# Discourses in Water and Water Reform in Western India

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#### ABSTRACT

This paper discusses two major water discourses: the GEM discourse with its messages of scarcity and the importance of treating water as an economic good, and the rights-based discourse with its central message of everyone being entitled to water. Each of these discourses has varying implications for different aspects of water such as ownership, delivery, and pricing; further, they have also had different degrees of influence on water (and water-related) policies and legislation of nation-states. This paper seeks to bring out how the two water discourses work at the international and domestic levels, focusing on one particular aspect of water viz., delivery of water services. The reforms undertaken in this realm in India not only reflect the influence of these discourses, but also the dominant role of the GEM discourse. Evidence for this is offered by the analysis of the reform process in the water sector in the state of Maharashtra in western India, and in particular, by the analysis of the concepts of 'decentralization' and 'entitlements' in the new legislation. The co-existence of different (and sometimes contradictory) trends such as decentralization, centralization, and privatization in Maharashtra is also another indication of the inter-play of different water discourses as well as the hegemonic influence that some discourses (such as the notion of water as an economic good) have over others (such as the concept of right to water).

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## 1 INTRODUCTION

Water policies at all levels are shaped by a variety of actors – governments, interest groups within nations, social movements, international institutions such as the World Bank, water multinational companies, and so on. But one often finds common threads in the views and actions of actors at different levels (for instance, in the kind of water reforms that have been advocated), which indicates the presence of dominant discourses that shape opinions and provide legitimacy to particular kinds of policies. This paper looks at how two discourses – the Global Environmental Management discourse and the rights-based discourse – have shaped water reforms in a state in western India viz., Maharashtra. Since the relation between knowledge and policy is complex, the aim is not to show a precise relationship between discourses and policies at different levels (international, national, and sub-national). Instead, this paper emphasizes the commonalities in the discussions around one aspect of water (delivery of water services) at different levels. As Adger *et al.* (2001) point out in their analysis of the environmental discourses associated with deforestation, desertification, biodiversity use, and climate change, such an exercise is useful to show how adopting particular languages and rhetoric constrains the solutions proposed for specific issues.

The arena of delivery of water services<sup>1</sup> is particularly interesting to study from this point of view because it has seen changing trends in recent times, which are due in no small measure to the influence of different discourses in water. Traditionally, it has been the state (or state-owned enterprises) that have undertaken delivery of water services, both in the context of drinking water in urban areas and irrigation water from canals in rural areas. This is because of the peculiar characteristics of water such as high degree of natural monopoly, high capital intensity and the presence of sunk costs, the multipurpose and hydrologically interconnected nature of the water resource itself, as well as the perception that public provision is the best way to guarantee universal access (Mehta, 2003). But currently, there are two dominant trends in the realm of delivery of water services – sectoral decentralization and privatization, both of which stem from particular kinds of water discourses.

<sup>&</sup>lt;sup>1</sup>Broadly, delivery of water refers to building the necessary infrastructure as well as operations and management, and includes the institutional mechanisms that are actually involved in the working of water rights at different levels.

This paper starts with a discussion of major water discourses and their central messages in Section 2. Section 3 discusses how the Indian government has encouraged particular kinds of policies (with respect to delivery of water services) to be undertaken by state governments, and how this in turn reflects the hegemony of the GEM discourse. Sections 4 and 5 extend the discussion of the influence of particular discourses on water reform to the specific case of Maharashtra; in particular, the concepts of 'decentralization' and 'entitlements' in the new legislation in the state are critically analyzed. This is followed by some concluding comments in Section 6.

## 2 WATER DISCOURSES AT THE INTERNATIONAL LEVEL

There are a number of different discourses in water, that is, different ways of speaking and thinking about it as well as of acting on water-related issues. Each discourse has its own central messages and policy prescriptions. Further, water practices of different governments/institutions/actors draw on different elements of these discourses (although they cannot be reduced to that) (Derman and Ferguson, 2003). In this section, I undertake a brief discussion of water discourses at the international level and indicate which discourse(s) or which elements are hegemonic in the sense that they dominate thinking and have most often been translated into institutional arrangements.

Broadly, one can distinguish between four formulations of water at the international level: the Dublin-Rio principles, the advocacy of water markets and privatization of water services by the World Bank and the Asian Development Bank, the approach of 'Integrated Water Resources Management' propagated by the Global Water Partnership and the World Water Council, and the rights discourse (of which the most important articulation is the idea of right to water). The first three formulations together can be taken to constitute what Adger *et al.* (2001) call a Global Environmental Management discourse (GEM) of water, that is a discourse which presents a technocratic worldview requiring science-based solutions and external policy and/or managerial interventions. Each of the three formulations also corresponds approximately to a distinct phase of convergence of views on water. Mehta (2004) distinguishes between three such phases. The first phase (between 1977 and 1992) saw the consolidation of the water decade<sup>2</sup> and the declaration of water as an economic good at the International Conference on Water and the Environment held in Dublin, the run-up to the Rio Earth Summit in 1992. The second phase (between the Dublin Declaration and the Hague Conference in 2000) witnessed the spread of the

<sup>2</sup>1981-90 was the World Health Organization's International Drinking Water Supply and Sanitation Decade.

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neoliberal agenda both geographically and in newer arenas such as water management, and the rolling back of the state through conditionalities of the IMF and the World Bank, as well as regional development banks such as the Inter-American Development Bank and the Asian Development Bank. The third phase refers to efforts in the twenty-first century on the part of supra-national bodies such as the World Water Council and the Global Water Partnership, which are viewed by many as giving a new impetus to private sector involvement.

Let me start with the Dublin-Rio principles. The Dublin Declaration highlighted four key principles - (i) the importance of freshwater as well as its finiteness and vulnerability (ii) increased participation of users, planners, and policy-makers at all levels of water development and management (iii) the central role of women in the provision, management, and safeguarding of water and (iv) the recognition of water as an economic good, with an economic value in all its competing uses (ICWE, 1992). These principles significantly contributed to the Agenda 21 recommendations adopted at the UN Conference on Environment and Development in 1992. In line with the Dublin principles, Agenda 21 also emphasized the importance of protecting the supply and quality of freshwater resources and of delegating water resources management to the lowest appropriate level. However, unlike the Dublin principles, it emphasized that water is an economic and social good (UNCED, 1992). The advocacy of water markets and the privatization of water services by the World Bank and the Asian Development Bank is based partly on the Dublin-Rio characterization of water as an economic good, but is also related to the increasing influence of neoliberalism and the consequent reduction sought in the role of the government in the provision of basic services (Mehta, 2004). The third formulation which is becoming important in recent times is the concept of integrated water resource management or IWRM. The concept has been introduced (to varying degrees) in the water policies of a number of countries such as South Africa, Uganda, and Brazil, and is considered to be an advance over earlier sectoral and fragmented approaches of water management at least in some respects.

