctrine marks a shift from the position of 'sovereign rights' to that of the state as 'trustee'.[33] This means that

30 Recently a division bench of the Kerala High Court, by reversing a single judge decision, upheld the common law rule on groundwater. *Perumatty Grama Panchayat v. State of Kerala*, 2005 (2) *Kerala Law Times* 554.

31 There are other environmental law principles, such as polluter-pays principle, which can be discussed in the context of groundwater regulation. However, there is no clarity on the applicability of the polluter-pays principle to situations other than pollution caused by hazardous substances and industries. For a detailed discussion on the scope of the polluter-pays principle in India, see *Vellore Citizens' Welfare Forum v. Union of India* (1996) 5 SCC 647 and *Indian Council for Enviro-Legal Action v. Union of India* (1996)3 SCC 212.

32 Singh, note 11 above, 76.

33 An analysis of the colonial and post-colonial laws on irrigation reveals that the government has exercised complete control over surface water resources, mainly by exercising control over the construction of irrigation structures, water supply and cropping patterns. Early statutes such as the Indian Easements Act, 1882 also save the right of the government in the water of natural rivers and streams and other public irrigation works. For details, Alice Jacob and S.N. Singh, *Law Relating to Irrigation* 1–14 (Bombay: N.M. Tripathi, 1972) and Iqbal Ahmed Siddiqui, 'History of Water Laws in India', in Chhatrapati Singh (ed.) *Water Law in India* 289 (Delhi: Indian Law Institute, 1992).

neither the government nor individuals can exercise absolute rights over such natural resources.[34]

The public trust doctrine, in principle, is a part of environmental jurisprudence in India. Though it is not an express part of any environmental statute, it has been incorporated into environmental jurisprudence by the Indian higher judiciary in the *Kamal Nath* case.[35] The Supreme Court of India has categorically stated that the state is the trustee of all natural resources which are by nature meant for public use and enjoyment. The public at large is the beneficiary of the sea-shore, running water, air, forests and ecologically fragile lands.[36] This view has been recognized and reiterated in a number of cases.[37]

There can be little disagreement on the applicability of the public trust doctrine in the case of surface water resources such as rivers and streams. However, the application of the public trust doctrine *vis-à-vis* groundwater is not clear. This issue came before discussion, recently, in the *Plachimada* case.[38] At the first instance, the single judge of the Kerala High Court decided in favour of the applicability of the public trust doctrine to groundwater resources in private property.[39] The single judge relied upon the Supreme Court decision in the *Kamal Nath* case and held that groundwater resources in private property would come under the purview of the public trust doctrine. The single bench decision was reversed by the division bench in appeal.[40] Presently, the appeal is pending before the Supreme Court of India and, therefore, finality on this issue is yet to be arrived at.

The common law-based legal regime could be considered one of the reasons for the uncontrolled over-exploitation of groundwater in the last several decades. Given the adverse human rights and environmental implications of such a regime, a proper regulatory framework is imperative. The public trust doctrine ought to be an underlying principle in such a regulatory framework as it will provide a justification for state interference in private property rights over groundwater as recognized by common law. A public trust doctrine-based regulatory framework would further entail the abolishment of all private property right claims, as well as sovereign right claims of the government, over ground-

34 For a description of the origin and development of the public trust doctrine, see Sujith Koonan, 'Groundwater: Legal Aspects of the Plachimada Dispute', in Philippe Cullet, Alix Gowlland Gualtieri, Roopa Madhav and Usha Ramanathan (eds.) *Water Law at the Crossroads – National and International Perspectives with Special Emphasis on India* 159, 166–169 (New Delhi: Cambridge University Press, 2009).

35 *MC Mehta v. Kamal Nath* (1997) 1 SCC 388.

36 *Ibid.*, at para. 34.

37 *MI Builders v. Radhey Shyam Sahu* (1999) 6 SCC 464; *Intellectual Forum v. State of Andhra Pradesh* (2006) 3 SCC 549; *Karnataka Industrial Area Development Board v. Kenchappan* (2006) 6 SCC 371.

38 Reference to the *Plachimada* case is to the decision of the Kerala High Court on the issue of the power of the local bodies to regulate the over-exploitation of groundwater in their jurisdiction. For an analysis of the *Plachimada* case, see Koonan, note 34 above, 179–189.

39 *Perumatty Grama Panchayat v. State of Kerala* 2004 (1) *Kerala Law Times* 31.

40 *Hindustan Coca-Cola Beverages v. Perumatty Grama Panchayat* 2005 (2) *Kerala Law Times* 554.

water, thus changing the very basis of the legal regime governing groundwater. Even though some states have enacted separate groundwater laws, none of the groundwater laws expressly recognize the public trust doctrine as a cardinal principle.[41]

The need for a public trust doctrine-based regulatory framework needs to be further examined, particularly in the context of over-exploitation of groundwater by big multinational corporations in various parts of the country. It should be noted that the common law rule is often cited in order to establish that such over-exploitation is not legally actionable. Precisely this argument was raised by the Coca-Cola Company in the *Plachimada* case.

