

WATER LAW REFORMS – ANALYSIS OF RECENT DEVELOPMENTS

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THE REGULATION of freshwater uses has been a subject of increasing attention in recent years. This is in part linked to increasing water scarcity and in part to the inadequacy of existing laws and principles in the water sector.

The existing water law framework in India is characterised by the co-existence of a number of different principles, rules and acts adopted over many decades. These include common law principles and irrigation acts from the colonial period as well as more recent regulation of water quality and the judicial recognition of a human right to water.

The lack of a comprehensive water legislation has ensured that, to-date, water law is made up of different instruments, principles and judicial decisions which are not necessarily fully compatible with each other. Thus, the claims that landowners have over groundwater under common law principles are today difficult to justify in the context of the realisation of the human right to water since groundwater has often become the main source of drinking water and land-based access rules do not contribute to a social perspective to water.

The existing lack of a comprehensive and clear legal framework leads to a situation where there is a lack of clarity with regard to the rights and obligations of all concerned individuals and institutions. This is further compounded by the fact that formal water law is supplemented by number of customary and religious rules concerning water use and control whose application continues to-date in many places.

There is very little disagreement over the fact that water law needs to be reformed in a situation where water scarcity is increasing year after year. This recognition has led to a flurry of activity over the past couple of decades on the part of national and international agencies to propose new water law principles, rules and acts. The process of reform which can be said to have formally started in the late 1980s with the adoption of the first national water policy has since then led to the

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introduction of a number of changes at the national level and in a number of states. This process of water law reform is now picking up for a variety of reasons which include a strong policy push from international aid agencies.

This article is divided into four main sections. The first section focuses on some of the principles underpinning water sector reforms that have been highlighted in existing national and international policy documents. This provides the conceptual background to understand the legislative changes introduced in the section. The latter section focuses on a limited number of regulatory changes that have been proposed in recent years to put the water law framework in line with proposed policy initiatives. The third section provides a general analysis of the law and policy changes that have been introduced. The last section provides some pointers for moving beyond existing reforms with a view to correct some of the perceived shortcomings of existing water law reforms.

I Principles for water sector reforms

Water sector reforms have been proposed in many countries as a way to address diminishing per capita availability, increasing problems in water quality and increasing competition for control, access and use of available freshwater. They seek to comprehensively reform governance in the water sector. These governance changes are underpinned by a number of principles which guide the whole reform process. Some of these principles are outlined in a number of policy documents adopted at the international and national levels. This section focuses on some of the principles outlined in existing policy documents that have been of particular importance in the drafting of the acts and bills which are examined in the second section.

Water as a natural resource and economic good

The first central principle that is guiding the reform process is that all uses of water should be seen from the perspective of its economic value because the absence of an economic perspective in the past explains the existing unsustainable uses of water.¹ As a result, the emphasis is on water as a natural resource which must be harnessed to foster the productive capacity of the economy, from irrigation water for agricultural production to water for hydropower. Thus, the national water policy laments the fact that an insufficient percentage of water is currently

1. See “Dublin Statement on Water and Sustainable Development” International Conference on Water and the Environment, Dublin, 31 January 1992.



harnessed for economic development and even calls for 'non-conventional' methods of water utilisation such as inter-basin water transfers and seawater desalination as large-scale, high technology solutions to improve overall water availability.² This message is also found in the recent draft World Bank report stressing out that India has not developed enough big water infrastructure.³

Beyond the relatively old characterisation of water as a natural resource, the underlying proposition for water sector reforms is that water is to be seen as an economic good. This implies an important shift in terms of the rights of control over and access to water. In fact, this leads to a complete policy reversal from the perspective that water is a public trust to the introduction of water rights and the possibility to trade water entitlements. As such, water-related rights are not new and there is already a vast corpus of law related to control over water. This includes, for instance, absolute rights that the state may claim over water.⁴ This also includes the rights and privileges that common law principles bestow over landowners. The novelty introduced by the reforms is that water rights are now created in favour of water users.⁵ These rights are the necessary premise for participation in the management of water resources, for the setting up of water user associations and for the introduction of trading in entitlements.⁶

Another important change brought about by the notion that water is an economic good is that all water services must be based on the principle of (full) cost-recovery.⁷ In a situation where the provision of drinking and domestic water as well as irrigation water is substantially subsidised, this implies a significant policy reversal. At the national level, the policy is now to make water users pay at least for the operation and maintenance charges linked to the provision of water.⁸ This strategy is already being implemented in the context of irrigation water where farmers are made to pay for operation and maintenance costs.⁹ This has also been introduced under the *swajaldhara* guidelines which suggest that water users have to take up partial responsibility for the capital cost of new

2. National Water Policy, 2002, s. 3(1-2).

3. World Bank, *India's Water Economy – Bracing for a Turbulent Future* (Draft of 25 June 2005).

4. See Madhya Pradesh Irrigation Act, 1931, s. 26 and Madhya Pradesh Regulation of Waters Act, 1949, s. 3.

5. See Uttar Pradesh Water Policy, 1999, s.17(1)d.

6. Maharashtra State Water Policy, 2003, s. 4(2).

7. See World Bank, India, *Water Resources Management Sector Review – Report on the Irrigation Sector* (Report No. 18416 IN, 1998).

8. See *supra* note 2, s. 11.

9. *Supra* note 7.



drinking water infrastructure and full responsibility for operation and maintenance.¹⁰

The notion of cost recovery is directly linked to the environmental component of water sector reforms. Indeed, they are conceived as part of a single strategy.¹¹ Further, cost recovery is, for instance, seen by the Asian Development Bank as the first instrument for conserving water.¹²

Decentralisation and participation

Water sector reforms are also based on the need to foster decentralisation and participation that involves water users.¹³ This is meant to provide a framework for decentralising decision-making to the lowest level and to allow ‘beneficiaries and other stakeholders’ to be involved from the project planning stage.¹⁴ The rationale for decentralisation is the perceived inability of the state to deliver appropriate benefits. The state is thus called upon to change its role from that of a service provider to that of a regulator.¹⁵ In the case of irrigation, for instance, this implies transferring part or full control of irrigation systems to users by both allowing them and forcing them to take responsibility for the upkeep of irrigation systems as well as for the financial costs involved and for sharing the water allocated among themselves.¹⁶

In principle, participation is conceived as an umbrella term that covers participation from policy planning and project design to the management of water infrastructure. In practice, the focus is on participation at the tail end of the process. In fact, the word participation is some sort of a misnomer. On the one hand, what is envisaged is not so much the possibility for farmers and users to participate in taking decisions affecting them but the blanket imposition of a new system of local water use and control scheme based on commercial principles even where there may be successful systems of water governance already in place. On the other hand, the participation which is envisaged at the local level is not the participation of everyone using water. Water user associations schemes that have been set up in recent years generally provide that their members are land owners and land occupiers. The

10. Ministry of Rural Development, Guidelines on Swajaldhara, 2003, s. 3(1).

11. World Bank, Water Resources Management (OP 4.07, February 2000), s. 2(b).

12. See, s. E., Asian Development Bank, *infra* note 49 whose first sub-section – number 43 – is entitled cost recovery.

13. *Supra* note 1.

