Revamping the Groundwater Legal Regime in India: Towards Ensuring Equity and Sustainability

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The evolution of a separate groundwater law in India is a relatively new development. This development marks a shift from the dated common law rule that recognises the uncontrolled right of landowners over groundwater, which perpetuated gross inequity in accessing groundwater by restricting access only to landowners. In this context, framing of new groundwater laws is seen as a key step towards addressing the aggravating problems of depletion and contamination of groundwater along with eliminating inequity in accessing groundwater. Access to groundwater is also directly related to the realisation of the right to water because groundwater is the most important source for drinking and other domestic purposes. Therefore, a legal framework ensuring sustainable use of, and equitable access to, groundwater will have tremendous impact and influence on the effective realisation of the right to water in the Indian context. In this background, this article examines the capacity of the existing and evolving groundwater law in India to ensure equity, sustainability and realisation of the right to water. This article also highlights the gaps in the existing legal framework in this regard and suggests basic principles, norms and approaches that should form the underlying elements of the groundwater legal regime to make it capable of ensuring sustainability, equity and human rights.

I. Introduction

Groundwater use in India has increased tremendously over the last few decades. It has become the most important source of freshwater for almost all

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uses. It has been estimated that around 60 per cent of the irrigated agriculture depends upon groundwater and more than 80 per cent of drinking water needs are met by groundwater.[1] In many parts of the country, particularly in rural areas, groundwater is the only source of drinking water.

Industries also depend upon groundwater to meet their water needs. Over-exploitation of groundwater by industries causes drinking water shortage and shortage of water for other purposes, including irrigation. This has already triggered conflicts on access to, and use of, groundwater. The ongoing litigation in the Supreme Court of India between Perumatty Grama Panchayat[2] and the Coca Cola Company in Plachimada in the State of Kerala is a well-known example of a conflict related to groundwater.[3]

The dramatic increase in groundwater use in the past couple of decades has resulted in deterioration of quality and quantity of groundwater across the country. Deepening of wells to ensure water availability for various purposes is common in various parts of the country. Contamination of groundwater is also a major problem. Highsalinity and presence of fluoride and arsenic above the prescribed limits are some of the key quality-related problems.[4]

This alarming situation necessitates legal intervention. The Central Government proposed a Model Groundwater Bill in 1970, which was revised

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1 H. Garduño *et al,* India Groundwater Governance: Case Study (World Bank, 2011); Planning Commission of India, Report of the Expert Group on "Ground Water Management and Ownership" (Planning Commission of India, 2007).

2 A gram panchayat is the democratically elected body at the lowest level in rural areas. Similarly a municipality or municipal corporation is the democratically elected local body in urban areas.

3 The Plachimada controversy refers to the alleged over-exploitation of groundwater by the Coca Cola Company and the consequent groundwater depletion, groundwater pollution and land pollution. It was alleged that the public health and economy in the locality had been ruined due to the functioning of the Coca Cola Company. Similar conflicts are ongoing in other parts of the country also, examples being Kala Dhera (State of Rajasthan) and Mehdiganj (State of Uttar Pradesh). For a critical analysis of legal issues related to the Plachimada controversy, *see,* Sujith Koonan, *Groundwater: Legal Aspects of the Plachimada Dispute, in* WATER GOVERNANCE IN MOTION: TOWARDS SOCIALLY AND ENVIRONMENTALLY SUSTAINABLE WATER LAWS 159 (Philippe Cullet *et al* eds. 2011); and Sujith Koonan, *Constitutionality of the Plachimada Tribunal Bill, 2011: An Assessment,* 7(2) LAW, ENVIRONMENT AND DEVELOPMENT JOURNAL 151 (2011).

4 Central Pollution Control Board, Status of Groundwater Quality in India (2007), *available at* http://cpcb.nic.in/upload/NewItems/NewItem_47_foreword.pdf.

three times with the latest version in 2005.[5] Following this, a number of states adopteda separate statute to regulate groundwater use.[6] A few other states are in the process of adopting new groundwater laws.[7] A separate groundwater law is apparently perceived and promoted as a way to address the constantly aggravating problems of depletion and contamination of groundwater.

The development of a legal framework relating to groundwater needs to be viewed in the light of the fact that groundwater is the most important source of drinking water. Therefore, access to groundwater is directly linked to the realisation of the fundamental right to water. Similarly, being a major source of irrigation, access to groundwater has a critical role in ensuring food security and livelihood of farmers. Inequitable and unsustainable use of groundwater will have tremendous impact on life, livelihood and economy. Equity and sustainability should be, thus, imperative goals of the legal framework relating to groundwater.

In this background, this article examines the existing and evolving groundwater law in India in the context of its capacity to ensure equity, sustainability and realisation of the fundamental right to water. Specifically, this paper provides a critique of the existing groundwater regime that recognises the uncontrolled right of landowners over groundwater. The critique is followed by an examination of the extent to which the existing legal system supports or rejects the land-based groundwater right. This paper also suggests some basic principles, norms and approaches that should form the underlying elements of a comprehensive groundwater law at the state level that can ensure sustainability, equity and realisation of the fundamental right to water.

II. Groundwater Laws: The Unchallenged Right of Landowners and Limited Regulation

The existing legal framework on groundwater in India mainly has two

5 *See,* the Model Bill to Regulate and Control the Development and Management of Ground Water (2005) *available at* http://www.ielrc.org/content/e0506.pdf. It is to be noted that as per the Constitution of India, the power to make laws relating to water is vested with the State Governments, *See,* the Constitution of India, 1950, Article 246 & Seventh Schedule.

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

7 *See, e.g.,* Chhattisgarh Groundwater (Regulation and Control of Development and Management) Bill, 2012 and Odisha Groundwater (Regulation, Development and Management) Bill, 2011.

features. First, the nature of groundwater right continues to be dominated by the traditional common law rule that treats groundwater as part of land rights and thereby limits access to groundwater only to landowners. Second, the adoption of separate groundwater laws by a number of states introduces a new trend where state governments assume power to regulate groundwater use by individuals.

Legal Status of Groundwater and Nature of Groundwater Right

The legal status of groundwater in India is that it is considered a part of the land. Groundwater does not seem to have a legal existence separate from the land. Right to groundwater is perceived as part of landowners' right to enjoy their property. Thus, right to groundwater refers to a right of landowners to extract as much groundwater from their land as they want or wish.[8]

The Indian Easements Act, 1882 is perhaps the only statute that recognises, although indirectly, the uncontrolled right of landowners over groundwater as a facet of the right to enjoy property. Thus, Section 7 recognises "the right of every owner of land to collect and dispose within his own limits of all water under the land which does not pass in a defined channel." The uncontrolled right of a landowner over groundwater is further affirmed by providing that a right to groundwater not passing in a defined channel cannot be acquired by prescription.[9]

Hence, the legal position in India is that landowners have an uncontrolled right to extract groundwater from their land. No legal action can be taken against a landowner for causing depletion of groundwater in a neighbour's well. The only remedy in such cases of depletion is to dig the well deeper.[10]

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8 Philippe Cullet, *Groundwater Law in India: Towards a Framework Ensuring Equitable Access and Aquifer Protection,* 26(1) Journal Of Environmental Law 55 (2014); N.S. Soman, *Legal Regime of Underground Water Resources,* 32 Cochin University Law Review 147; Chhatrapati Singh, Water Rights And Principles Of Water Resource Management (N.M. Tripathi, 1991).