Precautionary principle

The precautionary principle is one of the cardinal principles of international environmental law.[42] It has been endorsed expressly in a number of environmental treaties and declarations in the last two decades.[43] By virtue of the Supreme Court decision in the *Vellore Citizens' Welfare Forum* case, the precautionary principle is also a part of environmental jurisprudence in India.[44] The precautionary principle, as defined by the Supreme Court of India, casts a duty upon the state to take measures to 'anticipate, prevent and attack the causes of environmental degradation'.[45] As per the precautionary principle, precautionary measures cannot be delayed on grounds of scientific uncertainty.[46]

A regulatory regime recognizing the precautionary principle is particularly relevant so far as groundwater resources are concerned, because once polluted, it is very difficult or it takes a long time to reinstate these resources.[47] Moreover, it may be difficult to establish the cause–effect relationship in the case of depletion or pollution of groundwater. The precautionary principle provides the means to overcome these regulatory hurdles. If the precautionary principle is applied, it is not required that conclusive scientific evidence should be presented or an exact cause–effect relationship be established in order to limit groundwater

41 There could be another argument based on the Supreme Court decision in the *Kamal Nath* case. As per Art. 141 of the Constitution of India, the law declared by the Supreme Court is considered to be the law of the land and is to be followed. In this respect, the public trust doctrine could be, in principle, considered to be an implied part of all environmental laws in the country and this should be respected by all other courts and by the executive wing as well.

42 Nicolas de Sadeleer, *Environmental Principles: From Political Slogans to Legal Rules* 96 (Oxford: Oxford University Press, 2002).

43 *Ibid.*, at 96.

44 *Vellore Citizen's Welfare Forum v. Union of India* (1996) 5 SCC 647. In the instant case, the Supreme Court said at para. 14 that 'we have no hesitation in holding that the precautionary principle and polluter-pays principle are part of the environmental law of the country'.

45 *Ibid.*, at para. 11.

46 *Ibid.*

47 J. Chilton, 'Groundwater', in Deborah Chapman, *Water Quality Assessments – A Guide to Use of Biota, Sediments and Water in Environmental Monitoring* 412 (London: Taylor & Francis, 2nd edn 1996).

usage. The precautionary principle further calls for a shift in burden of proof. It is the polluter who has to disprove the cause–effect relationship.[48]

The precautionary principle could be considered to be a part of Indian environmental jurisprudence. However, it has not effectively been put into practice. Take, for instance, the *Plachimada* case. This dealt at length with the cause–effect relationship with respect to groundwater depletion and the role of the Coca-Cola factory in the same. The Kerala High Court, while absolving the Coca-Cola factory, relied upon government reports which described poor rainfall as the major reason for groundwater depletion.[49] Had the precautionary principle been applied, the nature of the discussion would have been quite different. Moreover, the precautionary principle could have provided a strong legal basis for the government agencies to take action even in the absence of conclusive scientific evidence against the Coca-Cola factory.

The *Plachimada* example, therefore, points to the need for express recognition of the precautionary principle in the groundwater regulatory framework. It further exposes the need for strict application of the principle by institutions established for the implementation of environmental laws and by the judiciary as well.

3. Model Groundwater Bill: A reform initiative

Groundwater in India has been indiscriminately exploited over the last several decades. This is one of the major reasons for groundwater depletion and pollution. The common law principle seems to have provided a legal basis for its uncontrolled exploitation by those who have access to land and financial resources. Though principles such as the public trust doctrine and precautionary principle have evolved subsequently, these principles have hardly changed the legal regime which functions on the basis of recognition of private property rights. At the same time, the deteriorating condition of groundwater resources in the country has provoked a significant change in the legal framework with a view to regulating its indiscriminate exploitation.

A change in the legal approach was initiated by the Ministry of Water Resources, Government of India by framing and circulating the Model Groundwater Bill in 1970.[50] The Model Bill was revised three times in 1992, 1996 and 2005 respectively. It was intended to promote legal reforms for the regulation of groundwater use.[51] In fact, the schemes and approaches envisaged by the Model Bill have been, by and large, followed by most of the states while framing groundwater laws.

48 *Vellore Citizen's Welfare Forum v. Union of India* (1996) 5 SCC 647 Para. 11.

49 For details, *see* Koonan, note 34 above, 179–189.

50 As per the constitutional scheme, the subject of 'water resources' comes within the purview of state legislature. Therefore, the role of the central government is minimal in this regard. Constitution of India, Schedule VII, List II, Entry 17.

51 For an analysis of the Model Groundwater Bill of 2005, see Philippe Cullet, 'Water Law Reforms – An Analysis of Recent Developments', 48 *Journal of Indian Law Institute* 206 (2006).

As such, the Model Bill has set in motion legal reforms in some states in India, and a new regulatory approach has been initiated which recognizes and justifies the government regulation of groundwater use by individuals and companies.[52] While the common law-based regime protected only the right of landowners to withdraw groundwater from their land, the Model Bill introduced a new legal framework accommodating public interest and conservation objectives. This can be seen as the beginning of a significant shift from the common law-based regime, which supported uncontrolled extraction by private persons, to a regime of government regulation.