The GEM discourse represented by the above three formulations has a number of core messages such as the notion of water scarcity, the need to treat water as an economic good, water security, and the importance of sustainability; while the ideas represented by the messages are not entirely new, they have either become stronger in the last two and half decades or are being used in new ways (for instance, to justify particular kinds of policies). My focus here is on two of the messages. One is the notion of an existing or impending water scarcity. Agenda 21, for instance, refers to water as a "scarce vulnerable resource" (UNCED, 1992: Section 18.16) and to the

condition of widespread scarcity of water (UNCED, 1992: Section 18.3). This in turn leads to a crisis rhetoric that is based at least in part on neo-Malthusian perspectives concerning environment and development. Thus one of the justifications that the World Bank uses for its increasing engagement in the water sector and for the prescription of particular kinds of water reform is the increasing scarcity of water (and the problems resulting from it) (World Bank, 2004a: 1). However, Mehta (2000) argues that scarcity is often manufactured by anthropogenic interventions or discursive constructions, and is not always real in the sense of having biophysical or social manifestations. Similarly, Petrella (2000) (cited in Mehta, 2000) argues that many international, national, and regional conflicts over water are caused by other factors such as ethnic rivalries, nationalism, and power politics that extend to the cultural, political, and economic spheres. The implication of the idea that scarcity of water is a created concept is that a crisis rhetoric and recommendations of technocratic solutions to improve water availability (such as inter-basin water transfers and seawater desalinization) may not be appropriate. Similarly, the argument that a universal 'right to water' is not feasible because there is not enough water to go around is not tenable if the notion of scarcity often found in the GEM discourse on water is problematised.

Apart from the notion of scarcity, another message that forms the core of the GEM discourse on water is the view that treating water as an economic good would result in improved efficiency, equity, and sustainability. This in turn calls for putting in place market-based delivery systems, the establishment and enforcement of an effective (individual) property rights regime, and pricing of water at its economic value (see, for instance, Saleth, 1996). Reforms that emphasize the principle of cost recovery, the setting up of water rights, participation, decentralization, privatization of particular functions in water delivery, redefinition of the role of the government, and demand management (quantifying the amount of water available and then managing it within these limits using pricing options and other measures) all stem at least in part from this perspective, though in each case there are also other influencing factors. Further, these different aspects are also often mutually contradictory. For instance, as Cullet (2006) points out, water sector reforms have included both measures that restrict the role of the government as well as measures that seek to increase government control.

The second major discourse at the international level is the rights discourse, and more particularly the idea of right to water.<sup>3</sup> The right to water is not fully defined by existing international law or practice; however, it is implicitly and explicitly supported by many human rights instruments (Gleick, 1999). For instance, implicit support for the right to water is provided by other human rights such as those to food, health, adequate housing, well being, and life, since water is necessary to secure these rights. Two human rights instruments also explicitly mention the right to water: the 1979 Convention on the Elimination of All Forms of Discrimination Against Women, where it is mentioned as a part of a right to adequate living, and the 1989 Convention on the Rights of the Child, where provision of clean drinking water is mentioned as a means to combat disease and malnutrition. However, the most explicit formal adoption of the right to water as an independent human right is in the General Comment 15 adopted in November 2002 by the United Nations Committee on Economic, Social and Cultural Rights. The document provides guidelines for state parties on the interpretation of right to water under two articles of the ICESCR - Article 11 (the right to an adequate standard of living) and Article 12 (the right to health). While the General Comment is not legally binding on the 146 states that have ratified the International Covenant, it aims to assist and promote the implementation of the Covenant and does carry the weight and influence of 'soft law' (UN, 2004). The 2002 General Comment has also been supplemented more recently by the 2005 draft guidelines for the realization of the right put forth in the Report of the Special Rapporteur of the United Nations Commission on Human Rights. These guidelines emphasize the right to water for personal and domestic uses, in order to realize the right to adequate nutrition and the right to earn a living through work (UNESC, 2005).

The core message of the rights discourse is that all human beings are entitled to a minimum amount of water for basic needs. Some strands in the rights-based approach also extend the right to all living beings (and to the ecosystem) and call for water to satisfy not just basic needs, but also economic needs.<sup>4</sup> This message, in turn, has led to calls for legal recognition of the right to water and corresponding changes in water/water-related policies and legislations of governments. However, while this message has been broadly accepted in many water conferences (such as the United Nations Water Conference held in Mar del Plata, Argentina in 1977 and the 1992 Earth Summit in Rio de Janeiro, Brazil), consensus on an explicit right to water by governments has

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<sup>&</sup>lt;sup>3</sup>Note that the concept of right to water is much broader than the concept of water rights. Right to water includes a variety of dimensions such as access to water, affordability, ownership, delivery, and participation in decision-making processes, while water rights refer specifically to the particular sub-set of these dimensions that are pertinent from the point of view of the right-holder.

<sup>&</sup>lt;sup>4</sup>For a review of different conceptualisations of the right to water, see Sangameswaran (2007).

been difficult to come by. This is most evident in the ministerial statements at the World Water Forums, which recognize only the idea of water as a basic need and not the idea of water as a right, even when the latter has been debated in the Forums (for instance, at The Hague in the Second World Water Forum in 2000 and at Mexico in the Fourth World Forum in 2006). This, in turn, is a possible reflection of the lack of hegemony of rights-based discourses in water (and therefore of the widespread influence of the GEM discourse).

In general, the idea of a right to water has had limited official recognition at the international level (especially in comparison to the principles advocated by the GEM discourse) and attempts to analyze the implications of different GEM policies from a rights perspective have been limited. As a result, although the idea of water as an economic good and of water markets has generated considerable controversy, particularly in its implications for pricing (Mehta, 2003), market remedies and privatization solutions for water problems are still believed by some (especially donor countries) to be completely congruous with rights of the poor to water (Mehta and Madsen, 2003).

#### 3 WATER DISCOURSES IN INDIA

Elements of the two discourses discussed at the international level, as well as the hegemonic role of the elements of the GEM discourse, are found in the water reforms undertaken in India too. In this section, I consider the broad contours of the reforms that have been encouraged at the central-level in the domain of delivery of water services. Although water is a state subject in India, the centre does influence state policy with regard to water in two broad ways. Firstly, the centre plays an indicative role, that is, it indicates the direction in which states must move (for instance, putting in place groundwater legislation). In some cases it may not apply 'pressure' for the policy to be actually taken up or even discuss the direction in any great detail; in other cases, it does apply pressure (for instance, by making funding for projects conditional on adoption of particular measures). The second way in which the centre influences state policies with regard to water is via legislation that is binding (for example, laws related to the environment).