9 Indian Easements Act, 1882, Section 17(d). While easements and prescriptive rights are not applicable in the case of groundwater not passing in a defined channel, customary rights are held to be permitted. It was held that right to extract water from a well can be a customary right. *See,* Maheshwari Prasad v. Munni Lal, Allahabad High Court, AIR 1981 All. 438.

10 B.B. Katiyar (Revised by Justice K. Shanmukham), Law of Easements and Licenses 133 (Universal Publishing, 13th edn, 2010).

The legal status of groundwater right as a facet of the right to enjoy property was largely informed and shaped by early British cases. Thus, an English court in an 1843 case *(Acton v. Blundell)* held that groundwater below a land belongs to the landowner and he can extract it at his free will and pleasure. Even if such an exercise of his right causes depletion of groundwater in a nearby land, no legal action can be taken.[11] Similarly, the House of Lords in an 1859 case *(George Chasemore v. Henry Richards)* held that:

> 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 matter in the least 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 be to diminish or take away the water from a neighbouring well in an adjoining land.[12]

It is to be noted that the standard legal position was that landowners have an uncontrolled right over groundwater flowing in an undefined channel. This implies, in principle, the rule that landowners cannot claim an uncontrolled right over groundwater flowing in a defined channel as such rights are subject to the similar rights of other landowners sharing the same source as in the case of surface water. The term "defined channel" means a known or a determined path through which water flows as in the case of a river or a canal.[13] This provision does not mean anything and is of little effect until and unless proper groundwater mapping is available. Therefore, in practice the uncontrolled right of landowners prevails.

11 Acton v. Blundell, (1843) 12 Meeson and Welsby 324 (Court of Exchequer Chamber, 1 January 1843). For an account of the common law rule on groundwater, *see* E.A.L., *Landowners' Rights in Percolating Water,* 58(5) UNIVERSITY OF PENNSYLVANIA LAW REVIEW AND AMERICAN LAW REGISTER 303-306 (1910).

12 George Chasemore v. Henry Richards, (1859) VII House of Lords Cases 349 (House of Lords, 27 July 1859).

13 *See,* Vavaru Ambalam and Anr. v. President, Taluk Board of Ramnad, 1925 Mad. 620 and Kalanath Narottain Kurmi v. Wamanrao Yadorao Deshmukh, AIR 1937 Nag. 310.

This legal proposition is still in force in India owing to Article 372 of the Constitution of India, that keeps pre-constitution laws in force until they are changed or repealed through subsequent laws. Even though a number of states have adopted new groundwater laws, none of these laws seeks to change the traditionally followed common law rule. Instead, these laws restrict its scope to regulating the existing right, that is, the right of landowners to extract groundwater from their land wherever necessary. By doing so, the new groundwater laws have asserted, by implication, the legal position inherited from the common law tradition.

Judicial decisions also affirm the adherence to the centuries old common law rule. The High Court of Kerala, when faced with the question of the right of the Coca Cola Company to extract huge quantity of groundwater from its land in the Plachimada village in the State of Kerala, held that in the absence of a specific statute prohibiting the extraction of groundwater, a person has the right to extract groundwater from his land.[14] An expert group set up by the Planning Commission of India also took a similar view.[15] The expert group in its report asserted that "it is clear that while the right to use groundwater is to be governed by the ownership of the land above it, the extraction rights can and should be curbed by the State if the use of groundwater is considered "excessive."[16] The expert committee further made it clear that "no change in basic legal regime relating to groundwater seems necessary." [17]

As such there is no explicit law or custom altering the rule that gives uncontrolled right to landowners to extract groundwater from their land. However, there are certain exceptions to the common law rule. For instance,

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14 *See,* Perumatty Grama Panchayat v. State of Kerala, High Court of Kerala, 2005 (2) Kerala Law Times 554, Para. 43. For a detailed critical analysis of this case, *See,* Sujith Koonan, *Groundwater: Legal Aspects of the Plachimada Dispute, supra* note 3.

15 The Planning Commission of India was a body of the Government of India set up by a Resolution of the Government of India in March 1950. Its key functions include assessment of the material, capital and human resources of the country, investigation of the possibilities of augmenting the resources and formulation of a Plan for the most effective and balanced utilisation of country's resources. On 1 January 2015, through a resolution by the Government of India, the Planning Commission of India was replaced by a new institution, namely the NITI Aayog (National Institution for Transforming India).

16 *See,* Planning Commission of India, *supra* note 1, at 41.

17 *Ibid.*

wells were forbidden within the command area of tanks under traditional tank irrigation systems in Tamil Nadu and Karnataka.[18]

A new wave of changes is being introduced by the ongoing water law reforms in India, which will have implications for groundwater rights. A few states have adopted laws to introduce a new concept called 'water entitlement'.[19] This term refers to a particular quantity of water an individual or entity is entitled to. In terms of groundwater, it refers to a particular quantity of groundwater one can extract or use. Apparently, the emerging concept of water entitlements would introduce a market-based water rights system because water entitlements, by nature, are usufructuary rights that can be traded.[20] This means, buying and selling of groundwater would become legally permitted or authorised. Thus, the new system of water entitlements is no less than a private property regime and it does not change the inherent nature of land-based groundwater right. Hence, it can be seen that the emerging concepts of water law also do not seem to be based on the principles of equity, sustainability and human rights.

Regulation of Groundwater Use

The adoption of a separate groundwater law by several states in the last decade constitutes the crux of groundwater law reforms in India so far.[21] More states are in the process of adopting a separate legal framework for

18 M.S. Vani, *Groundwater Law in India: A New Approach, in* WATER AND THE LAWS IN INDIA 448 (Ramaswamy Iyer ed., 2009).

19 *See, e.g.,* Maharashtra Water Resources Regulatory Authority (MWRRA) Act, 2005; Uttar Pradesh Water Management and Regulatory Commission Act, 2008 and Arunachal Pradesh Water Resources Regulatory Authority Act, 2006.

20 Prayas, *Independent Water Regulatory Authorities in India: Analysis and Interventions* 20 (Prayas, 2009).

21 *See, e.g.,* Kerala Groundwater (Control and Regulation) Act, 2002; Goa Groundwater Regulation Act, 2002 and Himachal Pradesh Groundwater (Regulation and Control of Development and Management) Act, 2005. For a comparative analysis of state groundwater laws, *see,* Sujith Koonan, *Legal Regime Governing Groundwater, in* WATER LAW FOR THE TWENTY-FIRST CENTURY: NATIONAL AND INTERNATIONAL ASPECTS OF WATER LAW REFORM IN INDIA 182 (P. Cullet et *aleds.,* Routledge, 2010) and Water Governance Facility (2013), Groundwater Governance in India: Stumbling Blocks for Law and Compliance, WGF Report No. 3 (SIWI, Stockholm). Legal instruments on groundwater in India can be accessed at http://www.ielrc.org/water/doc_gw.php.

groundwater.[22] Even though there are some differences between groundwater law adopted by different states, all of them are substantially similar.[23] This is not surprising because the genesis of these new statutes is the Model Groundwater Bill, 2005 drafted by the Central Government to encourage State Governments to adopt groundwater laws at the state level. The power of the Central Government to adopt a groundwater law is limited because State Governments are entrusted with the power to adopt groundwater law under the Constitution.[24] The effort of the Central Government has been a success as states have more or less reproduced *verbatim* the Model Groundwater Bill, 2005.