B. Legal reforms: An analysis

1. Newly evolving groundwater laws: An introduction

Over the last few years, a number of states have enacted their own groundwater laws.[53] This has led to major reforms in the legal regime governing groundwater in India. Broadly speaking, the laws evolving of late redefine the rights, duties and roles of the government, as well as those of individuals, *vis-à-vis* groundwater resources. These laws have also resulted in institutional reforms and have also

Table 9.1 Status of groundwater legislation in India

States/UTs that have passed enactment on groundwater	*States/UTs that have adopted Bills on groundwater but have not passed the same*	*States/UTs that have initiated the process of enacting laws on groundwater*	*States/UTs that feel it unnecessary to enact any legislation on groundwater*
• Andhra Pradesh • Goa • Tamil Nadu • Lakshadweep • Kerala • Puducherry • West Bengal • Himachal Pradesh	• Maharashtra • Gujarat • Karnataka • NCT Delhi • Uttar Pradesh	• Assam • Bihar • Haryana • Jammu and Kashmir • Mizoram • Orissa • Rajasthan • Daman and Diu • Jharkhand • Meghalaya • Dadra & Nagar Haveli • Madhya Pradesh • Uttarakhand • Andaman & Nicobar • Chhattisgarh	• Nagaland • Sikkim • Tripura • Punjab • Chandigarh • Manipur • Arunachal Pradesh

Source: The statement of the Minister of Water Resources in the Parliament on 4 December 2006, available at http://164.100.24.208/lsq14/quest.asp?qref=37130.

52 Model Bill to Regulate and Control the Development and Management of Ground Water, 2005.

53 For the list of states having separate groundwater law, see Table 9.1.

attempted to incorporate into groundwater regulation important norms of environmental law such as conservation and sustainable use.

Evolving groundwater laws seek to vest in the concerned state government the power to regulate and control the use of groundwater by private individuals. Evolving groundwater laws, generally, authorize the government to regulate groundwater use wherever it is felt necessary, in the interests of 'conservation, management and development' of the resource. This essentially indicates that these laws provide for government action founded on the 'public interest' rationale.[54] In this way, ongoing legal reforms make a considerable departure from the traditional legal approach wherein rights over groundwater were considered to be 'part and parcel' of land rights.

This shift within the legal regime has significant implications. Most importantly, the right to use groundwater, in principle, can now be severed from land rights. The argument in favour of severing groundwater rights from land rights has been in existence for at least two decades, the rationale being that conflation of land rights with the right to use groundwater results in the denial of the latter to the landless.[55] This situation is of special relevance to a country like India where the number of landless people is not insignificant. Moreover, conflation of the two rights would conceptually justify privatization of groundwater resources.

Another important legal change is the incorporation of objectives of conservation and development of the resource. Most of the evolving groundwater statutes emphasize conservation and development as major objectives. For instance, the Kerala Act recognizes the need for conservation in its preamble.[56] The title of the Andhra Pradesh Act also indicates the emphasis on 'protection and conservation'.[57] The translation of such environmental concerns into legal norms would have been very difficult, if not impossible, within the traditional legal regime.

The evolving legal regime envisages new institutional mechanisms, in the form of groundwater authorities, for proper and effective implementation of the law. Groundwater authorities are vested with the responsibility of enforcing the regulatory tools provided by the relevant statutes to ensure sustainable use. By and large, the institutional mechanisms provided under the various state groundwater laws follow a similar structure and perform similar functions. However, there are some variations across states. For example, West Bengal has put in place a decentralized structure by providing three levels of groundwater authorities – state level, district level and corporation level.[58]

54 For instance, preamble of the Kerala Ground Water (Regulation and Control) Act, 2002, available at www.ielrc.org/content/e0208.pdf.

55 Singh, note 11 above, 39.

56 Kerala Ground Water (Regulation and Control) Act, 2002.

57 Andhra Pradesh Water, Land and Trees Act, 2002, available at www.ielrc.org/content/e0202.pdf.

58 West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005, available at www.ielrc.org/content/e0502.pdf.

2. Regulatory approach

Various state acts have adopted the licensing system as a regulatory tool (i.e., a permit or registration-based system). Almost all the state groundwater laws envisage the classification of areas on the basis of the condition of the groundwater.[59] These may be notified formally by the state government. All users in such notified areas are required to register their wells. Potential users are required to seek prior permission. The control over groundwater use is sought to be effectuated by imposing conditions specified in the permit or certificate of registration.[60] The granting of permits and the conditions specified in the permit are as per the condition of the groundwater in the concerned area as estimated by the groundwater authority. The permit may be denied if it is likely to endanger the existing use of groundwater in that area.[61]

This regulatory framework also provides scope for subsequent alterations in the conditions specified in the permit or certificate of registration.[62] Cancellation of the permit or certificate of registration is also envisaged. Cancellation could be made under various grounds, such as failure of the holder to comply with the specified conditions, or the need for more stringent regulation.[63]

The extent of regulation could range from mere monitoring of groundwater use through the registration process to complete prohibition or closing down of wells. The nature and extent of regulation depends upon the quality and quantity of groundwater in a particular area. For instance, there could be a complete prohibition on new wells in areas designated as 'over-exploited'.[64]

One of the important features of the evolving regulatory framework is the priority given to drinking water, particularly the special protection given to public drinking water sources. This prioritization is sometimes manifested in the form of provisions prescribing the distance required to be maintained by new wells from public drinking water sources[65] or may be manifested in the form of exemptions from prohibitive provisions. For instance, the Goa Act prohibits sinking of new wells in areas designated as over-exploited.[66] However, the sinking of a well for its use as a public drinking water resource is exempted from this prohibitive provision.[67]

59 See, e.g., Kerala Ground Water (Regulation and Control) Act, 2002 and West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005.

60 Groundwater authorities have the power to specify conditions in the permit or certificate of registration. See, e.g., Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, s. 7(3), available at www.ielrc.org/content/e0507.pdf.

61 See, e.g., Kerala Ground Water (Regulation and Control) Act, 2002, Section 7.

62 *Ibid.*, s. 11.