14. See *supra* note 2, s.6(8).

15. *Supra* note 12, s. 37.

16. See *supra* note 5, s. 17(1).



focus on land ownership and occupation as a basis for governing the use and control of water is likely to reinforce inequalities in access to water between people who have access to land and all others.

Redefining the role of the government

Water sector reforms include several proposals that affect the role that the government plays in the water sector. This includes both measures restricting the role that the government is playing as well as measures seeking to increase governmental control.

On the one hand, the main thrust of water sector reforms is to transform the role of the government by transferring part of existing governmental prerogatives to users and private actors. This includes, for instance, the transfer of operation, maintenance, management and collection of water charges to user groups.¹⁷ This is meant to foster a sense of ownership at the user level that the overbearing presence of the government in the water sector has not been able to foster. A second thrust of the reforms is to set up new bodies at the local and state level to take over part of the functions of the government. This includes the setting up of water user associations to locally manage irrigation schemes instead of local bureaucrats and also includes the much more broad-ranging setting up of new water regulatory bodies.

The reduction of the role of the state in the water sector is also linked to the promotion of the use of incentives to ensure that water is used more efficiently and productively.¹⁸ The main consequence which is derived from this is the call for private sector involvement in all aspects of water control and use from planning to development and administration of water resources projects.¹⁹ An area which is singled out for private sector participation is urban water supply.²⁰

On the other hand, some of the existing reforms seek to foster increased state involvement in the water sector. In a number of areas, the state either seeks to maintain its *de facto* prerogatives or extend them. In the national policy, a clear statement is made to the effect that the government should be able to provide for the transfer of water from one river basin to another.²¹ This is now being taken up in the context of the mammoth river inter-linking scheme.²² At the state level, an

17. See Karnataka State Water Policy, 2002, s.6(7) .

18. *Supra* note 6, s. 1(3).

19. See *supra* note 12, s. 38 and *supra* note 8, s. 13.

20. See Rajasthan State Water Policy, 1999, s. 9.

21. See *supra* note 8, s. 3(5).

22. See Government of India – Ministry of Water Resources, Resolution No.2/21/2002-BM, New Delhi, 13 December 2002.



increasing number of states are seeking to control and regulate groundwater whose use has been largely linked to land ownership until now.²³

II Water law reforms

A number of water law reforms have been introduced in recent years. They are largely based on the principles highlighted in the previous section. This section highlights three different types of legal interventions. The first is the introduction of independent water regulatory authorities. The second is the introduction of legislation and schemes to foster the participation of users in water services delivery. The third is the introduction of groundwater laws to move away from principles of control over and access to water linked to land ownership.

These three examples constitute some of the most recent legal interventions in the water sector. They have been chosen here partly because of their significance in the broader water sector reform process and partly because they are some of the legal instruments that have been most recently proposed or passed.

Managerial reorganisation

As noted above, one of the central concerns of water sector reforms is to restructure the way in which water services are delivered. One of the avenues suggested to achieve this aim is the setting up of water regulatory authorities that are meant to take over part of the functions of existing government departments.

The first experiment undertaken in India in this regard took place in Andhra Pradesh where a Water Resources Development Corporation Act was adopted as early as 1997.²⁴ This Act largely sought to devolve existing governmental powers to a new institutional structure entrusted with the mandate of pushing water sector reforms forward. Since 1997, there has been a lot of thinking in policy-making circles concerning water sector reforms and the type of measures that need to be taken to move the agenda forward. As a result, the latest Act setting up an independent water institution, the Maharashtra Water Resources

23. *Infra*, “From private to government control.”

24. See An Act to Create the Andhra Pradesh Water Resources Development Corporation for Promotion and Operation of Irrigation Projects, Command Area Development and Schemes for Drinking Water and Industrial Water Supply to Harness the Water of Rivers of the State of Andhra Pradesh and for Matters Connected Therewith or Incidental Thereto Including Flood Control, Act No. 12 of 1997 [hereafter Andhra Water Corporation Act].



Regulatory Authority Act, 2005 is quite different from the Andhra one.

Three main features of the Maharashtra Water Resources Regulatory Authority Act, 2005 are worth highlighting here. These concern the composition of the authority, its powers and the policy framework within which it is called upon to function.

The authority is made of three members and five so-called special invitees. The chairperson of the authority must be an existing or former civil servant. The other two members, however, are meant to be independent experts with special knowledge in the fields of water resources engineering and water resources economy.²⁵ The five special invitees are to represent five different regions of the state and must be experts in at least one relevant water resource related field. While most of the members and invitees are meant to be independent experts, their appointment is controlled by civil servants since the selection committee is made up entirely of senior civil servants.²⁶ In comparison to the Andhra corporation, the Maharashtra authority composition is noteworthy for the attempt which has been made to completely exclude political leaders from the power structure. In general, the main shift which can be observed is that the more recent Act goes much further in attempting to delink the new body from the government, at least at the level of its membership. In practice, while the Maharashtra Act takes a clear stand on paper to insulate the authority from political interference, the bureaucracy still has an important (in)direct role. The actual independence of the authority will thus have to be judged in practice rather than on the basis of the Act.

The Maharashtra authority has been given a number of significant tasks.²⁷ Its first broad prerogative is to establish a regulatory system for the water resources of the state, including surface and ground waters, to regulate their use and apportion entitlements to use water between different recognised categories of use. Concurrently, the authority has to promote the efficient use of water, to minimise wastage and to fix reasonable use criteria. The authority also has the task of allocating specific amounts to specific users or groups of users according to the availability of water. It is further required to establish a water tariff system as well to fix the criteria for water charges. This is to be done on the basis of the principle of full cost recovery of management, administration, operation and maintenance of irrigation projects.