The evolving statutory framework mainly focuses on regulation of groundwater use. Before proceeding to the regulatory aspects, it needs to be noted that the new groundwater laws do not address the nature and scope of groundwater rights. The scope of new groundwater laws is, thus, limited to regulating groundwater use. Resultantly, access to groundwater remains a land-based right. The major reason for adhering to this traditional legal approach could be the fact that the 2005 version of the Model Bill itself is almost completely a copy of a much older version prepared in 1970.[25]

The new groundwater laws mainly envisage three regulatory tools. First, they follow a geographical classification method. This is generally done through notification of some areas in the state where the groundwater situation requires regulatory intervention.[26] Another prevailing method is to classify areas into different categories according to the extent of the groundwater problem. For instance, the groundwater law in Goa envisages classification of areas into scheduled, water-scarcity and over-exploited areas.[27] The purpose of this

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22 *See, e.g.,* Uttar Pradesh Groundwater Conservation, Protection and Development (Management, Control and Regulation) Bill, 2010 and Karnataka Ground Water (Regulation and Control of Development and Management) Act, 2011.

23 *See,* Koonan, *supra* note 21, at 191-196.

24 *See,* the Constitution of India, 1950, Article 246 read with Seventh Schedule, List II, Entry 6, 14 & 17.

25 Philippe Cullet, *Water Law Reforms: An Analysis of Recent Developments,* 48 JOURNAL OF INDIAN LAW INSTITUTE 206 (2006).

26 *See,* Kerala Groundwater (Control and Regulation) Act, 2002, Section 6.

27 *See,* Goa Groundwater Regulation Act, 2002, Section 4. Different terminologies – over exploited, critical and semi-critical – but with similar regulatory implications have been used in Uttar Pradesh Groundwater Conservation, Protection and Development (Management, Control and Regulation) Bill, 2010, Section 2(g).

classification is to regulate groundwater use in such areas. The new groundwater laws do not seek to restrict groundwater use unless it is necessary to do so.

Second, the new groundwater laws follow a licensing system. Therefore, users in notified areas are required to seek permission from the groundwater authority constituted under the groundwater law. The use of groundwater is regulated through terms and conditions that may be imposed by the authority while granting a license. The terms and conditions in the license may be altered or cancelled if the groundwater situation demands so.

Third, registration of drilling agencies is another tool through which the new groundwater laws seek to exercise control over groundwater use. Drilling agencies are required to register their machinery. Further, drilling agencies are bound by the instructions issued by the groundwater authority.[28] Thus, the new groundwater laws seek to control and regulate groundwater use through a licensing system covering users as well as drilling agencies.[29]

In states where a separate groundwater law does not exist, the Central Ground Water Authority (CGWA) has the power to regulate groundwater use. The CGWA is an authority constituted under a central legislation - the Environment (Protection) Act, 1986 and therefore, it has, in principle, jurisdiction all over the country.

A major limitation of the existing groundwater legal regime is its exclusive focus on regulation thereby impliedly affirming the outdated land-based groundwater right. The regulatory approach also has several shortcomings. Most importantly, the notification process could negatively affect effective regulation. The groundwater authority will have to wait for the notification to be in force to take regulatory actions. The role of the groundwater authority in this regard is very limited because the power to notify areas is vested with the concerned State Governments. This could be a severe blow to the regulatory mechanism because it ties the hands of the regulatory authorities.[30]

28 *See, e.g.,* Bihar Groundwater (Regulation and Control of Development and Management) Act, 2006, Section 8.

29 Ministry of Environment and Forests, Notification Constituting the Central Groundwater Authority, 14 January 1997 (as amended on 13 January 1998, 5 January 1999 and 6 November 2000). The list of notified areas is *available at* http://cgwa-noc.gov.in/LandingPage/Areatype/ListNotifed.pdf#ZOOM=150.

30 Source: personal communication with Dr S. Faizi, Member, Kerala Groundwater Authority.

Another major shortcoming is the compartmentalised approach of new groundwater laws. The new groundwater laws do not recognise or take into account the fact that groundwater is a part of the water ecosystem. Most importantly, the link between groundwater and surface water is not well recognised. This is of critical importance because of the mutual dependence of groundwater and surface water. Groundwater cannot be effectively protected in a system where surface water is not well protected.[31] Therefore, it would be highly artificial and a failure in terms of desired objectives to treat groundwater as a separate unit.

Further, the new groundwater laws do not incorporate some of the emerging legal developments that are very relevant in the groundwater context. Emerging environmental law principles such as the precautionary principle and the doctrine of public trust have not yet found explicit manifestation in groundwater laws.[32] Even though the fundamental right to water has been repeatedly recognised by the judiciary in India,[33] the new groundwater laws failed to incorporate this right. In a way this is understandable given the fact that state groundwater laws are copied from the Model Groundwater Bill that is too old to recognise and incorporate these legal developments. Therefore, groundwater laws are likely to remain dated until and unless these developments are incorporated into, and operationalised through, a statutory framework.

III. Legal Bases for Abolishing Land-Based Groundwater Right

While the need for challenging, and changing, the land-based groundwater right has been pending for long, there has not been any express legal initiative in this regard. This is particularly evident from the groundwater laws adopted by various state governments in the last decade where land-based groundwater

31 M. Dinesh Kumar, Managing Water in River Basins: Hydrology, Economics and Institutions Ch. 6 (Sage, 2010).

32 The precautionary principle and the public trust doctrine are part of environmental laws in India as per the interpretation of the Supreme Court of India in a number of cases. *See,* M.C. Mehta v. Kamal Nath, Supreme Court of India, (1997) 1 SCC 388 and Vellore Citizen's Welfare Forum v. Union of India, Supreme Court of India, (1996) 5 SCC 647.

33 Subhash Kumar v. State of Bihar, Supreme Court of India, AIR 1991 SC 420; NarmadaBachao Andolan v. Union of India, Supreme Court of India, AIR 2000 SC 375 and Vishala Kochi Kudivella Samrakshana Samithi v. State of Kerala, High Court of Kerala, 2006 (1) KLT 919).

right remains untouched. However, human rights and environmental law jurisprudence in India provide a legal basis to change the traditional land-based groundwater rights.

Expanding fundamental rights

The scope of the fundamental right to life as enshrined under Article 21 of the Constitution of India has expanded dramatically in the last couple of decades. Article 21 has been interpreted widely by the higher judiciary in India to include a number of new rights such as the right to livelihood, the right to food and the right to health.[34] This development is relevant in the context of groundwater rights also. The recognition of the fundamental right to water and the right to pollution-free environment are the two important developments in this context that are directly relevant to the groundwater legal regime. These human rights are particularly relevant in redefining the prevailing notion that right to groundwater is a part of land rights.

The fundamental right to water is a part of the fundamental right to life under Article 21 of the Constitution of India. Even though the Constitution does not explicitly recognise the fundamental right to water, there are a number of judicial pronouncements, which makes the fundamental right to water a part of the fundamental right to life. The Supreme Court of India, in the *Subhash Kumar* case, held that:

> The right to live is a fundamental right under Article 21 of the Constitution and it includes the right of enjoyment of pollution free water and air for full enjoyment of life. If anything endangers or impairs that quality of life in derogation of laws, a citizen has a right to have recourse to Article 32 of the Constitution for removing the pollution of water or air which may be detrimental to the quality of life.[35]

Having been declared repeatedly by the higher judiciary,[36] the fundamental

34 *See, e.g.,* Consumer Education and Research Centre v. Union of India, Supreme Court of India (1995) 3 SCC 42 (right to health) and Narendra Kumar v. State of Haryana, Supreme Court of India, (1994) 4 SCC 460 (right to livelihood).