63 *Ibid.*, s. 12.

64 See, e.g., Goa Ground Water Regulation Act, 2002, s. 9, available at www.ielrc.org/content/e0201.pdf and Andhra Pradesh Water, Land and Trees Act, 2002, s. 11.

65 See, e.g., Andhra Pradesh Water, Land and Trees Act, 2002, s. 10.

66 See, e.g., Goa Ground Water Regulation Act, 2002, s. 9.

67 *Ibid.*

Generally, the regulatory framework envisaged by the various state groundwater laws seems to follow a compartmentalized approach, wherein groundwater is treated as a separate unit governed by a separate regulatory framework. One of the basic flaws in such a regulatory approach is that it does not take into account the natural link between surface water and groundwater sources. This link is so close that any distinction is highly artificial. Moreover, a compartmentalized regulatory framework does not help achieve desired results. A case study observed that the poor maintenance of tanks in Tamil Nadu over the last few decades has adversely affected groundwater recharging, resulting in the lowering of the groundwater table.[68] This indicates the need for an integrated regulatory approach, a long-term perspective, which takes into consideration the link between surface water and groundwater.

3. Institutional framework

Institutional reforms are a major part of water law reforms in India. The setting up of separate groundwater authorities can be considered to be a major reform in the institutional structure. In addition to the emergence of new state groundwater authorities, there are other statutory authorities, such as the Central Ground Water Authority and pollution control boards, having direct and indirect roles in groundwater regulation. This section of the chapter is divided into two parts. The first part describes the nature and function of the newly emerged groundwater authorities; the second analyses their role in the context of already existing institutions.

Groundwater authorities

The development of groundwater laws has made significant changes to the institutional framework of groundwater regulation. All state groundwater laws provide for the constitution of a groundwater authority. These groundwater authorities constitute the major organizational mechanism for implementation and enforcement of the new groundwater regulations.

Groundwater authorities are the agencies primarily responsible for the effective and proper use of regulatory tools provided by the statutes. It is the responsibility of the groundwater authorities to issue permits and certificates of registration to the users. They have the power to specify terms and conditions in the permit or certificate of registration. These authorities can also give directions to the users in furtherance of the objects of the statute. The powers of these authorities also include the power to enter property to inspect wells, to order closure of wells and

68 A. Gurunathan and C.R. Shanmugham, 'Customary Rights and their Relevance in Modern Tank Management: Selected Cases in Tamil Nadu', in Philippe Cullet, Alix Gowland Gualtieri, Roopa Madhav and Usha Ramanathan (eds.) *Water Law at the Crossroads – National and International Perspectives with Special Emphasis on India* 129 (New Delhi: Cambridge University Press, 2009).

to seize any device used for the extraction of groundwater. However, the regulatory framework provided under the various existing state laws is generally applicable only to the 'notified areas'. The power to notify an area vests with the state government.[69] The power of the groundwater authority in this regard is, therefore, merely advisory in nature.

The institutional framework set up by the various state laws follows a centralized command and control approach. The various groundwater laws, generally, provide for the setting up of groundwater authorities at the state level.[70] This is probably an approach inspired by the Model Groundwater Bill formulated in 1970. This institutional approach marks a significant departure from the institutional reforms being undertaken with respect to other water laws. For instance, one of the important institutional changes introduced in the course of irrigation law reforms in India is the setting up of water users associations, which are vested with the responsibility of management and allocation of surface water.[71] In fact, the institutional framework adopted by the new groundwater laws follows a diametrically opposite approach to that promoted by the other water law reforms taking place over the past decade.

Institutional problems

Two main criticisms are levied against the institutional framework adopted by the new groundwater laws. The first is regarding the basic institutional approach, the second is the issue of institutional multiplicity.

It has already been stated that the institutional framework envisaged in the course of groundwater law reforms follows a centralized command and control approach. Given the ever shifting nature of groundwater, a centralized institutional mechanism would be ineffective. Tremendous organizational capacity is required to monitor the behaviour of individuals and it would be extremely difficult and expensive for a centralized institution to carry out the same and to effectively implement the law. Moreover, this centralized regulatory approach does not seem to respect or recognize the decentralization principle envisaged by the Constitution of India, which promotes the devolution of more and more powers to local bodies. The ongoing groundwater legal reforms by providing a centralized institutional mechanism appear to neglect this constitutional aspiration.[72]

69 See, e.g., Kerala Ground Water (Regulation and Control) Act, 2002, s. 6.

70 Andhra Pradesh Water, Land and Trees Act, 2002 and West Bengal Ground Water Resources (Management, Control and Regulation) Act, 2005, ss. 4 and 5 also provide for institutions at the local level.

71 See, e.g., Andhra Pradesh Farmers' Management of Irrigation Systems Act, 1997, available at www.ielrc.org/content/e9701.pdf.

72 For instance, though the Kerala Government enacted the Kerala Panchayat Raj Act in 1994, the Kerala Groundwater Act, 2002 does not contain any provisions according requisite powers to the local bodies.

Further, the setting up of groundwater authorities has added one more institution to the list of those already involved in groundwater regulation. This raises the question of institutional multiplicity and thus the issue of co-operation and co-ordination between these institutions having overlapping mandates. The mandate of the various state groundwater authorities and the Central Groundwater Authority overlap in many areas. Both these institutions have almost identical regulatory powers but under different statutes.[73] State authorities are constituted under the various state groundwater laws, whereas the Central Groundwater Authority is constituted under a central legislation, the Environment (Protection) Act, 1986. In states where separate groundwater legislation does not exist, the Central Groundwater Authority has a significant or primary role in the regulation of groundwater use. However, in states where groundwater authorities exist, there arises the problem of lack of institutional co-ordination and that of overlapping mandates.