In the specific context of delivery of water services, the first route is most relevant. The centre has encouraged two kinds of policies, both of which have been taken up to varying extents by different states – sectoral decentralization (such as Participatory Irrigation Management) and privatization. Sectoral decentralization forms part of the policy prescriptions of both the GEM

and the rights discourses, although, as we will see in the ensuing discussion (particularly in the discussion of 'decentralization' and 'entitlements' in the case of Maharashtra), the limited manner in which decentralization has been undertaken means that it is not particularly commensurate with any notion of rights. Privatization policies are also more a part of the GEM discourse and are related to the notion of water as an economic good. While some discussions of a right to water (such as UNESC, 2002 and UNESC, 2005) are relatively flexible about the system of water delivery and do not take an a priori stand for or against privatization, many advocates of a right to water (particularly social movements in water) take a strong anti-privatization position. It is also important to note that international players such as the World Bank have also played an important role in pushing for both kinds of policies. For instance, the World Bank's Country Strategy for India, which is applicable for lending from 2005-2008, lays down sector-specific guidelines for lending. In the case of Urban Water Supply and Sanitation, one of the conditions is that the state/city is question agree "to support actions to develop domestic private sector capacities for delivering urban water supply and sanitation services" (World Bank, 2004b: Annex 5, p.3). In the case of Irrigation and Drainage, granting of loans is contingent on willingness to "establish and operationalise decentralized service delivery mechanisms" (World Bank, 2004b: Annex 5, p.4).

I turn now to the recommendations made at the central level with respect to the above two policies. In the case of irrigation, sectoral decentralization has taken the form of Participatory Irrigation Management (or PIM). Although this idea has been supported by the Government of India since the mid-1980s (for instance, in GoI, 1987), it is only recently that states have started taking measures to facilitate it. The precise nature and extent of powers and functions of WUAs varies from state to state, and is usually determined by a variety of factors internal to the state. For instance, in some states, the fixing of water charges has been kept outside the purview of the WUAs, but in other states (like Gujarat), the WUAs are free to decide the water rates to be charged from the beneficiary farmers (Upadhyay, 2002). But one feature seems to be common to all WUAs viz., the limited nature of the powers devolved to them. This, in turn, is very much in tune with the stand that central policies take with regard to water. For instance, while the 2002 National Water Policy emphasizes a participatory approach to water resources management, the aim of involving Water Users' Associations and local bodies is said to be "to eventually transfer the management of such facilities to the user groups / local bodies" (GoI, 2002: Section 12; italics mine); there is no mention of ownership of the water facilities by local groups. Similarly, the 2002 NWP mentions that the involvement and participation of beneficiaries and other stakeholders should be encouraged right from the project planning stage itself, but the nature of this participation, as well as how and by whom beneficiaries and stakeholders are to be defined is unclear. Further, while participation at the level of the WUA might be encouraged, the question of participation in the process of irrigation policy-making at higher levels is not even mentioned.

In the case of drinking water too, the process of sector reform, with decentralization as one of its key features, was first started by the centre in rural areas. Initially, reforms were introduced in 1999 in 67 pilot districts covering 26 states, and were scaled up in 2002 in the form of Swajaldhara. Swajaldhara aims to provide direct access to central resources to communities and community institutions (panchayats and district water and sanitation committees), which want to develop and manage local water resources to meet their drinking water needs. However, while the sector reform scheme of Swajaldhara is expected to replace the existing scheme of the Accelerated Rural Water Supply Program (ARWSP)<sup>5</sup> by 2007, take-up of Swajaldhara has been slow and the role of different agents such as government technical support agencies and NGOs remains weakly defined (WaterAid, 2005). Further, although the scheme purportedly rests on principles of social inclusion and governance, there are no mechanisms to actually ensure that the schemes are designed by including all sections of society (Ahmed, 2005). In part, this could stem from eulogistic notions of 'community' (particularly of village communities) so that power politics within the community are not taken into account. It could also be due to the fact that the goal of participation in these projects is itself very limited viz., to get local people to contribute (labour, for instance).

Another kind of change in delivery of water that has been encouraged by central policies is privatization in the context of canal irrigation, minor surface irrigation, and drinking water systems (particularly in urban areas). For instance, the 2002 National Water Policy points out that corporate sector participation in canal irrigation will help in "introducing innovative ideas, generating financial resources and improving service efficiency and accountability to users" (GoI, 2002: 6). Further, it could include one or all of various aspects such as building, owning, operating, leasing, and transferring of water resource facilities.

In the arena of drinking water, the Chennai Metropolitan Water Supply and Sanitation Board, popularly known as Metrowater, was an early reformer in India, and negotiated its first big loan from the World Bank in the early 1980s, that is, even before the central-level policy changes. But

<sup>&</sup>lt;sup>5</sup>ARWSP is a supply-driven scheme introduced in 1972-73.

since the late 1990s, reform of the water sector has become an important part of the policy discourse in several cities such as Bangalore and Delhi. At the present juncture, however, there is little analysis of the precise forms that privatization is taking and its implications, although concerns about equity (particularly as a result of the increase in prices that privatization is likely to result in) as also the negative experiences of privatization in other parts of the world have led to protests by civil society groups in many parts of the country.

The emphasis of central-level policies on both sectoral decentralization and privatization is in line with global trends discussed earlier – focus on cost recovery, limited role for the state, emphasis on water as an economic good, and so on. But the rights discourse is not reflected in policies, even though there is a constitutional basis for the right to water (in that it has been derived under the right to life by various judicial judgments). For instance, the 2002 National Water Policy continues to call water a 'basic human need' as against a 'basic human right', in spite of many attempts by civil society agents (at the time that the draft was being circulated in the public domain) to change the nomenclature from need to right (Anonymous, 2002). In a sense, this (the NWP's stand) reflects tensions at the international level (discussed in the previous section) about whether water should be called a need or a right.

In fact, while the centre does concede that water is an economic and social good, it also holds that some of the problems in the drinking sector (such as lack of sustainability) are due to the perception of people that "water is a social right to be provided by the government, free of cost" (GoI, 2003-04: 136). While the idea of water as a right need not necessarily imply free water in all cases, and conversely, the agenda of cost-recovery could potentially be undertaken in conjunction with the idea of water as a right, the lack of explicit engagement with the idea of a right to water means that the particular manner in which the centre ends up shaping reforms is limited from the point of view of equity. Thus as Cullet (2006) argues, decentralization of only limited number of functions has taken place and WUAs or drinking water committees have little say about surface water sources, whose control continues to be largely dependent on decisions taken at higher levels.

## 4 DELIVERY OF WATER: THE CASE OF MAHARASHTRA

#### 4.1 INTRODUCTION

Maharashtra is a good example of the different kinds of changes that are occurring in the water sector, not just in India, but the world-over. These include a greater emphasis on Water Users Associations (WUAs) for management of water resources at various levels, revision of water rates, corporate involvement in medium and major irrigation projects, demand-driven rural drinking water projects, and a focus on watershed projects as well as on river basin management in water policy. One realm in which change is evident is legislation; since 1990, a number of legislations – the Groundwater (Restrictions for Drinking Water Purpose) Act in 1993, the Maharashtra State Water Policy in 2002 (MSWP),<sup>6</sup> the Maharashtra Management of Irrigation Systems by Farmers Act (MMISFA), and the Maharashtra Water Resources Regulatory Authority Act in 2005 (MWRRA) – have been passed. But before turning to the current changes in the water sector, it is useful to briefly consider the water situation in the state.