One of the important tasks entrusted to the authority concerns its role in laying down criteria for the issuance of water entitlements. According to section 11(g)ii, criteria are to be laid out for the issuance

25. Maharashtra Water Resources Regulatory Authority Act, 2005, s. 4(1).

26. *Id.*, s. 5(1).

27. *Id.*, s. 11.



of bulk water entitlements for all the main uses of water including irrigation, rural and municipal water supply as well as industrial water supply. The authority seems to have significant latitude in determining priorities of use among the main uses since the Act does not provide specific guidelines.

Another task assigned to the authority is the setting up of criteria for trading in water entitlements or quotas. Since the very idea of trading in water entitlements is novel, the Act specifically indicates that the premise for trading is that entitlements ‘are deemed to be usufructuary rights which may be transferred, bartered, bought or sold on annual or seasonal, basis within a market system and as regulated and controlled by the Authority’.²⁸

As is apparent from the above depiction of the authority’s powers, these are extensive but confined to a number of specific tasks focusing on the management of existing water infrastructure. This can be compared to the powers that were given at the time to the Andhra corporation. The latter is endowed with what can be seen as a more diffuse mandate but one which covers a much broader array of functions previously undertaken by the government including the planning, construction and management of irrigation projects, drinking water and industrial water supply schemes.²⁹ This can be largely explained by the much more direct control exercised by the government in the case of the Andhra corporation.

With regard to the principles underlying the Maharashtra authority’s activities, the Act specifically indicates that the authority must act within the framework of the state water policy and additional principles found in the Act.³⁰ Some principles need to be highlighted at this juncture. Firstly, the authority has to work on the basis of the polluter pays principle with regard to the question of water quality. This constitutes an important shift towards the integration of environmental principles in the water sector. Secondly, the volumetric amount of water made available to holders of water entitlements is to be fixed according to specific criteria. These include, for instance, the need for equitable distribution of water between all land holders and the grandfathering of existing private sector lift irrigation schemes for five years. Thirdly, any person with more than two children has to pay 50 per cent more than the prevailing rates to get entitlement of water for agriculture. These three different elements indicate the breadth of factors that the authority has to take into account.

28. *Id.*, s. 11(i).

29. *Supra* note 24, s. 18, Andhra Water Corporation Act.

30. *Supra* note 25, s. 12.



Another characteristic of these guiding policies is that they have the potential to conflict with each other. Thus a small landowner with 3 children may have to pay 50 per cent for his/her water than a neighbouring big farmer even though the principle of equitable distribution would ordinarily be understood as giving priority to meeting the water needs of small and poor farmers. It is also noteworthy that the principle of equitable distribution only seems to apply between land occupiers. This implies that anyone not occupying any land is not covered by this provision.

One of the important consequences of the setting up of a water regulatory authority concerns the strengthened control over water resources which is proposed. The Act provides as a general principle that any water from any source can only be used after obtaining an entitlement from the respective river basin agency.³¹ This is qualified by a few exceptions such as wells (including bore and tube wells) used for domestic purposes or the grandfathering of existing uses of water for agriculture, at least in an initial phase. This illustrates the fact that while the role of the government is curtailed through out the setting up of an independent authority, this does not necessarily translate into less regulatory intervention as far as water users are concerned. The overall impact is therefore as much to reduce the government's role as to transfer and possibly strengthen control over water resources.

Decentralisation and participation

In recent years, two of the buzzwords in water policy-making circles have been decentralisation and participation. Two main examples of these specific contexts of participation and decentralisation are introduced here. The first is water user associations (WUAs), bodies that are being introduced in various countries around the world in the name of participatory irrigation management (PIM). The second is *swajaldhara*, a programme spearheaded by the union government which is based in the same philosophy as WUAs but focuses more specifically on drinking water.

WUAs have been introduced in different forms in different parts of the country and different areas of the world. However, a number of common characteristics can be identified in many schemes. This includes the fact that WUAs are meant to be governed and controlled by people that both pay for the services the association offers and receive benefits. WUAs are not commercial entities but they have to be financially independent and therefore need to receive an income that is sufficient to allow them not to go bankrupt. Further, WUAs are in most cases subject

31. *Id.*, s. 14.



to regulatory control by the state because they are deemed to provide a service of benefit to the public.³²

The setting up of water user associations (WUAs) has been taken up with increasing intensity over the past decade and a number of states have introduced WUA legislation. These range from Andhra Pradesh and Madhya Pradesh to Orissa and Rajasthan.³³ These Acts have been adopted at different points in time and the schemes proposed have evolved over time even though the basic principles are fairly similar in each situation. This section does not seek to provide a comparative analysis of these different Acts and focuses on the latest Act adopted in Maharashtra because it is unlikely that other states that are yet to adopt legislation in this field will go back to older schemes.

WUAs under the Maharashtra Management of Irrigation Systems by Farmers Act, 2005 are set up to foster secure equitable distribution of water amongst its members, to maintain irrigation systems, to ensure efficient, economical and equitable distribution and utilisation of water to optimise agricultural production as well as to protect the environment.³⁴ While the Act provides a decentralisation scheme towards farmer involvement in irrigation at the local level, it also gives significant powers to the Maharashtra Water Resources Regulatory Authority or other designated authorities. In particular, they have the power to determine the command area of an irrigation project for which a WUA must be constituted. Further, the same authority can also amalgamate or divide existing WUAs on a hydraulic basis and 'having regard to the administrative convenience'.³⁵ In other words, the power granted at the local level is limited by the fact that authorities have the largely discretionary power to make and break WUAs.

The system set up under the Act is constraining insofar as once a WUA has been set up, no water will be supplied to anyone individually outside the WUA framework and the scheme is binding on all land holders and occupiers. In this sense, WUAs are forced to take on the burden of administering the irrigation system and are largely left to sort out ways in which they want to achieve this. Further, the Act provides a uniform model of WUAs regardless of existing arrangements at the local level and regardless of their success at equitably and sustainably using water.

32. See Stephen Hodgson, *Legislation on Water Users, Organizations – A Comparative Analysis* (Rome: FAO, FAO Legislative Study 79, 2003).

33. Andhra Pradesh Farmers Management of Irrigation Systems Act, 1997; Madhya Pradesh Sinchai Prabandhan Me Krishakon Ki Bhagidari Adhiniyam, 1999; Orissa Pani Panchayat Act, 2002 and Rajasthan Farmers' Participation in Management of Irrigation Systems Act, 2000.