35 Subhash Kumar v. State of Bihar, Supreme Court of India, AIR 1991 SC 420, Para. 7.

36 Following are other cases where the higher judiciary followed similar legal construction -

right to water has become the law of the land and therefore, all other courts in the country are bound by it.[37]

The fundamental right to water requires the State to fulfil both negative and positive obligations. The State is required not to interfere with the enjoyment of the fundamental right to water. The State is also required to take affirmative actions to promote the progressive realisation of the fundamental right to water. The affirmative role of the State has been firmly established in the human rights jurisprudence. The United Nations Human Rights Committee in its General Comment No. 6 adopted in 1982 states that the expression "inherent right to life" cannot be properly understood in a restrictive manner, and the protection of this right requires that the state adopt positive measure. The positive duties of the State in this regard have been elaborated further in the General Comment No. 15 adopted by the Committee of Economic, Social and Cultural Rights.[38] Thus, the concept of fundamental right to water makes it a duty of the State to take all possible and appropriate measures towards realisation of the fundamental right to water, which necessarily includes adoption of legislative measures.[39]

In the light of the normative contents enshrined in the human rights jurisprudence, it could be argued that the inclusion of the fundamental right to

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Narmada Bachao Andolan v. Union of India, Supreme Court of India, AIR 2000 SC 375 and Vishala Kochi Kudivella Samrakshana Samithi v. State of Kerala, High Court of Kerala, 2006 (1) KLT 919). *See also,* Philippe Cullet, *Water Sector Reforms and Courts in India: Lessons from the Evolving Case Law,* 19(3) REVIEW OF EUROPEAN COMMUNITY AND INTERNATIONAL ENVIRONMENTAL LAW 328-38 (2010); and Philippe Cullet, *Realisation of the Fundamental Right to Water in Rural Areas: Implications of the Evolving Policy Framework for Drinking Water,* 46(12) ECONOMIC AND POLITICAL WEEKLY 56-62 (2011).

37 Article 141 of the Constitution states that: "The law declared by the Supreme Court shall be binding on all courts within the territory of India."

38 *See,* Committee of Economic, Social and Cultural Rights, General Comment No. 15 - The Right to Water, UN Doc. E/C.12/2002/11 (2002). The concept of the human right to water as articulated in different UN documents and UN sponsored work is criticised as a reflection of the hegemonic conception of human rights promoted by the west. For a debate on this issue, see, Madeline Baer & Andrea Gerlak, Implementing the Human Right to Water and Sanitation: A Study of Global and Local Discourses, 36(8) THIRD WORLD QUARTERLY 1527-1545 (2015).

39 *See,* CESCR, General Comment 3 - The Nature of States Parties Obligations (1990). *See also,* Report of the Independent Expert on the Issue of Human Rights Obligations Related to Access to Safe Drinking Water and Sanitation, adopted by the Human Rights Council in Fifteenth session, UN Doc. A/HRC/ 15/31, 29 June 2010.

water as part of water law is imperative. It is even more imperative in the case of groundwater law because it is the most important and largely used drinking water source in the country. Hence, deterioration of groundwater – both in terms of quality and quantity – by any individual or company may impede the realisation of the fundamental right to water of the present as well as future generations. Thus, the fundamental right to water mandates and requires the State to take measures to restrict over-exploitation and pollution of groundwater by private parties having land and money to invest.

Similarly, the right to pollution-free environment also restricts the right of landowners to extract groundwater from their land. The Supreme Court of India has declared the right to pollution-free environment a part of the fundamental right to life.[40] Hence, every individual is entitled to pollution-free environment that obviously includes pollution-free groundwater. The uncontrolled extraction of groundwater is likely to affect the quality of groundwater[41] and thereby results in a situation where enjoyment of the right to pollution-free environment would be difficult.

This means that there are potential restrictions emanating from these fundamental rights on landowners' property rights. Thus, owning a land does not imply uncontrolled right to extract groundwater or a right to enjoy that land in a manner resulting in environmental deterioration. The law in this regard is gradually being concretised. Thus, the Kerala High Court, in *Thilakan case,* elaborated this legal position and held that:

> The people...have the right to have a decent environment, which is part of their fundamental right under Article 21 of the Constitution of India. No one can be conceded any unfettered freedom to excavate and degrade the land owned by him. It will have repercussions on the neighbouring land and its owners and the eco-

40 Subhash Kumar v. State of Bihar, Supreme Court of India, AIR 1991 SC 420;Vellore Citizen's Welfare Forum v. Union of India, Supreme Court of India, (1996) 5 SCC 647 and Indian Council for Enviro-Legal Action and Ors. v. Union of India, Supreme Court of India, (1996) 3 SCC 212.

41 For example, over extraction of groundwater in the coastal areas could lead to sea-water intrusion. *See,* M. DINESH KUMAR AND TUSHAAR SHAH, GROUNDWATER POLLUTION AND CONTAMINATION IN INDIA: THE EMERGING CHALLENGE (IWMI, 2006).

> system of the area in general. No man can claim absolute right to indulge in activities resulting in environmental degradation in the land owned by him.[42]

It can be argued, in the light of this evolving human rights jurisprudence, that it is a duty of the State to ensure, through legislative and executive actions or measures, that private individuals or companies do not obstruct the realisation of fundamental rights by their activities in their premises. It is also an imperative to impose a legal duty on landowners not to use natural resources including groundwater to the detriment of others' rights over such resources which includes rights of future generations also. Further, statutory or common law rights cannot become a justification for restricting or violating fundamental rights guaranteed under the Constitution. Thus, it is the duty of everyone not to indulge in activities in their premises or land that result in environmental degradation or human rights violations.[43]

Environmental law principles

The development of environmental law provides new legal bases to restrict landowners' right to exploit groundwater. The legal proposition that groundwater is part of the land beneath which it exists is no longer sustainable in the light of environmental law principles such as the public trust doctrine, the precautionary principle and the common heritage. These principles together

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42 Thilakan v. Circle Inspector of Police, High Court of Kerala, AIR 2008 Ker 48, Para. 11. The National Green Tribunal has taken similar view in a few cases relating to pollution of groundwater by industries. *See, e.g.,* Janardan Kundalikrao Pharande & Ors v. Ministry of Environment and Forest & Ors, National Green Tribunal – Western Bench, Application No. 07(THC)/2014, Decided on 16 May 2014; and Shri Sant Dasganu Maharaj Shetkari v. The Indian Oil Corporation Ltd., National Green Tribunal – Western Bench, Application No. 42/2014(WZ), Decided on 10 November 2014.

43 There is also an argument that some fundamental rights under Part III of the Constitution are applicable against private parties as well. Under this argument, where rights are addressed to the state such as the obligation expressly vested on the state under Article 14, such rights can only be enforced against the state. Where rights are addressed to fellow citizens (Articles 17, 23 and 24), it should be read as horizontally applicable. This means, there will be a direct constitutional duty upon private parties also. In the case of provisions which are ambivalent about who they are addressed to, it could be applied to both citizens and the state. *See,* Sudhir Krishnaswamy, *Horizontal Application of Fundamental Rights and State Action in India,* in HUMAN RIGHTS, JUSTICE AND CONSTITUTIONAL EMPOWERMENT 47 (C. Raj Kumar and K. Chockalingam eds., Oxford University Press, 2008).

provide a strong legal basis to restrict the traditionally followed land-based groundwater right. These principles require the government to take measures to prevent arbitrary exploitation of groundwater or any action by landowners that may affect the quality and availability of groundwater.