According to the 2001 census, 79.8 percent of the households in the state have access to safe drinking water. This includes 68.4 percent of households in rural areas and 95.4 percent in urban areas. In terms of irrigation, although the percentage of gross irrigated area to gross cropped area has increased steadily since the time of formation of the state (from 6.5 percent in 1960-61 to 16.6 percent in 2000-01), it is still low as compared to the ultimate potential as well as to the all-India average of 38.7 percent (GoM, 2000-01). As in the rest of the country, there are problems with respect to efficiency, equity, and sustainability in the case of both drinking water and irrigation. The lack of efficiency is evident, for instance, in the fact that actual utilization of the irrigation capacity created up to June 1999 was only 38 percent for major and medium irrigation projects (GoM, 2000-01). Similarly, there is also inequity in the distribution of water, both between districts and within the same district. For instance, sugarcane-growing areas get water even during droughts, while other areas lack water for subsistence crops or even drinking water. Sugarcane cultivation is problematic not only in terms of equity, but also in terms of environmental sustainability. Increased cultivation of sugarcane usually has gone hand-in-hand with lavish use of water for irrigation<sup>7</sup> and use of fertilizers in excessive amounts (which further increases the need for water). This has worsened waterlogging and salinity along the Deccan canals, and in some cases has led to complete loss of formerly fertile land (Attwood, 2001).

<sup>&</sup>lt;sup>6</sup>The MSWP is technically not legislation, but a policy that is supposed to influence legislation.

<sup>&</sup>lt;sup>7</sup>Until recently, irrigation water was not charged per unit volume, and farmers had no cost incentive to economize. Canal water was also often used to flush salts out of the surface soil. Further, uncertainty of supply led to excessive use of canal water when available (Attwood, 2001).

Sustainability is also a problem in case of groundwater use. While there are currently no over-exploited watersheds in Maharashtra (that is, watersheds where groundwater exploitation is over 100 percent of recharge capacity), there are 34 dark watersheds (that is, where groundwater exploitation is between 85 percent and 100 percent). These represent 2.26 percent of total watersheds in Maharashtra (GoI, 2000-01). It is also important to note that the problems of efficiency, equity, and sustainability of water are inter-related. For instance, the growing problem of groundwater depletion means that the newer technology needed for pumping water is less and less accessible to poor farmers, resulting in inequity in the way different classes of people can cope with the groundwater shortage.

While at least some of the problems in the water situation are to do with topography (hard rock and undulating surface) and rainfall (wide variation across different parts of the state), many of the problems can be attributed to deficiencies in state policy with regard to water. In the case of irrigation, this is primarily reflected in the undue focus on large surface irrigation projects, and in the case of drinking water, in the piecemeal and target-oriented approach followed. For instance, successive state governments in Maharashtra have emphasized major and medium surface irrigation projects, so that the state now has the 'distinction' of having the largest number of ongoing major and medium irrigation projects and extension/renovation/modernization schemes in India (108 out of a total of 476 in the country) (GoI, 2000-01). The emphasis on large-scale dams and canals stems in part from the goal of increasing agricultural production in India and in part from what Datar and Kumar (2001: 45) call "the psychological power of planning to reduce 'scarcity' conditions"; in the specific case of Maharashtra, there is also a particular historical context which gave rise to this. Since the 1970s, groundwater development has also been emphasized, and tubewells have received considerable institutional credit. But on the whole, the attention directed towards minor irrigation has not been adequate, especially when one considers the fact that minor irrigation accounts for a large portion of the state's ultimate irrigation potential and much of this has still not been attained (Deshpande and Narayanamoorthy, 2001). The bias of state policy in favour of major and medium surface works has been exacerbated in the late 1990s because the Government of Maharashtra started trying to impound as much as possible of the

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<sup>&</sup>lt;sup>8</sup>The annual recharge rates are average estimates, so that individual aquifers could have different recharge rates. Further, estimates of extraction are usually made from a very limited sample. Hence there are doubts about the accuracy of the classification (Vaidyanathan, 1999).

water awarded to it by the Bacchawat interstate water dispute tribunal. This resulted in a rapid process of dam construction with considerable social costs (in that rehabilitation concerns in these dams were not met at all). Ironically, much of the water impounded in the dams remains unutilized to date because of incomplete canal work (Deshpande and Narayanamoorthy, 2001; Phadke, 2004).

In the case of drinking water in rural areas, as in the rest of the country, provision of water supply has been supply-driven, with emphasis on norms and targets and on construction and creation of assets, rather than on management and maintenance of the facilities built or of the sustainability of the source itself; this in turn has led to a large gap between coverage on the books and actual coverage on the ground (WSP, 2004). For instance, the most common form that drinking water schemes have taken is digging of borewells, neglecting other sources of drinking water like tanks. Further, during times of severe water shortages such as droughts, ad hoc measures (such as supply of water via tankers) are offered instead of seeking long-term solutions. Until recently, there has also been no systematic, comprehensive policy on recharging strategies such as water harvesting and watershed development, although soil and water conservations measures have been undertaken on a sporadic basis. Even in the limited cases where such practices have been adopted, emphasis is often more on irrigation for agriculture rather than on drinking water.

With this brief discussion of the water situation in Maharashtra, I now turn to the changes in the realm of water in Maharashtra, particularly with respect to delivery of water services.

# 4.2 RECENT CHANGES IN WATER

The MSWP of 2002 is the first water policy document of Maharashtra, and as such, an important landmark. Even though state water policies do not have legal status, and there are usually gaps between the policies, passage of enabling laws and rules, and implementation by the bureaucracy, they are still important because they provide overall guidelines; individuals or NGOs cannot fight for suitable changes in rules if the policy documents do not even mention them. The MMISFA was passed in 2005 in order to provide a statutory basis for management of irrigations systems by farmers, which in turn is in tune with recommendations made at the central and state levels. The

<sup>&</sup>lt;sup>9</sup> This tribunal was set up to resolve the dispute on the sharing of the water of the Krishna river between the states of Andhra Pradesh, Karnataka, and Maharashtra. The state of Maharashtra was given an award of 560 TMC of water in May 1976, which was to be used by May 2000 (Deshpande and Narayanamoorthy, 2001).

act aims to increase efficiency in utilization of irrigation capacity, as well as in distribution, delivery, application, and drainage of irrigation systems (GoM, 2005a). The MWRRA, also passed in the same year, aims to establish a Maharashtra Water Resources Regulatory Authority (Regulatory Authority henceforth) to regulate water resources within the state, as well as to facilitate judicious, equitable, and sustainable management of water resources (GoM, 2005b).