34. Maharashtra Management of Irrigation Systems by Farmers Act, 2005, s. 4.



The framework provided under the Act seeks to balance benefits and burdens. On the one hand, WUAs are meant to benefit from a more assured water supply and more control over water allocated to them. Further, it is the authority's duty to supply the amount of water they are entitled to receive. They also have the right to use groundwater in their command area on top of the entitlement they receive from canals. On the other hand, the Act gives WUAs a number of powers which are in fact responsibilities. These include a number of functions, *inter alia*, the regulation and monitoring of water distribution among WUA members to the assessment of members' water shares, the responsibility to supply water equitably to members, the collection of service charges and water charges, the carrying out of maintenance and repairs to the canal system and the resolution of dispute among members.³⁶ These are extensive and possibly burdensome powers. WUAs are not only given the task to manage the infrastructure but also to provide an institutional structure that equitably provides all the services that a public authority would provide. While such arrangements would be an appropriate choice if WUAs were linked to panchayati raj institutions (PRIs), it is difficult to see how an association of land holders that has no democratic legitimacy can ever perform all these tasks in an equitable and sustainable manner for its members and for the broader society around it. To take but one example, while there are now a number of rules attempting to ensure the participation of women and lower castes in PRIs, it is quite likely that WUAs will generally be dominated by male upper caste members. In other words, the existing legislation is both onerous on WUAs who seem to be saddled with more responsibilities than rights and is at the same time unlikely to provide a framework leading to a more socially equitable access to and sharing of water.

The section concerning the powers and responsibilities of WUAs is complemented by a section concerning financial arrangements. As specified under section 54, the main sources of funding for WUAs will not come from the government. WUAs are meant to meet their expenses from the proceeds of water charges, borrowings and donations. In other words, the Act seeks to ensure that WUAs are financially independent and financially viable, a fact which is confirmed by the encouragement given to WUAs to engage in additional remunerative activities, including the distribution of seeds, fertilisers and pesticides or marketing of agricultural produce which are only indirectly related to irrigation.³⁷

In addition to the setting up of WUAs, the union government has proposed a scheme known as *swajaldhara* which proposes to foster new

35. *Id.*, s. 5(5).

36. *Id.*, s. 5(2).

37. *Id.*, s. 4(2).



types of intervention to ensure better drinking water availability in villages. The guidelines on *swajaldhara* are the direct outcome of a World Bank-sponsored pilot project called *swajal* and adopt the same philosophy.³⁸ Apart from the direct link between the World Bank project and the existing *swajaldhara* scheme, it is also noteworthy that this potentially significant scheme which now covers the whole country is not part of any legislation submitted to Parliament.

The guidelines are meant to foster a change in the role of the government from direct service delivery to that of facilitating activities largely undertaken by people themselves. In other words, the guidelines propose the progressive withdrawal of the state from the provision of the fundamental right to drinking water. The argument put forward by the government is that people perceive water as a fundamental right in part because it has been provided free by the government. The government estimates that the public has, therefore, not understood that water is scarce and is a socio-economic 'good'. It is, therefore, proposed to shift from what is seen as a supply driven approach to one which focuses on the need of end users who will then get the service they want. The fundamental change of approach required by this demand-focused strategy is that people will get the service they 'are willing to pay for.'³⁹ In fact, the basic economic rationale of *swajaldhara* is that people should be made to pay for part of the capital costs of drinking water projects and for the whole cost of operation and maintenance.

Swajaldhara is premised on a number of principles. Firstly, it proposes the introduction of a demand-focused approach which involves some level of community participation. Secondly, it seeks to devolve ownership of drinking water assets to the appropriate panchayat which are given the power to undertake all activities related to water supply and sanitation from planning to maintenance. Thirdly, *swajaldhara* imposes on communities a contribution of at least 10 per cent of the capital costs for a service level of 40 litres for person per day and imposes that they take 100 per cent responsibility for operation and maintenance. It also imposes that the contribution of the community to capital costs should be at least 50 per cent in cash. Further, under *swajaldhara*, only individuals or households that make the first 10 per cent contribution will benefit from the schemes being implemented. Other people are simply not part of the scheme.

38. On the *Swajal* project, see World Bank, Staff Appraisal Report – Uttar Pradesh Rural Water Supply and Environmental Sanitation Project (Report No. 15516-IN, 1996).

39. Ministry of Rural Development, Guidelines on Swajaldhara, 2003, s. 1(2).



From private to government control: Groundwater

Legislative interventions concerning groundwater are significant for two main reasons. Firstly, from a legal perspective they constitute a major organised attempt at redrawing the rules concerning control and use of groundwater which is still otherwise largely based on common law principles that make it part of the resources a landowner can use largely without outside control. Secondly, they constitute a response to the fact that over time groundwater has in various areas become the most important source of water and provides in particular 80 per cent of the domestic water supply in rural areas and supports around 70 per cent of agricultural production.⁴⁰ This strengthens the case for ensuring the sustainable use of groundwater.

Groundwater has until recently largely been governed by old legal principles linked to a large extent to land ownership. Further, like in many other countries, from a legal perspective groundwater has until now been largely treated independently from surface water even though links have increasingly been acknowledged. As a result, until a few decades ago there was little by way of statutory provisions concerning groundwater use and control and the central government's intervention in this area was even less prominent than with regard to surface water. The increasing use of groundwater has led to a spurt of legislative activity which seems to be accelerating.

At the national level, even though the central government would find it difficult to justify groundwater legislation under the constitutional scheme, several attempts have been made over the past few decades to provide a model law that individual states can adopt. The first attempt dating back to 1970 did not have much success since virtually all states ignored it. More recent versions of the model bill, including the latest version unveiled in early 2005,⁴¹ are having more influence on legislative activity because groundwater regulation has become a priority in many states. In fact, several states have proposed groundwater related laws which are related to the model law. This is, for instance, the case of the Kerala Ground Water (Control and Regulation) Act, 2002 and the Delhi Water Board (Amendment) Bill, 2005. As a result, the following paragraphs focus on the model bill since it provides the framework that most states are likely to adopt.

The basic scheme of the model bill is to provide for the establishment of a groundwater authority under the direct control of the government.

40. United Nations World Water Development Report – Water for People, Water for Life (United Nations, Doc. E.03.II.A.2, 2003).