Similar issues arise between the groundwater authorities and pollution control boards so far as groundwater pollution is concerned. Pollution control boards have been set up in almost all states. They are the agencies primarily responsible for addressing pollution issues in general, and particularly water pollution under the Water (Prevention and Control of Pollution) Act, 1974. Being the specialized authorities with respect to groundwater resources, groundwater authorities also have the mandate of addressing pollution of groundwater and its sources. These overlapping mandates might result in one authority shifting the responsibility to the other, with both parties ending up with either no results or delayed results.

C. Gaps and the way forward

Reforms in groundwater laws in India mark a significant departure from what was being followed for a long time. The traditional regime founded on private property rights cannot be justified on human rights, equity and environmental grounds. Instead of treating groundwater as a vital natural resource to be conserved and used discriminately, the traditional legal principles treated it as part of private property rights. The legal reforms introduced considerable changes in this regime by justifying government regulation. Normally, this can be seen as the recognition of groundwater as a natural resource vital to the whole society, in opposition to the traditional view which considered it to be *de facto* private property.

Given the adverse implications of the traditional legal approach towards groundwater, the ongoing legal reforms constitute a much needed change. The enactment of separate groundwater laws should be welcomed and viewed as a move to fill in the gaps that have long been present in the legal regime governing groundwater in India. However, there is much to be improved on. By and

73 For the role of the central authority, Central Groundwater Authority, Policy Guidelines of CGWA, available at http://cgwb.gov.in/GroundWater/CGWA%20guidelines%20for%20NOC%201.pdf. As on 2 December 2006, the CGWA had notified 43 areas for groundwater regulation, mostly in states where groundwater regulation does not exist. The list of notified areas is available at http://cgwb.gov.in/GroundWater/authority_area.htm.

large, the reforms follow the framework introduced by the Model Bill framed in 1970. Therefore, several environmental and other legal norms evolved over the last couple of decades have not been incorporated or considered in the new regulatory framework; examples being the public trust doctrine and decentralization principle. Thus a number of norms need to be incorporated into the new regulatory framework. Some of the important normative gaps in the new regulatory framework are discussed here.

1. Human rights concerns

Life cannot exist without water. Therefore, the right to water must be recognized as a fundamental human right.[74] In fact, the human right to water has been recognized under international human rights law.[75] Various national laws also have recognized the human right to water in so far as drinking water is concerned.[76] It can also be argued that even in the absence of an express recognition of the human right to water, the same is an indispensable part of the existing human rights jurisprudence because the realization of other well-recognized human rights is difficult without access to sufficient potable water.[77]

The human right to water is, in principle, a part of Indian law. The Indian judiciary has expanded the scope of the right to life under Article 21 of the Constitution of India to include right to water as part of the right to life.[78] Given the fact that groundwater is largely being used as a source of drinking water, access to the same would logically fall within the purview of Article 21 of the Constitution of India. Moreover, it has been expressly recognized by case law that human rights jurisprudence is applicable to groundwater also.[79] Since the human right to water is a part of Indian law, the legal regime governing groundwater also must necessarily implement this human right.

Recognition of the human right to water casts a duty upon the government to regulate the over-exploitation and pollution of groundwater. Failure to do so would be tantamount to the violation of the right to life which is enforceable through constitutional remedies.[80] It further justifies restricting the uncontrolled exploitation of groundwater by individuals who rely on the common law rule.

74 For more details on the human right to water, see Chapter XI.

75 Committee on Economic, Social and Cultural Rights, General Comment No. 15: The Right to Water (Arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), UN Doc. E/C.12/2002/11 (2002).

76 Cullet, note 51 above.

77 Peter Gleick, 'The Human Right to Water', 1 *Water Policy* 487 (1999).

78 *Narmada Bachao Andolan v. Union of India* (2000) 10 SCC 664; *A.P. Pollution Control Board II v. M.V. Nayudu* 2000(3) SCALE 354, available at www.ielrc.org/content/e0010.pdf; *F.K. Hussain v. Union of India* AIR 1990 Ker. 321 and *Venkatagiriappa v. Karnataka Electricity Board* 1999 (4) *Karnataka Law Journal* 482.

79 *Puttappa Honnappa Talwar v. The Deputy Commissioner* AIR 1998 Kant. 10.

80 An individual can approach the Supreme Court or the High Court directly under Arts. 32 and 226 respectively in case of violation or infringement of a fundamental right.

However, these normative grounds have not been invoked properly in the case of groundwater resources so far. In a recent case (the *Plachimada* case), the Kerala High Court refused to apply this human rights norm.[81] In this case, the division bench of the Kerala High Court upheld the private property right in view of the absence of any express statutory authorization to regulate individual use. One of the reasons for this situation could be the derivative nature and ambiguity of the human right to water. Therefore, clarity needs to be achieved through the express recognition of the human right to water in groundwater statutes. The human right to water should be seen as an express normative basis for groundwater regulation.