The aforementioned policy and legislations have been put in place to facilitate particular kinds of reforms in the water sector in Maharashtra; in the realm of delivery of water, these reforms primarily include (although they are not limited to) sectoral decentralization and privatization. Policy changes are the result of a complex inter-play of factors and it would be simplistic to claim that they are a direct result of particular discourses at the international and national levels. Yet there is a fair amount of evidence in support of the claim that international water discourses, and particularly the GEM discourse, has provided an important impetus to the recent policy changes in Maharashtra. Firstly, the core messages of the GEM discourse - notions of scarcity and of treating water as an economic good – are also found in the MSWP, the MMISFA, and the MWRRA. For instance, the need for the MSWP is justified, among other things, by the increasing scarcity of water (GoM, 2002: Section 1.1). Secondly, the World Bank, a key player in the formulation, propagation, and dissemination of the GEM discourse, has played an important role in the reform process in Maharashtra. More particularly, in June 2005, the World Bank approved a loan of US\$325 million to assist the Government of India with the implementation of the Maharashtra Water Sector Improvement Project, whose key components include institutional reforms such as the establishment of a Water Resources Regulatory Authority and of water entitlements, as well as the promotion of effective participation by way of Water Users' Associations in the management of irrigation schemes (World Bank, 2005).

I now turn to a discussion of the working of sectoral decentralization and privatization in Maharashtra. In the case of drinking water, sectoral decentralization has basically been confined to rural areas. Traditionally, government-owned agencies have been responsible for construction and management of rural water supply systems. Although this approach has led to the creation of assets on a massive scale, the assets have often been of poor quality and service delivery not adequate. The Sector Reform Program pioneered by the Government of India, and state-level projects directly funded by donors such as the World Bank have increasingly encouraged

demand-driven projects in lieu of the older supply-driven projects. <sup>10</sup> The key feature of this is that management (and in some cases construction also) is undertaken via a representative committee called the Village Water and Sanitation Committee, which may or may not be formally part of the *panchayat* system. The main funders for these are the World Bank, the Government of Germany, and the Government of India (via its *Swajaldhara* program); the Government of Maharashtra also funds some demand-driven projects, though it also continues to fund some older, supply-driven schemes.

In the case of irrigation, sectoral reform has taken the form of PIM in canal irrigation, and a move towards greater community participation in watershed development programs. The focus of the discussion here will be on PIM. While associations for managing water systems have existed for a long time in Maharashtra (such as the phad system<sup>11</sup> in North-west Maharashtra), the recent genesis of the Participatory Irrigation Management program can be traced to the formation of cooperatives in the late 1980s by NGOs such as the Pune-based Society for Promoting Participative Ecosystem Management (SOPPECOM), the Nasik-based Samaj Parivartan Kendra, and the Bhusaval-based Sane Guruji Shram Seva Kendra (Das, 2001). Partly in reaction to the pressure exerted by these and other NGOs, and partly in response to the widespread trend of decentralization (including the central government's own encouragement of PIM), the Government of Maharashtra took a decision to encourage formation of co-operative Water Users' Associations (WUAs) for irrigation management in 1988. The rationale was to improve water use efficiency, increase agricultural productivity, and reduce work for the Irrigation department. The policy of participatory management was also expressed in the 1994 Cooperative Water Users' Association Guidelines of the Government of Maharashtra. But bureaucratic hurdles to the setting up of WUAs continued to exist. A 2001 government notification made WUAs compulsory, and the MMISFA was finally passed in 2005. However, the process of formation of WUAs and actual handing over of control of irrigation facilities is expected to take a long time, partly because all relevant administrative rules have still not been changed, and partly because at many levels of the state bureaucratic apparatus, devolution of powers to farmers continues to be met

<sup>&</sup>lt;sup>10</sup>Note that apart from the two extremes of supply-driven and demand-driven projects put in place by the government, other options for management of assets and service provision (such as service provision by formal or informal private water providers) are already in place in the state, which have varying degrees of success in terms of cost recovery and equity.

<sup>&</sup>lt;sup>11</sup> The *phad* system consists of a series of weirs where the canal system is managed, operated, and maintained by beneficiary groups. The entire command is divided into a number of *phads* (groups of contiguous farms where, in a season, only one crop is grown under irrigation) ranging from a few hectares to 50 hectares.

with resistance (either because it means a loss of 'under-the-table' income for bureaucrats, or because of continuing scepticism about the ability of farmers to manage irrigation systems on their own).

Under the new system of farmer managed systems in surface irrigation, water for irrigation is supposed to be supplied to farmers only through WUAs, and not to individual beneficiaries. Even Lift Irrigation Schemes are to be undertaken only by WUAs, and eventually sanctions to individual schemes of lift irrigation are to be cancelled (GoM, 2005a). In terms of the nature of rights given to WUAs, the most important change now is that WUAs have the freedom to decide the cropping pattern. Bulk entitlement of water to the WUA would then be decided by the Regulatory Authority, on the basis of the cropping pattern designed and the designated command area. However, the right to distribute water to individual farmers would rest with the WUA. Further, the WUAs would pay for the water received on a volumetric basis, although individual farmers may continue to pay the WUA on an area basis. <sup>12</sup> Charges for surface water (primarily canal water) have also been revised a number of times in the last few years.

Apart from sectoral decentralization, the other form that changes in delivery of water have taken is privatization. So far, this trend has been the strongest in the irrigation sector. For instance, in order to accelerate the completion of irrigation projects, the Government of Maharashtra has established five Irrigation Development Corporations. These corporations are allowed to raise funds through the open market for funding their construction activities. Although the irrigation corporations were set up with considerable fanfare, their working has not borne out initial expectations. They also constitute an added financial burden for the state, since these corporations sometimes receive budgetary support from the Maharashtra state (such as in the case of the Maharashtra Krishna Valley Development Corporation); further, if the promised rate of return on the corporation's fixed investment (seventeen and half per cent – a rate that is very high for irrigation projects) is not met, the state government has undertaken to meet the difference out of its own resources (Deshpande and Narayanamoorthy, 2001).<sup>13</sup>

There are also plans to give the management of minor irrigation tanks on a BOT basis to private parties, as well as to bring about participation by the private sector in water distribution in urban

<sup>&</sup>lt;sup>12</sup>The discussion in this paragraph draws on a personal communication with K. J. Joy (12 December 2005).

<sup>&</sup>lt;sup>13</sup>This in turn brings into question even the extent to which the irrigation corporations represent a trend towards privatization.

areas. For instance, the state issued guidelines for private sector participation in urban water supply and sewerage in June 2001, especially in areas such as metering, billing, collection, O&M, and repairs of the distribution system. This process is just beginning to be undertaken in some municipalities (for instance, in parts of Mumbai and surrounding suburbs). But lack of transparency about these efforts as well as the absence of adequate regulatory mechanisms (both essential conditions for privatization to work effectively) are already emerging as critical issues.