41. Model Bill to Regulate and Control the Development and Management of Ground Water, 2005 [hereafter Model Bill].



The authority is given the right to notify areas where it is deemed necessary to regulate the use of groundwater. The final decision is to be taken by the respective state governments.⁴² There is no specific provision for public participation in this scheme. In any notified area, every user of groundwater must apply for a permit from the authority unless the user only proposes to use a hand pump or a well from which water is withdrawn manually.⁴³ Decisions of the authority in granting or denying permits are based on a number of factors which include technical factors such as the availability of groundwater, the quantity and quality of water to be drawn and the spacing between groundwater structures. The authority is also mandated to take into account the purpose for which groundwater is to be drawn but the model bill, mirroring in this the Acts analysed above, does not prioritise domestic use of water over other uses.⁴⁴ It is noteworthy that even in non-notified areas, any wells sunk need to be registered.⁴⁵

The model bill provides for the grandfathering of existing uses by only requiring the registration of such uses.⁴⁶ This implies that in situations where there is already existing water scarcity, an Act modelled after these provisions will not provide an effective basis for controlling existing overuse of groundwater and will at most provide a basis for ensuring that future use is more sustainable.

Overall, the model bill constitutes an instrument seeking to broaden the control that the state has over the use of groundwater by imposing the registration of all groundwater infrastructure and providing a basis for introducing permits for groundwater extraction in regions where groundwater is over-exploited. Besides providing a clear framework for asserting government control over the use of groundwater, the model bill also shows limited concerns for the sustainability of use. From this perspective, the model bill and the Acts based on it are a welcome development that should provide scope for better control over the use of groundwater in general. However, further thinking needs to be put in making the model bill sensitive to social concerns. Some important provisions are currently missing from the model bill. These include the need to prioritise among uses and to put drinking and domestic water as the first priority. Further, the model bill does not differentiate between small and big users of groundwater, commercial and non-commercial

42. *Id.*, s. 5.

43. *Id.*, s. 6.

44. *Id.*, s. 6(5) above only provides that the purpose has to be taken into account while s.6(5)h which is the only sub-section referring to drinking water only considers it as an indirect factor.

45. *Id.*, s. 8.

46. *Id.*, s. 7.



uses and does not take into account the fact that non-land owners/occupiers are by and large excluded from the existing and proposed system which focuses on the rights of use of landowners.

III Implications of ongoing regulatory reforms

The policy and law changes outlined above are momentous. On the whole, they seek to redraw the regulatory framework governing control over and use of water. It is necessary to draw out the main points arising from these reforms to make sense of their implications since changes in the regulatory framework will probably go on, even in states that have introduced new laws in the recent past. In fact, institutions like the World Bank that are spearheading water sector reforms see specific water restructuring projects as part of a long-term agenda that will take years to fully implement,⁴⁷ partly because it is understood that significant resistance will be made to a number of these reforms. To give but one example, proponents of water sector reforms would ideally like to see water infrastructure projects be fully financially independent. This is politically impractical at this stage and explains, for instance, why the *swajaldhara* guidelines propose to restrict for the time being the share of capital costs that people pay to 10 per cent. Nevertheless, policy documents outline that the goal is to progressively move towards 50 per cent cost recovery.⁴⁸ The Asian Development Bank goes further and proposes that:⁴⁹

Consumers will be expected to meet the full operation and maintenance costs of water facilities and service provision in urban and rural water supply and sanitation schemes subject to subsidy considerations.

This also applies to the poor that the ADB has found to be 'increasingly willing to pay for water services that are predictable and effective'.⁵⁰ As a result, the phased elimination of direct subsidies to the poor for access basic water services is promoted.⁵¹

47. See World Bank, Project Appraisal Document on a Proposed Loan to the Republic of India for the Maharashtra Water Sector Improvement Project (Report No. 3 1997-IN, 2005) at 6.

48. World Bank, Implementation Completion Report (CPL-40560; SCL-4056a) on a Loan to the States of Uttar Pradesh and Uttaranchal for Uttar Pradesh and Uttaranchal Rural Water Supply and Environmental Sanitation (Swajal) Project (Report No. 27288, November 2003).

49. Asian Development Bank, Water for All – The Water Policy of the Asian Development Bank, 2003, s. 44.

50. *Id.*, s. 45.

51. *Ibid.*



An understanding of ongoing water regulatory changes needs to take into account not only the laws and policies put in place but also the conditions under which these are being introduced. In the case of documents mentioned in previous sections, clear links between national and international water policy making over the past couple of decades can be identified. These partly take the form of parallel developments on both levels. This does not, however, provide a complete picture. On the one hand, there have been debates in higher policy making levels at the national level concerning changes to water laws and policy.⁵² On the other hand, a number of these changes have had their origin in proposals made at the international level and other changes have been adopted as part of development aid conditionality. The latter is, for instance, visible in the context of the Madhya Pradesh Water Sector Restructuring Project in which context the state is bound to draft new water legislation.⁵³ In other words, the significant similarity between the types of interventions called for by institutions like development banks and the laws and policies adopted at the union and state level indicates at the least a strong influence of international policy making bodies. This is, for instance, illustrated by the fact that most of the key prescriptions of the World Bank's water report for India of 1998 have been incorporated in most of the recent policies and laws adopted in the country.⁵⁴ These include, for instance, a demand-led approach, cost sharing for investments, the setting up of WUAs, the establishment of water rights, the reduction of the role of the government in the water sector and an increase in water charges.

Turning to the instruments examined above, several overall trends can be noted. Firstly, even though water is still a state subject, there is significant and possibly increasing uniformity between the laws adopted by different states individually. On the one hand, this may be seen as surprising given the diversity of climates and types of water related problems in different states. On the other hand, this may be an indirect acknowledgment of the perceived need for some form of national regulation of water in addition to existing state-level instruments.

One of the consequences of this uniformity is to slowly make the relevance of state control over water use less significant. This is

52. See Planning Commission, *Report of the Committee on Pricing of Irrigation Water* (1992), Planning Commission, 'Rural Water Supply and Sanitation', in 10th Five Year Plan (2002-2007).

53. World Bank, Project Appraisal Document on a Proposed Loan for the Madhya Pradesh Water Sector Restructuring Project (Report No. 28560-IN, August 2004) at 10.

54. World Bank, India – Water Resources Management Sector Review, *Report on the Irrigation Sector* (Report No. 18416-IN, 1998).



reinforced in the specific case of groundwater by the attempt by the union government to suggest specific groundwater laws to states by developing the model bill on groundwater analysed above.