A human rights approach further requires proper and express recognition of a principle of prioritization by the legal framework. That is, the first and foremost priority must be accorded to drinking water. The need to prioritize drinking water has been expressly recognized by the judiciary in a couple of cases.[82] The norm of according priority to drinking water can also be seen in some groundwater laws.[83] This is mainly by way of providing protection to public drinking water resources.[84] Apart from the prioritization of drinking water, the state groundwater laws do not mention subsequent priorities. Though the use of groundwater for food crop cultivation also needs to be viewed from a human rights perspective in the larger interest of food security, such an emphasis has not found manifestation in the ongoing legal reforms. Therefore, an expanded list of priorities needs to be provided in the various groundwater laws.[85] Guidance in this regard has already been provided by the National Water Policy, 2002.[86]

2. The decentralization principle

The Constitution of India, through the 73rd and the 74th amendments, envisages decentralization as a principle of governance. The Constitution provides for the devolution of powers and responsibilities at the local level. The decentralization principle suggests a bottom-up approach to governance in the place of the centralized top-down approach that has been followed for a long time. If the decentralization principle is applied, the management and control of groundwater is required to be within the purview of local bodies.[87] Moreover, the

81 *Hindustan Coca-Cola Beverages v. Perumatty Grama Panchayat* 2005 (2) *Kerala Law Times* 554.

82 *FK Hussain v. Union of India* AIR 1990 Ker. 321 and *Venkatagiriappa v. Karnataka Electricity Board* 1999 (4) *Karnataka Law Journal* 482.

83 See, e.g., Maharashtra Groundwater (Regulation for Drinking Water Purposes) Act, 1993, available at www.ielrc.org/content/e9301.pdf and Karnataka Ground Water (Regulation for Protection of Sources of Drinking Water) Act, 1999, available at www.ielrc.org/content/e9905.pdf.

84 See, e.g., Himachal Pradesh Ground Water (Regulation and Control of Development and Management) Act, 2005, s. 7(3).

85 The need for proper incorporation of the norm of priority to drinking water is to be viewed in the context of recent allegations of groundwater depletion due to over-exploitation for commercial use. Koonan, note 34 above, 159.

86 National Water Policy, 2002, para. 7(8).

87 Constitution of India, Eleventh Schedule, Entry 3 and 11.

people are expected to be given a more prominent role in the decision-making process.

The constitutional scheme encourages devolution of powers and responsibilities at the local level with respect to groundwater management and control. The state legislatures, by virtue of the 73rd and 74th amendments, are morally obliged to incorporate the policy of decentralization into their laws. In the context of groundwater, the state legislatures need to incorporate this principle into the existing or evolving groundwater laws. In fact, most of the state legislatures have enacted laws which give effect to the decentralization principle.[88] This constitutional aspiration and its wide legislative manifestations need to be considered by the judiciary also while interpreting and deciding any legal issues related to groundwater.

However, ongoing legal reforms in groundwater regulation, by adopting a method of centralized command and control, have neglected the constitutional aspiration of decentralization. The evolving groundwater laws generally do not recognize the role of local bodies in groundwater regulation. Moreover, some of the recent legal changes, particularly some laws enacted with the object of promoting development and investment, completely disregard the decentralization principle as envisaged by the Constitution. For instance, the Kerala State Single Window Clearance Boards and Industrial Township Area Development Act, 1999 expressly takes away the regulatory powers of local bodies over designated industrial areas.[89] The issue of the power of local bodies to regulate groundwater use in such industrial areas has been discussed by the Kerala High Court recently in the *Pepsico* case.[90] In the instant case, the power of the panchayat was not upheld in the light of the express statutory provision omitting the jurisdiction of the panchayat in industrial areas.[91]

Moreover, vesting more regulatory powers in local bodies would promote the idea of people's participation. Further, the problem of institutional multiplicity would also be relieved if the primary regulatory powers are vested in the local bodies, with technical bodies such as groundwater authorities and pollution control boards act as facilitating agencies. Given the high costs and operational complications involved in a centralized regulatory approach, a decentralized regulatory approach is likely to be more feasible and efficient.

3. Groundwater use and energy and land utilization policies

Groundwater regulation has a significant link with energy and land utilization policies. The provision of energy for pumping groundwater at subsidized rates,

88 Government of India, Annual Report of the Ministry of Rural Development 2002–2003 (New Delhi: Ministry of Rural Development, 2003).

89 Kerala State Single Window Clearance Boards and Industrial Township Area Development Act, 1999, s. 6.

90 *Pepsico India Holdings v. State of Kerala*, Kerala High Court, 2008(1) *Kerala Law Journal* 218.

91 *Ibid.*

particularly for agricultural purposes, is often considered to be one of the major reasons for indiscriminate exploitation of groundwater.[92] Land use patterns also have significant implications for the quality and quantity of groundwater. Therefore, it is argued that sustainable groundwater use can be achieved only if groundwater regulation is effectively complemented by a proper energy and land utilization policy.

Large-scale groundwater extraction in India is fuelled by availability of cheap electricity and diesel. About one-third of the total electricity supplied is estimated to be used for pumping groundwater for irrigation as well as for the domestic water supply in urban and rural areas.[93] Some studies show that around 75 per cent of irrigated lands are served by groundwater wells.[94] It has been further observed that groundwater-based irrigation uses up a significant portion (around 20 per cent) of the total electricity produced.[95] The number of electric and diesel pump sets, estimated to be 12.5 and 6 million respectively, gives a clearer picture as to the close link between energy policy and groundwater exploitation.[96]

Both electricity and diesel are provided at subsidized rates to farmers by state governments. The rise in the price of energy is mostly absorbed by the government.[97] In fact some states have provided electricity to farmers free of cost.[98] As such, the exploitation of groundwater is supported by a sympathetic energy policy.