## 5 ANALYSIS OF THE POLICY CHANGES IN MAHARASHTRA

The hegemony of the GEM discourse is evident not only in the specific kinds of policies adopted in Maharashtra (PIM, demand-driven drinking water projects, privatization), but also in the details of their working - which aspects are privileged, which ones are ignored, and so on. In order to show this, I will focus in this section on the concepts of 'decentralization' and 'entitlements' in the ongoing water reforms. But before turning to this task, it is useful to briefly consider the role that legislation (and more particularly, changes in the form and content of legislation) play in the reform process.

At least some of the changes that have been introduced as part of the reform process in the water sector have already been in place for a while; one example of this is Water Users' Associations in the case of canal irrigation. But the current reforms are distinct from the earlier policies in a number of ways such as the scale at which they have been undertaken (across different realms and in different states), the importance accorded to formalization (especially via legal reform), and the presence of certain all-pervasive themes (core messages of different discourses such as scarcity). The significance of the process of formalization, in particular, is evident from the fact that in recent years, international donors (such as the World Bank) as well as the Government of India have been encouraging state governments to put in place a legislative framework that is conducive to reform in both water and other arenas. For instance, the guidelines for World Bank lending for 2005-2008 point out that the Bank would consider full scale investment lending in the urban water supply and sanitation sector only if states have an adequate *legislative* and regulatory framework (World Bank, 2004b: Annex 5, p.3, italics mine). D'Souza (2006) argues that changes in legislations (that lead to a broad change in the legal regime) are a necessary part of neoliberalism, since market regulation requires a different kind of legal regime than state

14This point draws partly on a discussion comment by M.Roopa at the Workshop on 'Water, Law and the

Commons' organised by the International Environment Law Research Centre at PRIA, New Delhi, 8-10 December, 2006.

regulation. The new legal regime would involve, among other things, a restructuring of relations between corporations, states, and social groups, as well as the setting up of regulatory authorities which operate under a distinct set of institutional rules different from the "conventional rules that govern state institutions comprising the civil service, the executive and rules of parliamentary procedures" (D'Souza, 2006:11). The ensuing discussion of 'decentralization' and 'entitlements', based on their conceptualization in the recent legislation in Maharashtra, offers one example of the limitations that such a change in legal regime could entail.

I first start with the conceptualization of 'decentralization' in the specific case of Participatory Irrigation Management. On the one hand, PIM seems like a good example of user groups being given the power to undertake functions that are best done at the local level. On the other hand, as indicated in the discussion of PIM at the central level, the limited extent of powers granted to the WUAs calls into question the very intent of the process of decentralization. For instance, while the role of the government is sought to be reduced by PIM, this does not necessarily translate into less regulatory intervention as far as water users are concerned because the Regulatory Authority becomes the new body exercising control over water resources (Cullet, 2006). Although the Regulatory Authority is delinked from the government, and in that sense, is supposed to be 'free of politics', the powers given to it are extensive and include, among other things, distribution of water entitlements for different categories of use, determination of priorities in distribution of water at different levels (basin, sub-basin, project), and establishment of water tariffs. In fact, the Regulatory Authority not only has the power to make regulations for matters that come under the MWRRA but also for "all other matters for which provision is...necessary for the exercise of its powers and the discharge of its functions under this Act" (GoM, 2005b: Section 31). Further, in confirmation of D'Souza (2006)'s fears that such bodies may operate under different rules, the Regulatory Authority has powers equivalent to those vested in a civil court with respect to certain matters (such as summoning of witnesses, reception of evidence on affidavits, and so on) for the purposes of making any inquiry or initiating any proceedings under the MWRRA (GoM, 2005b: Section 13).

There is also another important lacuna in the current conceptualization of decentralization. In order for decentralization to be meaningful, it should include provision for participation in both policy-making and actual implementation on the ground. The presence of strong civil society groups in the state (both historically and in current times) has meant that there has been greater participation in Maharashtra than in many other states. But mechanisms to facilitate participation

in state policy and legislation continues to be limited. For instance, although the idea of farmers' participation has influenced (at least in part) the formation of WUAs, specific provisions to ensure equity in participation do not exist in the government guidelines; only procedural aspects of internal functioning are mentioned (GoM, 1994). Similarly, in the case of the MSWP, there is precisely one reference to gender, and that too a nominal one: "The women's participation in the irrigation management should also be considered" (GoM, 1994: Section 2.2.2). But if participation at the micro-level (such as in WUAs) is merely mentioned and not facilitated, the question of participation in the process of irrigation policy-making at higher levels is not even mentioned in any of the state policies or legislation. As a result, even though policy-making continues to be subject to pressures and lobbying from different groups, there are no formal mechanisms to ensure that all sections of society have a chance to participate in the process of policy-making, or that these inputs are actually taken into account. On the contrary, the space available for any kind of negotiation is increasingly being limited by conditionalities such as the World Bank's requirement that all rural water supply and sanitation projects irrespective of source of funding would need to incorporate certain reforms (such as decentralized servicedelivery and recovery of O&M costs) for receipt of investment lending by the Bank in that sector (World Bank, 2004b: Annex 5, p.5).

The experience of the recent water legislation is also interesting in this regard. For instance, in the case of the Maharashtra State Water Policy (MSWP), not only was the adoption of the policy itself a result of considerable lobbying and pressure applied by individuals and organisations working in the field of water, but also three drafts of the policy were open to public suggestion before the finalisation of the document, a practice that is highly unusual. The process was, of course, subject to a number of limitations: for instance, the state was not duty-bound to actually take into account these suggestions. As a result, the final version of the MSWP was retrogressive compared to the earlier drafts. The two legislations that were passed three years later to actually operationalise some aspects of the MSWP – the MMISFA and the MWRRA – had two different kinds of experiences in this regard. In the case of the MMISFA, at least some process of public consultation was undertaken. A draft version of the Act was circulated for obtaining the opinion of various NGOs, even though, as in the case of MSWP, these were not necessarily accepted. <sup>16</sup>

<sup>&</sup>lt;sup>15</sup>Interview with Seema Kulkarni on 11 June 2004.

<sup>&</sup>lt;sup>16</sup>For instance, SOPPECOM suggested modifications with respect to four areas in the MMISFA (i) equity in membership to the WUA for women, landless, and representatives of the *Gram Panchayat* (ii) Representation to all the above groups in decision-making bodies (iii) Water entitlements to women,

However, the MWRRA was not discussed with anyone initially, although some NGOs like SOPPECOM tried to push for changes in it even before it was tabled in the legislature in 2004. Sainath (2005b) points out that the process of passage of the bill offers an interesting lesson on the workings of parliamentary democracy. When the bill was first introduced in the Nagpur session of the State Legislative Assembly in 2004, it was subject to criticism by a CPI-M legislator. It was then referred to a joint committee of both houses, though not all party members (including the one that originally critiqued it) were included on the committee. The joint committee not only approved the bill, but also made some additional changes (like the introduction of the retrogressive two-child norm). The revised bill was re-introduced in the Mumbai session in 2005 on the last day and passed by voice vote at the last minute, so that there was not enough time to read, let along discuss, the bill (Sainath, 2005b).