Secondly, as indicated by the development of laws fostering the setting up of water user associations, one of the main trends in current policy making is to thrust new responsibilities and rights to end users of water infrastructure. This process which seeks to increase the participation of users and to decentralise water governance is in principle a welcome change. Nevertheless, the specific mode of implementation is proving problematic. On the one hand, participation and decentralisation are seen as concurrent elements which imply a progressive withdrawal of the state from certain water-related functions, in particular with regard to the provision of funding. In other words, the main rationale for this process of decentralisation does not seem to give end-users more control over water but rather to force them to take on part of the role previously played by the state, irrespective of their willingness or ability to do so. On the other hand, participation envisaged under participatory irrigation management (PIM) is much less developed than decentralisation as envisaged under the 73rd and 74th amendments of the Constitution. In fact, most schemes providing for the setting up of WUAs establish them separately from PRIs. Some authors justify this on the technical ground that WUAs should be established on a hydrological basis and on the grounds that *panchayats* are already overburdened, that they may lack the expertise to manage water, and that they are caught up with party politics and factionalism.⁵⁵ This gives little credit to the fact that panchayats are constitutionally sanctioned democratic institutions for local governance that have been envisaged as the proper forum for overseeing issues of drinking water, minor irrigation, water management and watershed development in areas under their control.⁵⁶

The fact that WUAs are established independently from PRIs implies that their basic structure is unrelated to the democratic structure of the latter. This is, for instance, visible in the membership of these associations which is limited to land owners or land occupiers.⁵⁷ This tends to establish WUAs as institutions based on old common law principles that give landowners significant control over water flowing through

55. See Ashok Gulati, Ruth Meinzen-Dick & K.V. Raju, *Institutional Reforms in Indian Irrigation* 202 (2005) and Rakesh Hooja, 'Below The Third Tier: Water Users Associations and Participatory Irrigation Management In India', *Indian Journal of Federal Studies* (1/2004), available at http://www.jamiahamdard.edu/cfs/jour4-1_4.htm.

56. *Constitution of India*, Art. 243(g), and 11th Schedule.

57. *Supra* note 34, s. 2(w).



their land and over groundwater. This makes it apparent that WUAs cannot be expected to make a major contribution to reducing existing inequalities in access to water. In other words, because of their restricted membership, WUAs cannot be expected to contribute to the realisation of the fundamental right to water for landless people and can generally not be expected to foster more social equity than what has been achieved until now under existing legal principles.

Thirdly, recent policy initiatives seek to give the state enhanced control in some fields. This is clearly illustrated in the case of groundwater where, after decades during which the legal regime left most control over groundwater to land holders and occupiers, new groundwater legislation seeks to give increasing power to the state to regulate its use. This is in principle a welcome development in a context where groundwater is now the main source of both drinking and irrigation water in most places and where the Central Ground Water Board does not have a sufficiently broad mandate to comprehensively regulate it. However, as analysed above, proposed legislation does not go far enough in seeking to provide equitable and socially just sharing of existing groundwater. Further, new laws do not include sufficient provisions to ensure that poorer users of groundwater will not be harmed by the new controls and charges. The very reasonable aim of allowing the government to regulate groundwater use in view of diminishing per capita availability, needs to be put in the context of the state's progressive withdrawal from water-related functions.

Attempts by the state to maintain significant control over water governance while decentralising are also visible in the cases of the Maharashtra or Rajasthan legislation where authorities are given the power to dismember WUAs, thereby indicating that the control given to the new decentralised institutions is in fact weak since WUAs can be constituted and dissolved by the higher authorities. The lack of institutional stability will seriously hamper local people's effective control over water.

Fourthly, while the state is attempting to regain control in areas like groundwater, the main trend in the past few years is towards the devolution of power to *quasi-* or non-governmental entities. The basic premise for doing so is the perceived inability of the government to effectively administer existing water infrastructure, to provide water in an economically efficient manner to users as well as its inability in the present context to muster further financial resources to infuse in water infrastructure. The perceived inability of the government to deliver leads to a number of policy prescriptions. As noted above, one of the main novelties introduced by recent Acts is the setting up of independent water regulatory authorities that are meant to take away part of the powers of government bodies and provide similar services without



political interference. Alongside the setting up of regulatory authorities, recently adopted Acts foster the view that water must be seen as a scarce economic good. This leads to the perception that water needs to be regulated and managed on a commercial basis like any other market good. The consequence is that all water-related institutions are called upon to 'manage' water on commercial lines. This implies that any pre-existing social perspective on the provision of water is largely sidelined. Further, while the first consequence of this approach is the corporatisation of public sector water-related bodies, the second is the promotion of the participation of the private sector in the water sector. In other words, the state is both withdrawing from water-related activities and encouraging their development along commercial lines by other actors. This is the consequence of a largely unidimensional view of water as an economic good which is increasingly seen as being capable of private appropriation and eventually leads to the introduction of private 'water rights' which can, for instance, be traded like any other commodity.

IV Beyond water sector reforms

The above analysis indicates that the main thrust of the reforms is an attempt to make water an economic good which is to be managed like any other commodity. This constitutes a fundamental change from the existing understanding that water is either freely provided by God or by the state or seen as a common entitlement, a public trust or as a human right.

There is no doubt that reforms of the existing water regulatory framework are necessary to update water law to face the challenges of the 21st century. However, proposed changes not only fail to take into account the various functions of water in society, but also fail to acknowledge that water has always been seen as fundamentally different from natural resources such as coal or timber because availability of safe drinking water to every human being is necessary on a daily basis. The multi-faceted dimensions of water as a cornerstone of human survival, of the survival of all animals and as a basic element contributing to meeting our food needs, irrigation and energy needs and economic development need to be fully integrated into legal instruments.

The need for changes in the pre-reform regulatory framework concerning water control and use is linked to two distinct, though related, factors. Firstly, existing water law is largely based on a model which puts the government and landowners at the centre of the regulatory framework. As long as per capita availability of water was sufficient, this allowed private actors to make use of all the water they wanted without stopping the government from also providing at least part of the population with drinking water. This model needs to be revisited in a



context where use of water by landowners need to be regulated like all other uses of water. More importantly, this model needs to be revisited in the context of two fundamental changes. These are the recognition of the right to water as a fundamental right and the adoption of the 73rd and 74th amendments to the Constitution providing for increased control by *panchayats* over water use. Secondly, water law needs to be amended in view of new technical solutions that have, for instance, made possible the extraction on a relatively large scale of groundwater from depths which would not have been reachable before the introduction of electrically driven pumps. This increasing use of water has happened at the same time as water pollution from a multitude of sources was dramatically increasing. The overall limited availability of freshwater as well as new concerns for water quality and sustainability reinforce the need for a new regulatory paradigm.