The public trust doctrine offers a strong legal foundation by requiring the State to take legal measures to prevent over-exploitation and pollution of groundwater. As per the public trust doctrine, the state is the trustee of key natural resources and the government is duty bound to manage, use and develop such resources in the interest of the general public.[44] The underlying idea behind the public trust doctrine is that some parts of the natural world are gifts of nature so essential to human life that private interests cannot usurp them.[45]

Groundwater is the most important source of drinking water in India. In this background, there would hardly be any dispute regarding the public importance of groundwater and there is no reason why it should not be governed by the public trust doctrine. Given the fact that the public trust doctrine has been made applicable to surface water in the country, the non-application of the public trust doctrine to groundwater would be illogical and difficult to justify. While implementing the public trust doctrine, it must be ensured that this process does not result in consolidation of power with the Central Government or the state governments. Instead, it should lead to proper devolution of power to democratically elected bodies at the local level such as panchayats (rural) and municipalities (urban).[46] While the public trust doctrine redefines the rights and duties of the government *vis-à-vis* natural resources, it does not also approve private appropriation of vital natural resources to the detriment of public interest.[47]

While there is no statute explicitly applying the public trust doctrine to

44 *See,* M.C. Mehta v. Kamal Nath, Supreme Court of India, (1997) 1 SCC 388.

45 David Takacs, *The Public Trust Doctrine, Environmental Human Rights, and the Future of Private Property,* 16 NEW YORK UNIVERSITY ENVIRONMENTAL LAW JOURNAL 711 (2008). For an account of historical evolution and expansion of the public trust doctrine, *see,* Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention,* 68 MICHIGAN LAW REVIEW 471, 475-8 (1970); and George Smith and Michael Sweeny, *Public Trust Doctrine and Natural Law: Emanations within a Penumbra,* 33 BOSTON COLLEGE ENVIRONMENTAL AFFAIRS LAW REVIEW 307 (2006).

46 *See* Cullet, *supra* note 8.

47 *See* Singh, *supra* note 8 at 76.

groundwater, there are case laws throwing light upon this issue. For instance, the Supreme Court in the *Kesoram case* endorsed that:

> Deep underground water belongs to the State in the sense that doctrine of public trust extends thereto. Holder of a land may have only a right of user and cannot ask any action or do any deeds as a result whereof the right of others is affected. Even the right of user is confined to the purpose for which the land is held by him and not for any other purpose.[48]

The precautionary principle also constitutes a legal basis for restricting land-based groundwater rights. The precautionary principle as defined by the Supreme Court of India in the *Vellore Citizen's Welfare Forum* case entrusts a duty upon the state to take measures to "…anticipate, prevent and attack the causes of environmental degradation."[49] Now it is hardly a disputed fact that over-exploitation of groundwater by one person or company may cause depletion as well as contamination of groundwater in other areas as well. In this context, the precautionary principle justifies, supports and mandates the government to take appropriate measures to prevent over-exploitation of groundwater by landowners.

There could very well be an argument that these abstract principles cannot as such restrict a legal right. In fact, this was the argument taken by the Coca Cola Company in the Plachimada case and the Division Bench of the Kerala High Court accepted this argument.[50] However, this argument needs to be revisited in the contemporary context. The land-based groundwater right as it stands now in India is borrowed from common law as developed by English courts in the 19th century when little was known about groundwater hydrology. Further, technology was not developed enough to extract groundwater in huge

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48 State of West Bengal v. Kesoram Industries, Supreme Court of India, (2004) 10 SCC 201, Para. 387. Same view was taken by the Andhra Pradesh High Court in MP Rambabu v. District Forest Officer, AIR 2002 AP 256, Para 36.

49 Vellore Citizen's Welfare Forum v. Union of India, Supreme Court of India, (1996) 5 SCC 647, Para 11.

50 Perumatty Grama Panchayat v. State of Kerala, High Court of Kerala, 2005 (2) Kerala Law Times 554.

quantity in an unsustainable manner.[51] Hence, the legal proposition that the landowner can extract any quantity of groundwater with impunity was developed more as a matter of practical convenience and ignorance about groundwater hydrology rather than based on any legal reason or principles and scientific understanding of groundwater hydrology.

Another principle that may be useful in developing an equitable and sustainable groundwater law and water law in general is the concept of common heritage. The concept of common heritage of mankind finds its legal basis in international law.[52] Key aspects of this concept make it attractive to apply in water laws at the domestic level also. The most important aspect of the concept of common heritage is its strong equity dimension. In the natural resource context, the common heritage concept disregards the idea of individual control and appropriation. Instead, it promotes and requires the use and conservation of such resources for the benefit of all.[53]

Even though there may not be any precedent on the application of the common heritage concept in the domestic natural resource law context in India, an argument can be advanced to incorporate it into domestic water laws. In fact, the Government of India has already begun the thought process in this regard. The draft National Water Framework Act, 2011 prepared under the auspices of the Planning Commission of India recognises that "Water is a common natural heritage of humanity."[54] The draft Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011 also recognises that "groundwater is the

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51 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). *See also,* Soman, *supra* note 8.

52 *See,* United Nations Convention on Law of the Seas, 10 December 1982, Part XI, UN Doc. A/CONF.62/122, 1833 UNTS 3.

53 *See,* Cullet, *supra* note 77, at 188. The strength of this equity dimension owes significantly to the context in which this concept emerged at the international level. Developing countries advanced this concept at the international level since the late 1960s to prevent over-exploitation of sea-bed minerals by technologically advanced countries. Hence, the underlying objective was to assert equal rights of every nation over such resources and to ensure that such resources are not used by a few developed countries and instead, preserved and used for the benefit of all. *See* R.P. Anand, *Common Heritage of Mankind: Mutilation of an Ideal,* 37(1) Indian Journal Of International Law 1-18 (1997).

54 Government of India, Draft National Water Framework Act, 2011, *available at* http://www.planningcommission.nic.in/aboutus/committee/wrkgrp12/wr/wg_wtr_frame.pdf.

common heritage of the people of India held in trust…."[55] In the context of groundwater, this concept is extremely relevant because of its potential in redefining the power of the government as well as individuals. It is also relevant to address the severe inequity prevailing in accessing and using groundwater in India.[56] This is mainly because the strong equity basis of the concept of common heritage demands control of appropriation of the resource for the advantage of a few by depriving the benefit of such resources to the poor and the vulnerable. Applying this to the groundwater law context means providing a basis to change the legal status of groundwater as a part of the land. It further provides a basis to dilute and control the right of landowners to extract groundwater under their land and to impose duty upon the State to ensure the use of groundwater for the benefit of all irrespective of land ownership including the landless. In this regard, the concept of common heritage could be considered as a developed application of the idea of trusteeship.

The development of environmental jurisprudence in India has successfully managed to impose restrictions on the right to enjoy land or conduct business or commercial activities in one's premises to protect the environment. Moreover, the argument that legal rights (in this case the right of landowners) cannot be restricted on the basis of environmental law principles is unlikely to stand in the light of the adoption of the National Green Tribunal Act, 2010 ('NGT Act'). The NGT Act explicitly recognises the environmental principles such as the sustainable development, precautionary principle and the polluter pays principle. The National Green Tribunal is required to apply these principles while deciding cases.[57] In fact, the NGT has used these environmental law principles to resrict the activities of private parties in their premises, mostly

55 The draft version of the Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011 is available at http://www.ielrc.org/content/e1118.pdf.