Sectoral decentralization policies, whether in the context of PIM or demand-driven drinking water programs, also do not sufficiently engage with the multiplicity of bodies at the local level that deal with different kinds of functions (both related to water and otherwise) and the related question of which is the most suitable body from the point of view of different objectives. For instance, different kinds of water programs deal with different kinds of 'water communities' and corresponding user groups; the village and the water and sanitation committee in drinking water programs, the command area and the WUA in the case of canal irrigation, and the watershed or the river basin and the corresponding watershed committee or river basin group in other contexts such as the integrated planning, development, and management of water resources. There has been no attempt made to link these different kinds of 'communities' or deal with problems of division of labour and coordination between them and PRIs.

In fact, sectoral decentralization policies may potentially create new power centres at the local level. For instance, Cullet (2006) notes how WUAs are encouraged to become financially independent and viable by engaging in additional remunerative activities such as distribution of seeds, fertilizers, and so on; these are only indirectly related to irrigation, but at the same time they are also likely to result in WUAs becoming new centres of power.

landless, and other deprived sections (iv) Linkage of the WUA to the elected body of the *panchayats* in the redefined area of operation (SOPPECOM, 2003). None of these recommendations were accepted.

<sup>&</sup>lt;sup>17</sup>The two-child norm will be discussed later in this section.

I now move on to the concept of 'entitlements' to water that is mentioned in the 2002 state policy and the two legislations of 2005. The MSWP mentions entitlements to water for the first time, grants water users' organisations and entities "stable and predictable entitlements to water so that they can decide on the best use of water without bureaucratic interference" (GoM, 2002: Section 1.3). Further, it claims that a well-defined transparent system for water entitlements will be established, so that these cannot be changed unilaterally by any state agency or authority (GoM, 2002: Section 4.1). Both MWRRB and MMISFA, legislations that were put in place three years after the MSWP, discuss entitlements in greater detail. While the term 'entitlement' seems to evoke some notion of 'rights', an actual consideration of the concept shows that is far from any concept of 'right to water' for all and more in line with a 'tradable permits' concept of water rights which re-enforces the claims of current users of water.

For instance, entitlements in the legislation refer to authorization granted to use water, that is, a usufructuary right. But this is not linked to any notion of *inherent* rights of farmers over water (Upadhyay, 2005). Even in the case of surface irrigation, where there is some degree of commitment by the irrigation authority of the state, this 'commitment' is not an enforceable guarantee, which means that there is no option for redress if the right is denied. Prior to the reforms, the Memorandum of Understanding signed between the Irrigation Department and the Water Users' Association would usually specify how much water the WUA would be allocated, along with details of proportionate reduction in case of reduced storage or reservation of part of the water. This, in turn, created at least some basis for negotiation. But in the new regulations, there is, on the one hand, still no provision for enforcement of the water entitlements; on the other hand, it is also not clear what space there will be for the kind of negotiations that used to take place in the past.<sup>18</sup>

Further, the entitlements are granted only to landowners/occupiers, and there is no provision for transfer of entitlements to non-entitlement holders (such as the landless). At the same time, the MSWP permits transfer of all or a portion of water entitlement between entitlement holders in any category of water use. <sup>19</sup> This has led to fears that water use claims are being delinked from land occupancy not from the point of view of equity but in order to result in progressive commercialization of the water sector (see, for instance, Cullet, 2006). In fact, even in the context

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<sup>&</sup>lt;sup>18</sup>Thanks to Suhas Paranjape (personal communication) for drawing my attention to this point.

<sup>&</sup>lt;sup>19</sup>It is, however, still not clear whether only the quota for a particular season or year is transferable, or whether a permanent transfer of the entitlement is also feasible.

of landowners and occupiers of land, the question of access to water is complicated by the proposed hikes in charges for surface water (primarily canal water) under the MWRRA. These hikes have come in for a lot of criticism as they are likely to result in agriculture becoming unviable for a large number of small farmers. Although there is the claim that cross-subsidies could be allowed to alleviate the impact of such charges on the poor, the exact mechanisms for this have not been stated. Furthermore, the MWRRA has also made water into a tool for an authoritarian population policy (via the clause that farmers with more than two children would have to pay one and half times the actual rates); since low income households tend to have more children, the move is likely to have the effect of punishing people for the 'offence' of being poor (Sainath, 2005a).

In the context of drinking water also, there is no mention (explicit or implicit) of a right or of guarantee of access by the state. In theory, drinking and domestic needs of water are prioritized (for instance, in the MWSP). At the same time, reforms do not deal adequately with water for drinking or for domestic needs. On the contrary, the emphasis on demand-driven drinking water projects implies that water would be accessible only to people who can afford the charges being levied. In the case of Swajaldhara guidelines, for instance, people are not only expected to pay for the water, but also to bear ten percent of the capital cost and all operation and management expenses; those who cannot afford to pay this price would be unable to have access to funds in these projects, and may have to turn to private sources that entail greater expenses and burden in the long-run. The tension between cost recovery and water for all is further exacerbated by the fact that while rural communities are asked to bear the costs of drinking water schemes, the distribution of drinking water to urban consumers continues to be subsidized. There is also no charge for groundwater; nor have there been substantial changes in rates for other uses of water and for electricity. Further, the emphasis on water rates, that is, on the revenue side, has not been accompanied by equal emphasis on the expenditure side, that is, attempts to cut down unwarranted expenditure (such as increasing administrative costs) (Deshpande and Narayanamoorthy, 2001).

## 6 CONCLUSION

This paper discusses how water discourses play themselves out at different levels in the realm of delivery of water services. The messages of the GEM discourse at the international level – the notion of scarcity and the importance of treating water as an economic good – have led to

particular kinds of water reform in India. Even though the policy of sectoral decentralization is, in theory, also commensurate with the rights-based discourse in water (with its central message of everyone being entitled to water), the manner in which it has been undertaken indicates the hegemony of the GEM discourse. The analysis of the notion of entitlements in particular reflects the tensions between the two discourses, especially because the language of entitlements evokes the idea of rights, which is present in both the GEM discourse and the rights discourse, albeit in very different forms (water rights in the first case and the right to water in the second case). The confluence of different trends in the water reform process in Maharashtra – privatization (in the form of the irrigation development corporations), decentralization (via the formation and devolution of powers to WUAs), centralization (via the provision to set up a Regulatory Authority which has no room for PRIs), cost recovery (by way of volumetric pricing and increased tariffs for surface water) and water rights (by the provision of entitlements) – is another reflection of the tension between these discourses. This paper also briefly touches upon the importance accorded to the process of formalization in the reform process as evident in the emphasis on enactment of new laws. How these legislative changes work themselves out in actual micro contexts now remains to be seen.