The reforms that need to be undertaken should be based on the recognition of the special nature of water and its importance as a source of human life and more generally life on earth. Besides the substantive discussion which needs to take place, it is also important to ensure that the process is driven by local, regional and national priorities. This does not in the least exclude the need for collaboration with other countries in relevant areas. However, it indicates that policy making should be overwhelmingly driven by national needs and considerations.

The place of human rights

The first and most important element that needs to be reinforced in any water law reforms in the future is the primacy of human rights, not only at the level of basic constitutional principles but also in the more specific measures adopted in relevant Acts and regulations. Further, all policy, acts and rules should include a clear prioritisation of water uses giving unambiguous primacy to drinking/domestic water.

Water law reforms should be based on a set of basic principles that reflect the importance of water as a fundamental source of life for human beings and most animals. Water is first and foremost a fundamental right of each and every human being.⁵⁸ Drinking, domestic and food security related water needs therefore take precedence over uses of water for economic-development related activities.

The human right to water is widely recognised at the international and national levels. This is the case with regard to the recognition of a

58. Committee on Economic, Social and Cultural Rights, General Comment 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) [hereafter General Comment 15].



human right to water *per se* or the recognition of a human right to water read into existing human rights such as the right to life, health or food. At the national level, the new South African Constitution expressly recognises a right to have access to sufficient water.⁵⁹ Similarly, in Uruguay, since 2004 the Constitution provides that access to potable water and access to sanitation are fundamental human rights.⁶⁰ In India, a fundamental right to water has been read into the right to life protected under the Constitution.⁶¹ At the international level, the uncertainty concerning the status and content of the right to water that could have existed has largely been laid to rest with the adoption by the Committee on Economic, Social and Cultural Rights of General Comment 15 on the right to water.⁶² While the reading of a human right to water as being implied under articles 11 and 12 of the ESCR Covenant does not make the right to water formally binding, it confirms that the right exists in present international law.

A water regime that is based on the fundamental right to water is organised in ways that are different or possibly opposed to the proposed water sector reforms. The starting point is everyone's entitlement to free domestic access to and use of water.⁶³ With regard to other uses, equity, human rights and environmental protection are core basic principles for allocating limited water supplies. One of the priorities of water sector reforms should thus be to ensure that the recognition of the human right to water by the judiciary is operationalised in the laws and other legal instruments being adopted. In other words, it is necessary to bring the general human rights claim to the level of each and every individual by, for instance, giving citizens a legislative basis for their entitlement to at least a minimum domestic water use entitlement. A figure needs to be adopted and this should not be lower than the basic minimum figure of 100 litres per day per person available on the premises through at least one tap.⁶⁴

59. *South Africa – Constitution*, 8 May 1996, s. 27(1)b,

60. *Constitución política de la República Oriental del Uruguay de 1967* (actualizada hasta la reforma del 31 de Octubre de 2004). Art. 47.

61. See *F.K. Hussain v. Union of India*, AIR 1990 Ker 321 and *Venkatagiriappas v. Karnataka Electricity Board & Others*, 15 July 1998, High Court of Karnataka, 1999 (4) Kar LJ 482.

62. Committee on Economic, Social and Cultural Rights, General Comment 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) [hereafter General Comment 15].

63. *Supra* note 58, para 37. Note that the General Comment's core obligation at para 37 does not specify that this access should be free.

64. See Guy Howard & Jamie Bartram, *Domestic Water Quantity, Service Level and Health* (WHO Doc. WHO/SDE/WSH/03.02, 2003) for a discussion of the criteria defining various levels of access to water.



A human rights approach involves prioritising water uses in favour of drinking and domestic water. The water policies that have been adopted in recent years have all attempted to prioritise water uses. Several of the water policies provide that water should be allocated in the following order: drinking water, irrigation, hydro-power, ecology, agro-industries and non-agricultural industries, navigation and other uses.⁶⁵ There is thus a clear emphasis on domestic uses of water as the overriding priority in water allocation. This is reinforced in some policies by a call for the government to provide adequate safe drinking water facilities to the entire population.⁶⁶ Nevertheless, each of these policies also provide that this priority list can be changed if circumstances so require, thus ensuring that there is in fact little substance in the prioritisation.⁶⁷

Further, these non-binding principles included in water policies are not carried over into laws that are actually binding on all actors. Thus, in the case of the Maharashtra Water Resources Regulatory Authority Act, the prioritisation of uses found in the policy applies because the authority is called upon to work ‘according to the framework’ provided by the water policy but this does not amount to a clear and unambiguous prioritisation of uses in favour of drinking water.⁶⁸

The need to prioritise also implies that there must be regulation and prioritisation of each different use of water. This is, for instance, the case for water use in agriculture. Irrigation needs to be regulated not only to ensure that there is a fair and equitable distribution of water among irrigation water users but also on social and environmental grounds. There is, for instance, a need to rethink water uses in agriculture from the point of food security rather than from the point of view of overall production which tends to put cash crops and food crops on the same footing, regardless of their water intensity. In other words, water regulation should provide incentives that foster first of all the growth of food crops that directly contribute to meeting the food needs of all people, the poor and landless in priority.

The prioritisation of water uses also implies that there must be linkages between what may be separate regulatory regimes dealing with drinking water use, irrigation water use and industrial water use. Water sector reforms that have taken place until now put the emphasis on certain distinct water-related issues. Thus, with regard to rural areas, water sector reforms concentrate on the setting up of WUAs to address issues related to irrigation water. While irrigation water is one of the

65. See *supra* note 2, s. 5, and *supra* note 20, s.8.

66. See *supra* note 2, s. 8 and *supra* note 5, s. 1(4).

67. See *supra* note 6, s. 4 and *supra* note 20, s.8.

68. See *supra* note 25, s. 12(2).



prominent issues that need to be addressed in any water reform, current reforms neither put much emphasis on drinking water nor give much scope for further legislative interventions to address drinking water specifically. Two points arise in this context. Firstly, according to the priority list which puts drinking water on top of the list, governments should not undertake any reforms that do not also focus on domestic uses of water. Secondly, it is, for instance, apparent that independent regulatory authorities are meant to comprehensively regulate water uses. However, while these authorities have a broad mandate with regard to the allocation of water in a given state, they do not have any drinking water focus, partly because the way in which they are set up does not easily lead to a drinking water focus.