56 For a case study on inequity in access to groundwater, *see,* Veena Srinivasan and Seema Kulkarni, *Examining the Emerging Role of Groundwater in Water Inequity in India,* 39(2) WATER INTERNATIONAL 172 (2014). The issue of inequity is also exposed by the ongoing conflicts in different parts of India between soft drink manufacturing companies and local people. For a discussion on the conflict involving Coca Cola in Plachimada in Kerala, see, Sujith Koonan, *Groundwater: Legal Aspects of the Plachimada Dispute,* in WATER GOVERNANCE IN MOTION: TOWARDS SOCIALLY AND ENVIRONMENTALLY SUSTAINABLE WATER LAWS 159 (Philippe Cullet et al eds., Cambridge University Press, 2010).

57 The National Green Tribunal Act, 2010, Section 20, *available at* http://www.moef.nic.in/downloads/public-information/NGT-fin.pdf.

companies including public sector companies, to protect the environment including groundwater.[58]

The common law rule is dated and unable to address contemporary issues related to groundwater. It neglects the recent developments in law such as the recognition of the fundamental right to water and progressive principles of environmental law such as the precautionary principle and the public trust doctrine. The new groundwater laws enacted by various states have ignored these recent legal developments and thereby failed to use an opportunity to make the groundwater legal regime progressive and responsive to contemporary issues.

IV. Towards A Paradigm Shift in Groundwater Legal Regime

While abolishing the land-based nature of groundwater right is an important step towards ensuring equity and sustainability, the framework for regulation and conservation of groundwater is an equally important step. The existing framework for regulation and conservation of groundwater follows the outdated command and control approach that considers groundwater as a separate unit. Given the fact that the existing approach has proved to be ineffective from an equity and sustainability point of view, the groundwater legal regime requires a paradigm shift in its regulation and conservation approaches. This part highlights some of the key elements of this paradigm shift.

The Need for Decentralised Regulation

The existing groundwater regulatory framework in India follows a centralised command and control approach. For instance, groundwater laws adopted by states envisage groundwater regulation by a state level authority.[59] This centralisation trend is not surprising given the fact that most of the state groundwater laws have followed the Model Groundwater Bill, 2005. Wherever

58 *See, e.g.,* Raghunath v. Maharashtra Prevention of Water Pollution Board & Ors., National Green Tribunal – Western Bench, Application No. 11(THC)/2013, Decided on 24 September 2014 and Janardan Kundalikrao Pharande & Ors v. Ministry of Environment and Forest & Ors, National Green Tribunal – Western Bench, Application No. 07 (THC)/2014, Decided on 16 May 2014; and Shri Sant Dasganu Maharaj Shetkari v. The Indian Oil Corporation Ltd., National Green Tribunal – Western Bench, Application No. 42/2014(WZ), Decided on 10 November 2014.

59 *See, e.g.,* Kerala Groundwater (Control and Regulation) Act, 2002 and Himachal Pradesh Groundwater (Regulation and Control of Development and Management) Act, 2005.

such a state groundwater law does not exist, the Central Groundwater Authority has the power to regulate groundwater use.[60] This exposes an even more extreme level of centralisation because the Central Groundwater Authority is an authority constituted under a central legislation (Environment (Protection) Act, 1986) and therefore working under the Ministry of Environment, Forest and Climate Change of the Central Government.

The impropriety of this centralising trend of the existing and evolving legal framework for groundwater may be explained on various legal, ecological and pragmatic grounds.

First, the subsidiarity principle as envisaged under the Constitution needs to be considered in this context. The 73rd and 74th amendments to the Constitution promote devolution of powers to local governing bodies. As per the constitutional scheme, groundwater management and regulation are to be under the purview of local governing bodies such as village panchayats and municipalities.

In strict legal terms, the 73rd and 74th amendments do not make it mandatory for the state governments to devolve power and responsibility to local governing bodies. The constitutional provisions in this regard are not mandatory but discretionary and advisory in nature. The constitutional provision dealing with devolution of powers and responsibilities to panchayats (Article 243G) clearly conveys this position by saying that "legislature of a State may, by law, endow the panchayats with such powers and authority...." Similar expression is used in the provision dealing with devolution of powers and responsibilities to municipalities (Article 243W).

Given the fact that a number of states have adopted laws to implement the 73rd and 74th amendments, it could be assumed that the states have generally accepted the idea of decentralisation.[61] Having accepted the idea of decentralisation, it needs to be internalised and operationalised in all relevant

60 Ministry of Environment and Forests, Notification Constituting the Central Groundwater Authority, 14 January 1997 (as amended on 13 January 1998, 5 January 1999 and 6 November 2000).

61 *See, e.g.,* Arunachal Pradesh Panchayati Raj Act, 1997 and Bihar Panchayati Raj Act, 2006.

62 One notable exception in this regard is the West Bengal Ground Water Resources (Management, Control and Regulation), 2005 where a decentralised institutional framework has been envisaged.

regimes and sectors including groundwater law. Nevertheless, the general trend is that even the states that have adopted a law to implement decentralisation have failed to respect and operationalise the idea in groundwater law.[62] The state of Kerala is perhaps a classic example in this regard. Even though Kerala is generally known for effective implementation of decentralisation, the Kerala Ground Water (Regulation and Control) Act, 2002 has adopted the centralised command and control approach by envisaging a state level groundwater authority to regulate groundwater use.

Some of the recent legal changes, particularly the laws enacted with the object of promotion of development and investment, tend to disregard the decentralisation principle as envisaged under 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 vis-à-vis the designated industrial areas.[63] The issue of power of local bodies to regulate groundwater use in such industrial areas had been discussed by the Kerala High Court in the Pepsi case, where the power of the panchayat was not upheld in the light of the express statutory provision omitting the jurisdiction of village panchayats in industrial areas.[64]

Second, the centralisation trend of the groundwater regulatory framework is contradictory to the basic principles underlying the ongoing reforms in laws concerning surface water resources. The ongoing water law reforms recognise decentralisation and participation as basic principles.[65] Laws and policies adopted in the past decade testify to this aspect of water law reforms in India.[66]

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63 *See,* Kerala State Single Window Clearance Boards and Industrial Township Area Development Act, 1999, Section 6.

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

65 *See Cullet, supra* note 25.

66 *See, e.g.,* Andhra Pradesh Farmers' Management of Irrigation Systems Act, 1997; Gujarat Water Users' Participatory Irrigation Management Act, 2007; Maharashtra Management of Irrigation Systems by the Farmers Act, 2005 and Tamil Nadu Farmers Management of Irrigation Systems Act, 2000. The way in which these laws operationalised the idea of decentralisation and participation has been criticised on various grounds such as exclusion of landless farmers and women from participation and inadequate or no role for local bodies such as gram sabha or gram panchayat. For a critical analysis of this aspect, *see,* Priya Sangameswaran and Roopa Madhav, *Institutional Reforms for Water,* in WATER LAW FOR THE 21ST CENTURY: NATIONAL AND INTERNATIONAL ASPECTS OF WATER LAW REFORMS IN INDIA (P. Cullet *et al* eds., Routledge, 2010); and Videh Upadhyay, *Canal Irrigation, Water*

Hence, the ongoing water law reforms as it stands now shows co-existence of centralisation and decentralisation. Such co-existence as such is not negative in nature and implications. However, it requires proper justification on scientific, legal and pragmatic grounds and such proper justifications do not seem to exist in the case of the centralised command and control approach followed by groundwater laws.