Therefore, a proper energy policy could be an effective regulatory tool for groundwater use. Factors such as the gap between wells or the distance of a private well from a public drinking water source ought to be taken into consideration before providing an electricity connection. Charging the consumer the actual energy cost could also be a possible tool for regulation of groundwater

92 M. Dinesh Kumar, 'Impact of Electricity Prices and Volumetric Water Allocation on Energy and Groundwater Demand: Analysis from Western India', in V. Ratna Reddy and S. Mahendra Dev (eds.) *Managing Water Resources: Policies, Institutions, and Technology* 118 (New Delhi: Oxford University Press, 2006). At the same time, it is also to be noted that extensive groundwater-based irrigation has produced positive results in the form of significant increase in food production. Tushaar Shah *et al.*, 'Energy-Irrigation Nexus in South Asia: Improving Groundwater Conservation and Power Sector Viability', in Mark Giordano and Karen G. Villholth (eds.) *The Agricultural Groundwater Revolution: Opportunities and Threats to Development* 211 (Wallingford: CABI International, 2007).

93 Ramesh Bhatia, 'Water and Energy Interactions', in John Briscoe and R.P.S. Malik (eds.) *Handbook of Water Resources in India* 206 (New Delhi: Oxford University Press, 2007).

94 Shah *et al.*, note 92 above, 215.

95 *Ibid.*, at 214.

96 Bhatia, note 93 above, 219.

97 Tingju Zhu, Claudia Ringler and Ximing Cai, Energy Price and Groundwater Extraction for Agriculture: Exploring the Energy Water Food Nexus at the Global and Basin Levels (International conference organised by the International Water Management Institute (IWMI) and Food and Agriculture Organization (FAO), Hyderabad, 29–30 January 2007), available at www.lk.iwmi.org/EWMA/files/papers/Energyprice_GW.pdf.

98 Navroz K. Dubash, 'The Electricity-Groundwater Conundrum: Case for a Political Solution to a Political Problem', 42(52) *Economic & Political Weekly* 45 (2007).

use.[99] At the same time, charging the actual energy cost would most likely affect the poor and marginal farmers. Hence, reforms in this regard should follow a policy whereby poor and marginal farmers and domestic users should be least affected. This means the pricing policy should be formulated in such a manner that the public utility shall charge actual costs only in the case of commercial and industrial users and shall retain the government subsidy for poor and marginal farmers and domestic users.

Land utilization policies also have significant implications for the quality and quantity of groundwater. Various land-based activities, such as the application of fertilizers and utilization of land for dumping wastes, pollute groundwater resources. These quality issues need to be addressed on an urgent basis because unlike in the case of surface water resources, it is difficult to identify a groundwater pollutant at the initial stages, largely due to its invisible nature. Once an aquifer has become polluted, it is extremely difficult to clean up and it is rarely possible to return it to a pristine condition.[100] This issue is critical given the fact that groundwater is increasingly becoming a major source of drinking water. Therefore a preventive and precautionary solution through the regulation of land use on the basis of the availability of groundwater resources is imperative.

Environment impact assessments should also be undertaken to enable precautionary measures to be taken. These regulatory tools should be applied by respecting the norm of priority to drinking water. For instance, in an area mainly used for food crop cultivation, or in an area where the majority of the population rely on groundwater for domestic purposes, water-based industries intending to exploit groundwater should not be permitted as they are likely to adversely affect the existing agricultural and domestic consumption.

CONCLUSION

The legal regime governing groundwater in India is a combination of English common law principles, evolving state-level groundwater enactments, the Indian Easements Act, 1882, and various pollution control laws. Falling within the purview of the legislative competence of state governments, the law governing groundwater varies from state to state. However, most states have adopted a form of centralized command and control as the basis of regulation. In the states which have not adopted separate groundwater laws, the legal regime governing groundwater use mainly comprises the traditional English common law principle as recognized in early enactments, such as the Easements Act.

99 Charging farmers the actual cost of electricity has been suggested as a regulatory tool to restrict indiscriminate exploitation of groundwater. Navroz K. Dubash, *Tubewell Capitalism: Groundwater Development and Agrarian Change in Gujarat* (New Delhi: Oxford University Press, 2002) and Karin Erika Kemper, 'Instruments and Institutions for Groundwater Management', in Giordano and Villholth (eds.) note 92 above, 153.