The question of water rights

The issue of water-related property rights needs to be revisited. Currently, a number of legal interventions are justified as a shift from government ownership towards user control or ownership. Existing Acts remain relatively vague on the question of actual property rights over water itself and usually refer to property rights over water infrastructure. However, secondary literature that provides the justification for these interventions is sometimes clearer. It has, for instance, been argued that strengthening users' water rights is more important than giving them rights over the physical infrastructure. Further, it is also contended that current government ownership of water can be transferred towards user rights when users start paying more of the costs.⁶⁹ In other words, water sector reforms provide the basis for a progressive transfer of ownership rights from the public sector to private actors. While the government has in certain cases attempted to claim ownership over water, it is generally agreed that it cannot claim rights over water but can at most harness water for the benefit of the public, as formalised under the notion of public trust.⁷⁰ In other words, existing water sector reforms cannot be seen as simply operating a transfer of rights from one holder to another. At least in some cases, reforms introduce a largely new category of private water rights.

Where it is established that some form of property rights over water need to be introduced to foster its more sustainable utilisation, this should first of all be done in the context of existing institutions of local, state and national governance keeping in mind the constitutional scheme. In particular, there is a need to further regulate landowners and land occupiers' use of water to ensure that private use does not occur at the

69. Gulati et al., *supra* note 55 at 292.

70. *M.C. Mehta v. Kamal Nath*, 1997 1 SCC 388.



expense of the broader needs of society, for instance, with regard to drinking water and water required for growing food crops.

Further, it is necessary to progressively delink water use claims from land occupancy. This is a measure which has been advocated in recent years to foster the progressive commercialisation of the water sector. Delinking of water access and use from land control is indeed necessary but for different reasons. Land-related water control has the direct impact of putting anyone not controlling land at a serious disadvantage with regard to access to and use of water. Until now, in various parts of the country, existing customary rules have generally provided a framework within which all individuals get at least some access for domestic use to existing sources of water in a given community. Further, many individuals and communities currently manage to get access from sources of water found on village or common lands. The progressive strengthening of state control over water access and use coupled with the drive towards commercialisation and privatisation of the water system are threatening to make access for landless and poor people even more difficult. As a result, reforms are needed to ensure that water access and use is not determined by the actions of landowners and land occupiers whose own use of water is unlikely to be determined by social and human rights considerations. In other words, delinking land and water should be done in such a way that it benefits the poorest in priority rather than the ones with capital or access to productive assets.

The issue of water-related property rights and entitlements raises other questions. Firstly, there seems to be an assumption that the introduction of water-related entitlements will automatically solve all concerns related to access to water because these entitlements are granted to water users. The problem is that water users as identified in existing recent policy schemes are either only landowners/occupiers in the case of irrigation water or people who can afford the charges being levied as in the case of *swajaldhara* guidelines. Since people who are identified as water users are in fact a small subset of all users of water, there is a need to ensure that the entitlements they receive do not trump the rights of other users, in particular their fundamental right to domestic water.

Towards effective decentralisation and participation

Decentralisation and participation have been two key notions underlying water sector reforms. To a large extent, they provide the rationale for making reforms palatable to most people. As noted above, the kind of participation which is envisaged in the setting up of WUAs is at best restricted because WUAs usually have restricted memberships and because they exist alongside the PRI rather than within the



constitutionally sanctioned system.

Concurrently, the kind of decentralisation which is envisaged is limited because the power given to local bodies tends to be restricted. Whether it is the possibility that regulatory authorities have to make and break WUAs or the necessity for WUAs to be financially independent, decentralisation as envisaged under existing reforms is as much a burden as an advantage for people to whom the responsibility of taking charge of water infrastructure and services is given.

One of the most important reforms that are required is to make sure that people can hold the government or other service providers accountable. Decentralisation and participation are fundamental to ensuring that people can have an effective say in projects that affect or benefit them and that they can hold the entities undertaking any schemes accountable according to clearly defined principles. Participation is not only a process whereby people are consulted about the acceptance or rejection of a predefined scheme and is not about imposing duties and obligations on people. In the sense of participatory or direct democracy, participation involves much more than thrusting decentralisation on people. It involves a process whereby people can have a measure of control over all aspects of proposed changes, from the definition of a scheme to its eventual adoption or rejection.

Another related issue concerns the scope of decentralisation. Existing water sector reforms are sometimes premised on the fact that involving water users is by definition better than the governance that can be provided by the executive. Firstly, this dichotomy is only relevant as long as local bodies set up to govern access to and use of water are part of the democratic structure of governance instituted under the Constitution. Secondly, statements concerning the need for local governance of water mask the fact that water sector reforms do not actually envisage full control at the local level. At the same time as responsibility for certain aspects of access to and use of water is devolved at the local level, existing water sector reforms also foster the development of big infrastructure and inter-basin transfers as highlighted in the context of the rivers interlinking project. In other words, while there is decentralisation of a limited number of functions, since WUAs or drinking water committees get little control over surface water supply their control is largely dependent on decisions taken at higher levels. This brings up another related point. While decentralisation is absolutely necessary, it is neither possible to conceive water governance exclusively at the local nor exclusively at the national level. Water needs to be jointly regulated at all levels concurrently given the multiple linkages between local, state, national and international water availability.



V Concluding remarks

Water sector reforms are significant. One of the aims of current water sector reforms is the introduction of new water policies and laws that are different, and sometimes opposed, to existing regimes. It is imperative that all water users, or in other words everyone, should be aware of the scope of ongoing and proposed reforms. At present, despite the possibly numerous consultations that have taken place in policy making circles over water reforms, there is little awareness of the unfolding changes at the level of individual rural and urban citizens, individual farmers or *panchayati raj* institutions most likely to be affected by these changes. A comprehensive participatory process which provides opportunities to unravel all the implications of the proposed interventions is, therefore, necessary before further reforms are implemented. The lack of effective participation and of democratic decision making has become increasingly contentious as exemplified by the controversy over the adoption of World Bank driven water sector reforms in Delhi or Bangalore.

Reforms in the water sector are required to take into account the social and hydrological challenges that have surfaced over time. The law and policy framework needs significant updating because it is neither adapted to existing challenges nor provides a comprehensive framework that incorporates all dimensions of water. In particular, existing water laws largely fail to operationalise the human right to water and fail to effectively address social challenges in the water sector. Proposed water sector reforms spearheaded by the international community, the World Bank as well as governments at the centre and state level are not effectively addressing these challenges. In fact, they are likely to contribute to increasing inequalities in access to and control over water. A comprehensive rethinking of the proposed reforms is, therefore, necessary to ensure that any further reforms in the water sector effectively benefit the poor, focus on drinking water and prevent the complete commercialisation of a sector directly concerned with the fulfilment of human rights.