Third, owing to the decentralised nature of water availability and use coupled with the culturally and ethnically plural nature of the Indian society, local knowledge, rules, practices and institutions have been in existence for long. The internalisation and incorporation of such time-tested local knowledge, rules, practices and institutions need to be at the core of groundwater management and the related legal framework. The ongoing tendency to harmonise regulatory techniques and tools and centralise institutional mechanisms without respecting the customs, practices and knowledge evolved over time, is likely to yield more failures than successes.[67]

Fourth, the centralisation trend does not respect the decentralised nature of water availability in India. The water ecosystem in India predominantly depends on rainfall, which is highly temporal and decentralised in nature. A centralised regulatory mechanism cannot accommodate these diversities and therefore, such a legal framework is unlikely to produce the desired results.[68] Management of millions of groundwater users by a state level agency is practically very difficult and perhaps not economically feasible also because of the high scale of human resource and money required.

Therefore, any attempt to reform the groundwater legal regime in India should be based on the subsidiarity principle. Such a step would amount to respecting the decentralisation principle as envisaged under the Constitution. It also gives ample opportunity to take into consideration the local needs, perspectives, customs and knowledge.

User Associations and Law in India: Emerging Trends in Rights Based Perspective, in WATER GOVERNANCE IN MOTION: TOWARDS SOCIALLY AND ENVIRONMENTALLY SUSTAINABLE WATER LAWS (P. Cullet *et al* eds., Cambridge University Press, 2010).

67 M.S. Vani, *Community Engagement in Water Governance,* in WATER AND THE LAWS IN INDIA (Ramaswamy Iyer ed., Sage, 2009).

68 *Ibid.*

Participatory Approach in Regulation and Management

Participation is an important principle followed by the ongoing water sector reforms in India.[69] The idea has been floated over the last several years and the central government has framed a number of policies to promote participatory water resource management. The National Water Policy, 2002 encouraged "involvement and participation of beneficiaries and other stakeholders."[70] The National Water Policy, 2012 emphasises that "stakeholder participation in land-soil-water management with scientific inputs from local research and academic institutions for evolving different agricultural strategies, reducing soil erosion and improving soil fertility should be promoted."[71] Meaningful intensive participation, transparency and accountability should guide decision making and regulation of water resources. The Ministry of Water Resources of the Central Government has been specifically promoting the need for a legal framework for participatory irrigation management.[72] Gradually, the idea of community participation is transgressing into the area of regulation and management of groundwater. For instance, the National Water Mission document explicitly identifies community participation in regulation and management of groundwater as a preferred strategy for ensuring sustainability of groundwater resources.[73] The broad objective behind the idea of participatory management of water resources is to limit the role of the State to that of a facilitator and to vest regulatory and management powers and responsibilities in users and local bodies.[74]

It is in this context that water laws in India have undergone dramatic changes to implement participatory water resource management. Notable legal changes took place in the irrigation sector where several states have adopted

69 *See,* Cullet, *supra* note 25.

70 National Water Policy, 2002, Para 6.8, *available at* http://www.ielrc.org/content/e0210.pdf.

71 National Water Policy, 2012, Para 4.4, *available at* http://www.ielrc.org/content/e1207.pdf.

72 Ministry of Water Resources, Report of the Working Group on Water Resources for the XI Five Year Plan 2007-2012 (New Delhi: Ministry of Water Resources, 2006), *available at* http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_wr.pdf.

73 Government of India, National Water Mission - Comprehensive Mission Document, Volume-I, April 2011, p. 17.

74 Videh Upadhyay, *Legal Dimensions of Water Resource Management in India: A Review of Legal Instruments Controlling Extractions to Sustainable Limits, in* REFORMING INSTITUTIONS IN WATER RESOURCE MANAGEMENT: POLICY AND PERFORMANCE FOR SUSTAINABLE DEVELOPMENT 131 (L. Crase and V.P. Gandhi eds., Earthscan, 2009).

participatory irrigation management laws.[75] The objective was to constitute Water User Associations (WUAs) to take care of irrigation systems. While this is the major legal change, similar changes have been implemented in the drinking water sector through policy instruments. For instance, *Swajaldhara,* a rural drinking water scheme introduced by the Central Government, sought to implement community participation in the management of rural drinking-water supply.[76]

While participation has been a cornerstone of water law reforms in India at least since the late 1990s, the idea has been almost completely ignored when it came to groundwater laws. Groundwater laws, as adopted by several states in the last decade, seem to have ignored this key development by following the traditional command and control approach. Given the specific decentralised nature of groundwater, the probability of failure of such a legal system is very high.

It is in this background that the idea of participation becomes relevant and necessary in the groundwater law context. On the one hand, it is a matter of maintaining consistency in water law in general in terms of basic principles or approaches and on the other hand, it is an unavoidable necessity for making groundwater law equitable and sustainable.[77] Groundwater regulation is unlikely to work in the absence of effective involvement of individuals and communities. Likewise, management and conservation efforts are also unlikely to yield desired results in the absence of participation.[78] For instance, concerns of the poor and landless are unlikely to be addressed if they are not given adequate opportunity to participate in the norm-making and implementation process.

While incorporating and implementing the idea of participation in groundwater law, adequate precautions must be taken. This is because participation can have different meaning and scope in different contexts. Most importantly, participation as understood in the ongoing water law reforms

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75 *See, e.g.,* Andhra Pradesh Farmers Management of Irrigation Systems Act, 1997; Rajasthan Farmers' Participation in Management of Irrigation Systems Act, 2000 and Maharashtra Management of Irrigation Systems by Farmers Act, 2005.

76 Government of India, *Swajaldhara* Guidelines, 2002, *available at* http://www.ielrc.org/content/e0212.pdf.

77 *See,* Himanshu Kulkarni *et al, Shaping the Contours of Groundwater Governance in India,* JOURNAL OF HYDROLOGY: REGIONAL STUDIES (2015), *available at* http://dx.doi.org/10.1016/j.ejrh.2014.11.004.

78 *Id.*

ignores democratically elected bodies at the local level. Further, the implementation of participatory irrigation management laws resulted in accumulation of power in the hands of members of higher castes.[79] Representation of women in Water User Associations was minimal and the scope of participation was limited to landholders.[80] Similarly, implementation of the Swajaldhara drinking water scheme also exposed that the scope of participation was limited to participation of local elites and the poor and vulnerable were excluded.[81]

Therefore, adequate care and attention must be taken while incorporating the idea of participation in groundwater law. One way to address this issue is to expressly declare the link between groundwater law and the constitutional principle of non-discrimination. The underlying idea is to eliminate all forms of discrimination particularly discrimination on the basis of grounds such as caste and gender. Implications of relying on the constitutional principle of non-discrimination are mainly two. First, it prohibits the practice of exclusion as a matter of policy, and second, it mandates and supports special consideration for poor and vulnerable. Further, the idea of participation should not be restricted to participation of users or community. Instead, it should give key role to the democratically elected local bodies such as panchayats and municipalities as well as representative bodies such as gram sabhas.[82] This is very crucial to ensure equity and sustainability.

Aquifer based regulation and conservation

The piecemeal approach of the present groundwater legal regime in India has proved ineffective in curbing groundwater depletion and contamination. One of the major shortcomings of the legal framework was the absence of a holistic approach by taking aquifer as the unit. As a result, the legal regulation

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79 V.R. Reddy and P.P. Reddy, *How Participatory is Participatory Irrigation Management? Water Users' Association in Andhra Pradesh,* 40(53) ECONOMIC AND POLITICAL WEEKLY 5587 (2005).