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## References:

- Adger, W. N., T. A. Benjaminsen, K. Brown and H. Svarstad, 2001, "Advancing a Political Ecology of Global Environmental Discourses," *Development and Change*, **32**: 681-715.
- Ahmed, Sara, 2005, "Why is gender equity a concern for water management?," in Sara Ahmed, ed., *Flowing Upstream: Empowering Women through Water Management Initiatives in India*, Centre for Environment Education, Ahmedabad, pp.1-50.
- Anonymous, 2002, "Water Commonwealth," *Times of India*, March 16.
- Attwood, Donald, 2001, "Small is deadly: Coping with uncertainty at different scales," Paper presented at the Conference on the Culture and Politics of Water at University of Delhi, March 2001.
- Cullet, Philippe, 2006, "Water Law Reforms: Analysis of Recent Developments," *Journal of the Indian law Institute*, **48**(2): 206-231.
- Das, Binayak, 2001, "Power Trickles Down," *Down to Earth*, December 31, **10**(15).

- Datar, Chhaya and Ajith Kumar, 2001, "Rural drinking water in Maharashtra", Report of Tata Institute of Social Sciences, Rural Campus, Tuljapur.
- Derman, Bill and Anne Ferguson, 2003, "Value of water: Political ecology and water reform in Southern Africa," *Human Organisation*, **62**(3).
- Deshpande, R. S. and A. Narayanamoorthy, 2001, "Issues before second irrigation commission of Maharashtra," *Economic and Political Weekly*, March 24.
- D'Souza, Radha, 2006, "Dams, "development" and International Law", Paper presented at the Workshop on 'Water, Law and the Commons' organised by the International Environment Law Research Centre at PRIA, New Delhi, December 8-10, 2006.
- Gleick, Peter, 1999, "The human right to water," Water Policy, 1(5): 487-503.
- GoI, 1987, "National Water Policy," Ministry of Water Resources, Government of India, New Delhi.
- GoI, 2002, "National Water Policy," Ministry of Water Resources, Government of India, New Delhi.
- GoI, 2003-04, "Annual Report of Ministry of Rural Development," Ministry of Rural Development, Government of India, New Delhi.
- GoM, 1994, "Cooperative Water Users' Association Guidelines," Irrigation Department, Government of Maharashtra.
- GoM, 2000-01, "Economic Survey of Maharashtra," Directorate of Economics and Statistics, Planning Department, Mumbai.
- GoM, 2002, "Maharashtra State Water Policy," Government Resolution no. Misc.1002/(250/2002)/IM (P). Irrigation Department, Government of Maharashtra, also available at www.mahagovid.org/default\_en.htm
- GoM, 2005a, "Maharashtra Management of Irrigation Systems by Farmers Act (Mah. Act No. XXIII of 2005)," Government Central Press, Mumbai.
- GoM, 2005b, "Maharashtra Water Resources Regulatory Act, 2003 (Mah. Act No. XVIII of 2005)," Government Central Press, Mumbai.
- ICWE, 1992, "The Dublin statement on water and sustainable development", International Conference on Water and the Environment, Dublin, Ireland, January 31, available online at <a href="http://www.wmo.ch/web/homs/documents/english/icwedece.html">http://www.wmo.ch/web/homs/documents/english/icwedece.html</a>, last accessed on January 24, 2007.
- Mehta, Lyla, 2000, "Water for the twenty-first century: Challenges and misconceptions," IDS Working Paper no. 111, Institute of Development Studies, University of Sussex, Brighton, England.
- Mehta, Lyla, 2003, "Problems of publicness and access rights: Perspectives from the water domain," in Lyla Mehta, ed. *Providing Global Public Goods: Managing Globalization*, Oxford University Press, 2003.
- Mehta, Lyla and Birgit La Cour Madsen, 2003, "Is the WTO after your water? The General Agreement on Trade and Services (GATS) and the basic right to water," Paper prepared for the Research Project on 'Linking the WTO to the Poverty-Reduction Agenda', Institute of Development Studies, University of Sussex, Brighton, England.
- Mehta, Lyla with Oriol Mirosa Canal, 2004, "Financing water for all: Behind the border policy convergence in water management," IDS Working Paper no. 233, Institute of Development Studies, University of Sussex, Brighton, England.
- Phadke, Anant, 2004, "'Thiyya Andolan' in Krishna Valley," *Economic and Political Weekly*, February 21.
- Sainath, P., 2005a, "Maharashtra's coming water wars," The Hindu, April 27.
- Sainath, P., 2005b, "Water: how the deal was done," The Hindu, April 28.
- Saleth, R. Maria, 1996, *Water institutions in India: Economics, Law, and Policy*, Commonwealth Publishers, New Delhi.

- Sangameswaran, Priya, 2007, "Review of right to water: Human rights, state legislation, and civil society intiatives in India," Technical Report, Centre for Interdisciplinary Studies in Environment and Development, Bangalore.
- SOPPECOM, 2003, "Creating Space for women and landless: Suggested modifications in the Maharashtra Draft Participatory Irrigation Management Act 2002," Unpublished mimeo, Society for Promoting Participative Ecosystem Management, Pune.
- UN, 2004, "International decade for action: Water for life 2005-2015," Backgrounder, United Nations Department of Public Information.
- UNCED, 1992, "Agenda 21", United Nations Conference on Environment and Development, June 3-14, 1992, Rio de Janerio, Brazil, available online at <a href="http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm">http://www.un.org/esa/sustdev/documents/agenda21/english/agenda21toc.htm</a>, last accessed on January 24, 2007.
- UNESC, 2002, "Substantive issues arising in the implementation of the international covenant on economic, social and cultural rights," General Comment no. 15, United Nations Economic and Social Council, Geneva, also available at www.unchr.ch.
- UNESC, 2005, "Realization of the right to drinking water and sanitation," Report of the Special Rapporteur, El Hadji Guissé, United Nations Economic and Social Council, Geneva, also available at <a href="https://www.unchr.ch">www.unchr.ch</a>.
- Upadhyay, Videh, 2002, "Water management and village groups: Role of law," *Economic and Political Weekly*, December 7.
- Upadhyay, Videh, 2005, "Confusing water rights with quotas," *India Together*, October.
- Vaidyanathan, A, 1999, Water Resource Management: Institutions and Irrigation Development in India, Oxford University Press, New Delhi.
- WaterAid, India, 2005, "Drinking water and sanitation status in India: Coverage, financing and emerging concerns," WaterAid, New Delhi.
- World Bank, 2004a, "Water resources sector strategy: Strategic directions for World Bank engagement", Report No. 28114, available at http://www-wds.worldbank.org/reference, last accessed on January 24, 2007.
- World Bank, 2004b, "Country strategy for India", Report No. 29374-IN, available at http://www-wds.worldbank.org/reference, last accessed on January 24, 2007.
- World Bank, 2005, "India: World Bank support's water sector management", Press release dated June 23, 2005, available at <a href="www.worldbank.org">www.worldbank.org</a>, last accessed on January 24, 2007.
- WSP, 2004, "Alternate Management Approaches for Village Water Supply Systems," Field note, Water and Sanitation Program South Asia, New Delhi, India.