100 Chilton, note 47 above, 451.

Table 9.2 Main features of state-level groundwater enactments

State	*Application*	*Regulatory tools*	*Priority*	*Pollution*	*Other features*
Andhra Pradesh, 2002	Applicable to all ground-water resources in the state and to all users, including government bodies	Registration mandatory for all wells [s. 8(2)] Statutory authority can impose prohibition on use of wells to prevent deterioration of or damage to groundwater resource [s. 9(1)] Statutory authority can require sealing or closure of wells [s. 15(1)] Regulation of distance and depth of wells [s. 13] Permission from the electricity authority is required for sinking wells in the vicinity of public drinking water sources [s. 10(2)] Statutory authority may declare certain areas to be 'over-exploited areas' where absolute prohibition of groundwater extraction applies for all uses except for drinking purpose [s. 11].	Priority accorded to drinking water usage, particularly in the form of protection of public drinking water resources [s. 10(1)]. Most of the regulatory tools are meant for the protection of drinking water resources	Groundwater contamination in any manner and by anyone is prohibited [s. 19].	Decentralized institutional structure [s. 6(h)] Integrated regulatory approach [s. 6(b)] Express recognition of equity in access [s. 6(f)] Government may take over wells by paying compensation [s. 12(5)] Mandatory requirement of rain water harvesting for buildings [s. 17(2)].
Kerala, 2002	Applicable to notified areas [s. 6(1)].	Permit/certificate of registration system with conditions as prescribed by the Authority [ss. 7(1) &8(1)].	Priority accorded to (public) drinking water usage [s. 10].	Maintenance of quality of groundwater is a criterion required to be considered while granting permit/certificate of registration [ss. 8(5)(d) & 7(7)(d)].	Centralized institutional mechanism [s. 3(1)].
West Bengal, 2005	Applicable to all areas and to all users [s. 2(j)].	Permit/certificate of registration system with conditions as prescribed by the Authority [ss. 7(1) & 8(1)].	Priority accorded to irrigation and domestic usage [ss. 7(1) & 8(1)].	Maintenance of quality of groundwater is an objective stated in the preamble and is to be considered while granting permit/certificate of registration. [ss. 7(3) (a) & 8(2) (a)]	Decentralized institutional mechanism [ss. 4(1) & 5(1)] Emphasis on preparation of district-wide groundwater profile periodically [s. 9(a)].

Karnataka, 1999 (Legislation specific to drinking water)	Applicable to the whole state and to all users except the government [s. 3(1)].	Regulation of sinking wells within 500 metres of public drinking water sources [s. 5(1)] Declaration of certain areas to be 'water-scarce areas' and 'over-exploited watersheds' and restriction on or prohibition of extraction of groundwater from such declared areas [ss. 4 and 7].	Specifically for the protection of public drinking water sources	Does not directly address the quality issue	Definition of 'drinking water purpose' is wide enough to include cooking, washing, bathing and all other domestic purposes and water for live-stock as well [s. 2(2)] Compensation is granted in case of closure of wells [s. 12(1)].
Goa, 2002	Applicable to all areas and to all users	Declaration of certain areas to be scheduled areas, water-scarce and over-exploited areas and restriction on or prohibition of groundwater use in declared areas [ss. 4, 5 and 6].	Extraction of groundwater for drinking purpose is exempted from regulations [s. 9(1) (a)].	Aspects related to preservation of quality of groundwater are not expressly addressed. However, the same is required to be considered while granting permission to transport groundwater from the scheduled areas [s. 6(5)(e)] Provision to close toilets/septic tanks/soak pits if they cause pollution of groundwater [s. 13(1)(m)].	Major emphasis on quantitative control; provision for compensation in case of closure of wells [s. 12] Regulation through electricity connections [s. 13(1)(l)].
Himachal Pradesh, 2005	Application limited to notified areas	Permit/registration system put in place in notified areas [ss. 5, 7(1) and 8(1)].	First priority accorded to drinking water usage while granting permit/ registration [s. 8(2)].	Maintenance of quality of groundwater is to be considered while granting permits [ss. 7(5)(d) and 8(4)(d)].	Royalty to be paid to the State Government by users in notified areas [s. 12(1)].

English common law principles and the property-right approach as envisaged in the Easements Act evolved at a time when the need for groundwater regulation was not taken seriously. This is no longer the case, given the fact that the over-exploitation of groundwater over the past few decades has caused a deterioration in quality and quantity across the country. As indicated by the *Plachimada*

case, the uncontrolled exploitation of groundwater for industrial and commercial purposes threatens access to drinking water – a basic human need. In this context, the traditional common law approach is too dated. However, these common law principles still remain in force in some parts of the country where specialized groundwater regulatory mechanisms have not been put in place.

An alternative regulatory approach has been provided by the Supreme Court of India in the form of the public trust doctrine. A single judge of the Kerala High Court, in the *Plachimada* case, applied this doctrine to the case of groundwater resources. The decision of the single judge was subsequently reversed on appeal by the division bench. Since the case is now pending before the Supreme Court of India, the scope of application of the public trust doctrine to groundwater resources is unclear, or is yet to be decided.

The groundwater laws, which have been evolved by the states, do not address contemporary challenges properly. Being largely based on the central government's Model Groundwater Bill of 1970, these state laws follow the traditional centralized command and control regulatory approach. Since the 1970s a significant change has occurred in the legal system by the introduction of the decentralization principle through constitutional amendments in 1992. Despite this change, the newly evolved and evolving state groundwater laws neglect the decentralization principle. Local bodies and the local community have not been assigned any express roles in groundwater regulation in the evolving legal framework.

The human right to water has, in principle, been recognized by the higher judiciary of the country. Despite repeated assertions by the judiciary, a human rights approach has not found explicit expression in the evolving groundwater laws. Though the norm of priority to drinking water has found recognition to some extent in the form of the protection of drinking water sources, proper statutory recognition of this norm is still to be done.

Hence, it is reiterated that the legal framework governing groundwater in India needs to be improved so as to address contemporary challenges. The basic regulatory approach and underlying legal principles need to be reviewed in the light of the need to incorporate a human rights approach, the precautionary principle, decentralization principle and the norm of according foremost priority to drinking water. Further, the regulatory framework should recognize the interface between groundwater and surface water.