80 PHILIPPE CULLET, WATER LAW, POVERTY AND DEVELOPMENT – WATER SECTOR REFORMS IN INDIA 115 (Oxford University Press, 2009).

81 Preeti Sampat, *'Swa'-jal-dhara or 'Pay'-jal-dhara — Sector Reform and the Right to Drinking Water in Rajasthan and Maharashtra,* 3(2) LAW, ENVIRONMENT AND DEVELOPMENT JOURNAL 101 (2007).

82 Gram Sabha is a body consisting of persons registered as voters in the electoral roll of a village comprised within the area of the Panchayat at the village level. *See, e.g.,* Haryana Panchayati Raj Act, 1994, Section 2.

almost exclusively has focused on groundwater abstraction units such as wells and tube wells and paid little attention to the protection of aquifers including their recharge and discharge areas.[83] In fact, the "right unit" for regulation and protection should be the natural unit within which groundwater occurs, that is aquifers.[84] The aquifer-based approach has the advantage of treating groundwater as a common resource as opposed to the present approach where groundwater is available for uncontrolled extraction at the individual level. In fact, an aquifer-based approach is a starting point to abolish the existing land-based groundwater right. Further, it will ensure efficient protection and conservation of groundwater because it focuses on aquifer (including recharge and discharge areas) as a unit and therefore has the advantage of having norms and institutions based on hydrological units.

Even though a number of states have adopted groundwater laws, none of them has followed an aquifer-based approach. Given the fact that the existing model of regulation based on abstraction units is unsustainable, groundwater legal regime in India requires significant revamping to incorporate a paradigm shift towards aquifer-based legal and institutional mechanisms to regulate and protect groundwater.

Model Groundwater Bill, 2011: a progressive model

While states continue to follow the dated model of groundwater management and regulation, the need for revamping the groundwater legal regime has been recognised by the Central Government by publishing the draft Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011 ("the Bill").[85] The Bill seeks to modify the existing legal regime by replacing dated rules and principles with contemporary rules addressing sustainability and equity concerns.

The Bill recognises groundwater as "common heritage of the people of India held in trust" and makes it clear that "it is not amenable to ownership by

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83 *See,* Cullet, *supra* note 8.

84 Himanshu Kulkarni and P.S. Vijay Shankar, *Groundwater: Towards an Aquifer Management Framework,* 44(6) ECONOMIC AND POLITICAL WEEKLY 13, 14 (2009).

85 The draft version of the Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011 is *available at* http://www.ielrc.org/content/e1118.pdf. For a detailed account of the Model Groundwater Bill 2011, *see,* Philippe Cullet, *The Groundwater Model Bill: Rethinking Regulation for the Primary Source of Water,* 47(45) ECONOMIC AND POLITICAL WEEKLY 40 (2012).

the State, communities or persons." It also explicitly endorses the fundamental right to water as recognised by the Supreme Court of India. Thus, the Bill seeks to introduce revolutionary changes by replacing the dated common law rule with modern principles of public trust and the fundamental right to water.

The Bill envisages management and regulation of groundwater at the local level and thus respects the decentralisation principle as envisaged under the 73rd and 74th amendments to the Constitution. The subsidiarity principle has been envisaged to be operationalised through groundwater committees at various levels but key regulatory and management powers vest with groundwater committees at the lowest possible level. For example, the Gram Panchayat Groundwater Committee is entrusted with the power to prepare the groundwater security plan, which shall "provide for groundwater conservation and augmentation measures, socially equitable use and regulation of groundwater, and priorities for conjunctive use of surface and groundwater." [86]

The precautionary principle has also been operationalised under the Bill. For example, it provides for demarcation of groundwater protection zones. Critical natural recharge areas of an aquifer and those areas that require special attention with regard to the artificial recharge of groundwater have been put on high priority and extraction or use of groundwater, apart from use as basic water, is not allowed in such areas. Thus, the Bill marks a revolutionary change by following an aquifer-based, decentralised and participatory approach towards regulation and protection of groundwater. The actual impact of the Model Groundwater Bill, 2011 is yet to be seen and it depends upon the extent to which different State Governments are willing to revamp the groundwater legal regime by following the Model Groundwater Bill, 2011.

At the same time, the Bill poses enormous challenges for the State Governments. Given the fundamental changes proposed in the Bill, State Governments need to pass a new law to replace the existing law. Setting up of the institutional framework envisaged in the Bill is another key challenge as it requires a lot of effort to set up different groundwater committees at different levels from local to the state level. The co-operation and coordination between different groundwater committees at different levels is crucial to make this

86 Model Bill for the Conservation, Protection and Regulation of Groundwater, 2011, section 15, *available at* http://www.ielrc.org/content/e1118.pdf.

model effective. Further, the idea of decentralisation and participation as envisaged in the Bill might face scepticism from the existing bureaucracy, most importantly on the ability of the local level institutions to regulate and protect groundwater. Therefore, the success of the ideas and approaches envisaged in the Bill depends upon how, and to what extent, the State Governments overcome these challenges.

V. Conclusion

The adoption of a separate legal framework for groundwater by different states in the last decade testifies the growing importance of the need for legal regulation and management of groundwater. This development introduced a significant legal change by empowering the state governments to control groundwater use by private parties as well as government agencies. However, the new groundwater laws fall short of changing the land-based nature of groundwater right.

The system of land-based groundwater right is untenable from an equity and human rights point of view as it denies access to groundwater to the landless and poor. Further, the scenario that a natural resource critical for sustaining life, livelihood and economy is under the control of a privileged few is not acceptable. The equity and human rights dimensions are going to be even more crucial given the way groundwater resources are being relentlessly depleted and contaminated.

The existing legal system in India provides ample opportunity and guidance in terms of principles and approaches to transform the groundwater legal regime to ensure equity, sustainability and human rights. At the more substantive level, one obvious way is to change the land-based groundwater right to internalise and operationalise the concept of the fundamental right to water. The fundamental right to water is, in principle, a part of the fundamental right to life. Therefore, it is necessary to give effect to the fundamental right to water through groundwater laws. The concept of thefundamental right to water, together with principles of environmental law such as the public trust doctrine and the precautionary principle, give ample legal bases to change the outdated land-based groundwater rights. Having not given effect to these recent legal developments relevant to groundwater, an opportunity was missed to replace an antiquated legal proposition evolved out of sheer practical convenience and

scientific ignorance with a progressive legal framework respecting equity and human rights.

Procedural and institutional concerns are also equally important. Even though decentralisation and participation are generally accepted as preferred ways to manage and regulate natural resources, the existing legal framework on groundwater follows the centralised command and control approach. At the practical level, centralisation is unlikely to work in the case of groundwater, and at a conceptual level, it disregards established constitutional norms. Hence, decentralisation and participation could be key contributing factors towards a comprehensive and progressive legal framework for groundwater. While incorporating and implementing the idea of decentralisation and participation, adequate care must be taken to ensure that it is not exclusionary in nature. This is particularly relevant in the context of the experience in water law reforms in India where decentralisation was implemented by excluding or limiting the role of elected bodies at the local level and participation was limited to a privileged few. Such an exclusionary approach would be contrary to the constitutional goals of non-discrimination and decentralisation.

The Model Groundwater Bill, 2011 represents an advanced model for the State Governments. While the Model Groundwater Bill, 2011 seeks to modernise the legal regime governing groundwater in India, its actual impact depends upon whether, and to what extent, state governments are ready to accept and implement it. While state governments are seemingly supportive of enacting groundwater laws, it is yet to be seen if they are willing to accept the challenge of a complete revamping of the existing legal regime.

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